

U.S. Department of Energy

PROGRAM UPDATE



April-June 2023



LM Conservation Projects Protect, Restore, and Enhance LM Sites Nationwide

DRUM Begins Spring Field Season on the Navajo Nation

LM's Site Monitoring Work is a Key Element in Protecting Human Health and the Environment

DIRECTOR'S CORNER



LM fieldwork central to carrying out LM's mission

As we reach the heart of summer, the U.S. Department of Energy Office of Legacy Management is hitting its stride with a range of fieldwork that is central to our mission to protect human health and the environment.

LM works with a range of partner agencies and stakeholders to collaborate on what are often complicated technical challenges. Once strategies are established, they are implemented by many talented, dedicated professionals who work each day to protect the public.

This edition of Program Update explains many of these field activities, including environmental monitoring work, Defense-Related Uranium Mines campaigns, aerial surveys, and more. It is a sample that illustrates the expertise, work ethic, and dedication of these professionals.

LM's fieldwork includes site inspections, maintenance, sampling, information management, and land-use controls, among other projects. As expected, LM samples groundwater and surface water, and also evaluates natural gas, biota, radon, leachate collection systems, sediments, soils, and more. LM routinely monitors at more than 40 of 101 legacy sites.

Our DRUM team's verification and validation (V&V) fieldwork began in March and includes identifying abandoned uranium mine locations and conditions. DRUM field V&V work includes evaluating mine features such as adits, shafts, highwalls, and structures for risks to physical safety; surveying rock waste piles and surrounding disturbed areas for gamma radiation; sampling soil and surface water (when observed on the site); reporting; and communicating

with stakeholders. DRUM fieldwork covers more than 4,225 abandoned mines on federal- and state-owned property, tribal lands, and private property.

LM also conducts aerial drone surveys to collect imagery and other data that help LM analyze sites and determine safeguarding strategies.

All these field activities, and more, help LM and its support contractors fulfill its goals to:

- Protect human health and the environment.
- Preserve, protect, and share records and information.
- Safeguard former contractor workers' retirement benefits.
- Sustainably manage and optimize the use of land and assets.
- Sustain management excellence.
- Engage the public, governments, and interested parties.

LM fieldwork is critical to its mission, and this Program Update provides descriptions of some of our most important projects and programs. We look forward to continuing to work with our partners and stakeholders as we tackle our mission's most crucial aspect — protecting human health and the environment.

Warm Regards,

Carmelo

Carmelo Melendez



LM Goals



Goal 1
Protect human health and the environment.



Goal 2
Preserve, protect, and share records and information.



Goal 3
Safeguard former contractor workers' retirement benefits.



Goal 4
Sustainably manage and optimize the use of land and assets.



Goal 5
Sustain management excellence.



Goal 6
Engage the public, governments, and interested parties.

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DRUM field team gathers data at the base of the Sunnyside mine, which is scattered among steep, inaccessible cliffs that are too dangerous for team members to access. The team characterized a portion of the waste rock pile deposited at the base of the cliffs; no material with elevated gamma radiation is leaving the site.

DRUM Spring Field Season Kicked Off on Navajo Nation

GOALS 1 & 4



Collaboration is the key to success in surveying abandoned uranium mines

The U.S. Department of Energy Office of Legacy Management Defense-Related Uranium Mines team kicked off the 2023 spring field season with gamma radiation surveys on the Navajo Nation. As part of the verification and validation process, DRUM field crews, accompanied by a Navajo Nation liaison, performed surveys and collected samples at abandoned uranium mines near Beclabito, New Mexico, during the first week of March.

More than a year of collaboration laid the groundwork for the DRUM Program's current success on Navajo lands. LM established a Navajo Nation working group to plan DRUM work on the Navajo Nation in early 2022. Participants included staff from the Navajo Nation Environmental Protection Agency, Navajo Abandoned Mine Lands Reclamation Program, U.S. Environmental Protection

Agency Region 9, and U.S. Bureau of Indian Affairs. The group developed a plan specifically for conducting DRUM surveys on the Navajo Nation.

According to LM DRUM Project Manager Chuck Denton, close coordination has been essential and a key to LM's success.

"We sought concurrence from several Navajo Nation agencies, including the Navajo Nation EPA, the Navajo Abandoned Mine Lands Reclamation Program, the Department of Natural Resources, and the Offices of the President and Vice President," Denton said. "I attribute our success to the collaborative spirit and professionalism of each working group participant, compounded by the shared value of doing right by the Navajo people."



LMSP Ecologist Rachel Pound records ecology data for the waste rock pile at the Beclabito Lease mine in New Mexico, as seen from the bottom of waste rock pile 1.

Before the DRUM team can survey a specific mine, relevant Chapter Houses and grazing officials need to give the team permission. When at a mine, a Navajo Nation liaison — typically a Navajo Abandoned Mine Lands Reclamation/ Uranium Mill Tailings Remedial Action department member — accompanies the survey team at the mine, bringing their technical expertise and cultural awareness.

“The Navajo have a connection to plants, animals, and water, and our teams must respect those traditions while doing fieldwork,” said Treyton Nusbaum-Davis, LM Strategic Partner DRUM V&V technical manager. “Our Navajo liaisons share their knowledge of cultural sensitivities that help us be respectful stewards on the Navajo Nation when we inventory these mines.”

In addition to the Navajo Nation liaison, DRUM field teams include the team lead, a geologist, an ecologist, and a radiological control technician/safety specialist, each with specific responsibilities for collecting data during field inventory work.

The DRUM Program

The DRUM Program is a partnership between DOE, federal land management agencies, and state and tribal abandoned mine lands programs. DRUM teams verify and validate the condition of about 4,225 mine sites that provided uranium ore to the U.S. Atomic Energy Commission for defense-related activities between 1947 and 1970. Survey work on the Navajo Nation is part of the DRUM Program.

Usually, it takes about a day to verify and validate a mine site, but timing varies greatly. Some mine sites are relatively small, only a couple thousand square feet, and the team can verify and validate several in a day. But some sites are hundreds of acres. One Arizona site is 300 acres and has taken more than two weeks to complete.

The DRUM Program includes three campaigns determined by land management status and ownership. DRUM Campaign 1 started in 2017 and covers roughly 2,500 mines on federal- and state-managed public lands. With more than 2,000 mines already surveyed, the DRUM team anticipates that they will be close to completing Campaign 1 after this season.

Initiated in 2022, Campaign 2 includes more than 200 mines on tribal lands, 96% on the Navajo Nation. The other 14 mines are located on Hualapai Tribe, Pueblo of Laguna, Pueblo of Zuni, Spokane Tribe of Indians, Tohono O'odham Nation, and Ute Indian Tribe lands. By the end of 2023, the DRUM team plans to complete more than 60 mines on tribal lands. Some mines on tribal lands are outside the DRUM Program's scope and are addressed under EPA's Superfund program.

Campaign 3 is scheduled to begin in 2024 and includes private property mines. The team will survey about 670 private property mines.

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DRUM Spring Field Season Kicked Off on Navajo Nation



Field crews hard at work at a DRUM site near Delta, Utah. A geologist maps waste rock before a walkover gamma survey.

Safety First

DRUM field teams avoid mine-related hazards, such as open shafts, adits, and trenches. Because many mines are in remote locations, teams also prepare to encounter wildlife and other natural hazards. Many mines are at high altitudes where weather conditions can quickly turn for the worse.

However, driving hundreds of miles to reach mine sites is the most dangerous activity team members face. In the United States, more injuries and deaths result from traffic accidents than any other activity. Like all LMSP staff who drive GSA vehicles, DRUM team members take defensive driving training before getting behind the wheel.



An open shaft at a DRUM site near Marysville, Utah.

DRUM work makes for a long day in the field. Fatigue from driving long hours and hiking miles with heavy equipment pose additional risks. Often beginning at 6:00 a.m., the commute to a mine can involve a two-to-four-hour drive on paved roads, more travel on dirt roads or ATV trails, and a hike to reach a mine. Once there, team members walk the entire mine site, inventorying features and mapping the boundary. Then they return the way they came.

“We are really concerned about the fatigue factor on our field teams,” Nusbaum-Davis said. “We are piloting a fatigue management plan that includes constant monitoring to make sure we stay on top of it.”



A closed shaft at a DRUM site near Marysville, Utah.



Open adit at the School Boy mine where the DRUM field team noted standing water 20 feet inside the adit.

Getting Results

After sampling and surveying mines, the DRUM team compiles reports to rank physical safety hazards and screen for potential human health and environmental risks. They share the reports with land management partner agencies and organizations to determine the next actions needed to safeguard the public and wildlife.

“We are looking at and addressing abandoned mines, many of which haven’t been looked at for 50 years,” Nusbaum-Davis said.

Of the nearly 2,100 mines the DRUM team has evaluated so far on public lands, more than half have physical hazards, such as open shafts and portals, 35 pose chemical or hazardous material danger, and none pose radiological hazards.

“Our work has already helped lead to the safeguarding of more than 500 mine features across the country,” Nusbaum-Davis said. “We’re part of making former mine lands safe for the folks who live, work, and recreate in those areas.” ❖



Closed adit at a DRUM site in White Canyon, Utah.

LM Flying High With Rapid Technological Advancements at Disposal Sites

GOAL 1



LM uses aerial surveys and other aviation tools to support its mission to protect human health and the environment

To get a true picture of what's happening at its disposal sites, LM relies on its eyes in the sky.

LM established its aviation program in FY 2020 to support using crewed flights and small unmanned aircraft systems, known as sUASs, at LM sites across the United States. LM uses these tools to help perform long-term surveillance and maintenance in its mission to protect human health and the environment.

LM envisioned a baseline aerial survey project in 2018, using sUAS to perform topographic mapping at a handful of Uranium Mill Radiation Control Act disposal sites. The sUAS flights ramped up in 2021, and the results provide accurate, high-resolution site-conditions data while minimizing risk to field staff. LM Aviation Program Manager Deb Steckley said that flights have improved LM's ability to monitor the sites.

"The flights collect data that helps our engineers, scientists, project managers, and data analysts detect subtle changes or inconsistencies in disposal site conditions. This helps LM address emerging site issues before they become costly to repair and as a result, we remain in compliance with regulatory requirements," Steckley said. "A central part of our mission is the future protection of human health and the environment, and sUAS technology helps support that."

Kyler Lott, LM Strategic Partner aerial survey project manager, said the aviation team has completed about 20 baseline aerial surveys at LM sites.

LM program and site managers want to establish detailed baseline site conditions, including topography, vegetation, and surface water characteristics. The high-resolution, three-dimensional imagery the flights provide help LM enhance long-term surveillance and maintenance activities and remedy potential site issues before they become costly and result in noncompliance.



The aviation team and LM Support contractors watch drone-launch preparations for a baseline aerial survey at the Grand Junction site on May 23.

Aerial surveys at LM's Mexican Hat, Utah, Disposal Site help LM investigate subtle depressions, first identified in 2016, on the cell's northeast-side slope. And at the L-Bar, New Mexico, Disposal Site, where erosion surrounding the cell has progressively worsened over time, aerial surveys helped LM develop a three-dimensional topography and site conditions model to assess the erosion problem. LM used the model to brief U.S. Army Corps of Engineers partners about the extent of the issue for an upcoming project to repair the erosion and construct additional control structures at L-Bar.

The L-Bar survey also resulted in the development of a physical, three-dimensional site model and a fly-through video. LM uses the model during science, technology, engineering, and mathematics events to demonstrate environmental science, hydraulics, hydrology, and long-term surveillance and maintenance concepts to high



Lidar provides a three-dimensional rendering of the Tuba City, Arizona, Disposal Site.



LM staff, contractors, and subcontractors discuss safety protocols before the Grand Junction aerial survey drone launch on May 23.

school students. Additionally, the site model has been instrumental in meetings with the USACE to demonstrate and describe erosion issues, repairs, and site features.

LM scientists and engineers have increasingly used lidar, a laser-mapping tool, to safely monitor site conditions. Lidar works by projecting a laser and recording the time it takes to bounce back from the target to the source. That time is the distance from one point to the other. To measure elevation, lidar is projected from a raised object with a known position, like an sUAS.

These flights can supplement or provide an alternative to ground-based surveys and eliminate the need to hire a plane and pilot. sUAS surveys are safer for LM's field teams assessing conditions in uneven, rugged, and dangerous terrain and provide more accurate imagery and lidar data for developing 3D spatial models than data that piloted flights produce.

At most sites where LM scientists and engineers use lidar, they want to establish a baseline understanding of the area's elevation as the sites' human-made monitoring and maintenance solutions settle into their natural environments. LM will then periodically survey the sites and compare the new measurements to the

original data to identify any shifts. This data informs long-term surveillance and maintenance information to assist LM in its mission.

The sUAS also collect accurate red-green-blue site renderings where LM performs baseline surveys. LM scientists can overlay information from an RGB flight onto a lidar rendering to depict the site in its true colors, helping scientists understand what they're seeing.

Aerial surveys also collect thermal imaging information, which helps scientists see where groundwater might be moving. Groundwater has a noticeably different thermal signature than the soil around it, allowing scientists to monitor conditions underground.

Rapid technological advances are giving scientists a fourth, "multispectral" option. These types of surveys, though rarely used right now, help scientists differentiate between vegetative-cover types at cell sites. ❖



A lidar three-dimensional rendering of the Grand Junction, Colorado, Disposal Site.

LM Conservation Projects Protect, Restore, Enhance LM Sites Nationwide

GOAL 4



LM's conservation work creates unique partnerships across the United States

The U.S. Department of Energy Office of Legacy Management sustainability teams support DOE priorities, including ecological health, conservation, land reuse, land management, and energy conservation. The LM Ecosystem Management Team works hard to create, restore, protect, and enhance ecosystems and to create partnerships that support these priorities at several LM sites.

“LM’s conservation efforts prioritize increasing pollinator habitat, improving habitat for migratory birds and other wildlife, conserving remnant native ecosystems, and improving early successional ecological communities that have established in disturbed or remediated areas,” said LM Beneficial Reuse Asset Manager Diana Trettin. “We are consistently seeking ways to improve our conservation efforts. There are several exciting conservation projects taking place at numerous LM sites across the country.”

One ongoing conservation project includes studying pollinators at the Bluewater, New Mexico, Disposal Site. LM ecologists monitor more than 220 acres of naturally occurring horsetail milkweed. Native milkweed stands support monarch butterflies and are growing at the Bluewater site and at nearby sites in New Mexico.

Due to a significant decline in their population over the past 20 years, the U.S. Fish and Wildlife Service listed monarch butterflies as a “candidate” species, which means USFWS has determined that the monarch butterfly is eligible for listing under the Endangered Species Act. LM Support contractor ecologists identified the need to study monarch habitat, vegetation composition, life cycle, and species diversity at the Bluewater site to characterize monarch butterfly populations and other native pollinators.

“These studies provide valuable information that can be used to guide natural resource management decisions, future reclamation, vegetation management, and potential conservation reuse opportunities across LM sites,” Trettin said.

In addition to monitoring and supporting pollinator growth at sites across New Mexico, LM continually works to protect and grow natural habitats at several of its western sites, such as the Gunnison, Colorado, Disposal/Processing Site and Rocky Flats Site, Colorado.



This monarch caterpillar on horsetail milkweed is most likely at the end of its larval stage (late-instar) and preparing to pupate and form its chrysalis.



*The western pygmy blue (*Brephidium exilis*) is one of the smallest butterflies in the world and is native to New Mexico.*

Several western LM sites are in or near the designated critical habitat for the threatened Gunnison sage-grouse, a species protected under conservation agreements to prevent federal listing.

To protect the birds, fence flagging was installed recently at several LM sites to reduce hazards to sage-grouse, which can collide with fences when startled by predators, vehicles, or other disruptions.

“The fencing is just step one in our conservation efforts to help Gunnison and greater sage-grouse,” Trettin said. “LM is looking for more opportunities to improve the habitats at LM sites in any way we can.”

The Rocky Flats Site and surrounding area is home to more than 300 elk. To facilitate elk movement between the Rocky Flats Site and surrounding Rocky Flats Wildlife Refuge, Rocky Flats ecologists installed several wildlife crossings along the boundary fence. These wildlife crossings are made of easy-to-find materials (e.g., wire, zip ties, irrigation tubing) and help elk cross over the fence without getting scratched or caught in the barbed wire. Game cameras have captured elk successfully using the crossings.

To further protect natural habitats, LM began partnering with the Dolores River Restoration Partnership in 2015. The partnership is a coalition of public and private organizations, including federal land-management agencies, local governments, landowners, and other interested parties that work to reduce invasive species and restore native riparian habitat along the Dolores River in Colorado and Utah. The goal is to manage and restore vegetation and monitor and measure the results.

“LM prioritizes conservation reuse opportunities and partnerships where LM land holdings can be used for natural resource protection, habitat enhancement, species preservation, ecosystem restoration, education and other protective, noncommercial activities,” Trettin added.

In 2022, the Dolores River corridor on DOE’s uranium lease sites met criteria for restoration success. LM will continue to manage the corridor riparian habitat and implement habitat enhancements along the lease tracts.

“While these projects are just a few examples of LM’s conservation efforts being made around the country, they are a great example of what LM does to create, restore, and protect several natural habitats on LM sites,” Trettin said. “We have several upcoming projects for many of LM’s national sites, and we are excited to continue the work already taking place.” ❖



Fence flagging at LM sites in Colorado makes fences more visible to sage-grouse and helps prevent lethal collisions.



Ecologists installed game cameras at Rocky Flats Site, Colorado, to capture elk using new wildlife corridors.



LM works with the Dolores River Restoration Partnership to restore native riparian habitat along the Dolores River, which runs through DOE uranium lease tracts in Colorado and Utah.

Site Manager Graduates from DOE Leadership Development Program

GOAL 5



LM Site Manager Meghann Hurt emphasizes the importance of team building and hopes to bring leadership project to LM

U.S. Department of Energy Office of Legacy Management Site Manager Meghann Hurt recently graduated from the DOE Leadership Development Program, which challenges participants to adopt and foster new leadership and management practices through group experiences.

The six-month program creates a space for proactive conversation about innovation, intrapreneurship, and leadership to drive transparency and accountability and foster healthy conflict, which results in increased engagement from leaders and improves an organization's position for success.

Hurt, site manager for five Uranium Mill Tailings Remedial Action sites and five Nevada Offsites, joined the program to grow personally and professionally.

“It’s important to me that I bring the best version of myself to work every day, and that requires being open to learning, appreciating my strengths, and taking opportunities to better myself in areas that I may not be as strong in,” Hurt said. “It’s also a good reminder that we’re all capable of being leaders, and we frequently find ourselves in a leadership position and don’t even realize it. Being a leader does not mean being the boss.”



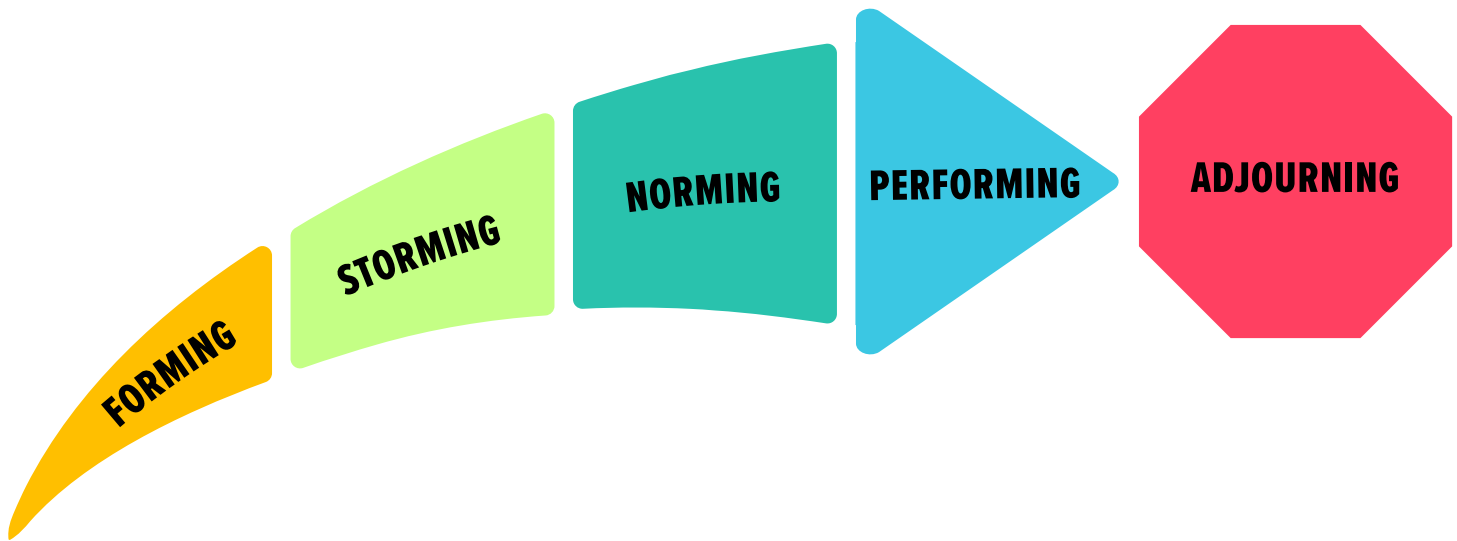
At the end of the program, participants form groups and present a capstone project, called an “action learning project.” Through the ALP, groups demonstrate what they learned throughout the course and practice leadership skills by developing an idea together for how to help or improve DOE.

Hurt’s ALP group decided to focus on team building and included DOE employees from several offices: Environmental Management, Energy Efficiency and Renewable Energy, Science, Inspector General, and Independent Enterprise Assessment.

“Each of us, more times than we could count, were put on teams that were just ‘product-driven,’ with little thought as to how we can improve our ability to work together,” Hurt said. “We focused our project on [Bruce] Tuckman’s stages of team development: forming, storming, norming, performing, and disbanding [adjourning].”

LM Site Manager Meghann Hurt works with middle school students at a career fair in Grand Junction, Colorado, in April 2022. Hurt recently graduated from the U.S. Department of Energy Leadership Development Program, in which she and her teammates from across DOE learned to foster new leadership and management practices through group experiences.

“The goal of our ALP, using the toolkit we proposed, would be to have team building tools for each stage of the process,” said Hurt. “These tools would include templates for meetings, setting SMART [specific, measurable, achievable, relevant, and time-bound] goals, articles about the different steps, as well as team building activities (collaborating with a specific outcome in mind).”



Bruce Tuckman's stages of group development were originally developed in 1965 and describe the steps a team inevitably goes through to complete tasks and deliver results.

Teammates learned about each other's work styles, which resulted in the team building more trust, collaborating effectively, and being happier at work. Findings showed that team members who feel seen, heard, empowered, and fulfilled are more likely to be a high-performing, happy team.

Hurt believes LM's encouragement of staff development is a factor in LM's success. LM's high scores on the Federal Employee Viewpoint Survey — which measures employees' perceptions of their work experiences, leadership in the workplace, and overall agency — reaffirms Hurt's belief.

“I believe that LM’s encouragement of personal and professional growth and the desire to see people succeed have led to employees feeling validated,” Hurt said. “LM recognizes that their employees are top notch. And while our primary focus is on the mission, LM understands that with supporting the individual comes a higher chance of employee retention. People like working at LM.”

While Hurt believes LM does a great job cultivating high-performing teams, she also believes there is always room for improvement.

“It would be great if LM could implement a dashboard similar to what our ALP was proposing,” said Hurt. “Within LM, our teams tend to remain pretty consistent and last long term; however, it doesn’t mean that we do not continually move through Tuckman’s stages of team development.”

The Tuckman model holds that as a team becomes more skilled and experienced, relationships are established, and leadership styles change to be more collaborative or shared.

“If there are tools we can easily access at various stages, it will not only help the team stay on task and mission-focused, but it will also allow us to feel more like a cohesive team instead of coworkers,” Hurt said. “Plus, I think if people had a better understanding of what the stages of team development were, they would know that the different phases and feels they may observe are completely normal.”

Hurt is excited to try her new skills at work and at home.

“There are a lot of carryovers in terms of the leadership skills you can bring to the office, as well as at home,” Hurt said. “I believe that who you are as a person and how you carry yourself directly translates into what kind of coworker, supervisor, manager, mentor, etc. you are at work. I’m excited to continue to learn and grow both professionally and personally.” ❖

LM's Site Monitoring Work is a Key Element in Protecting Human Health, Environment

GOAL 1



Regular maintenance and inspection is crucial to handling LM's responsibilities

The U.S. Department of Energy Office of Legacy Management manages long-term stewardship activities at more than 100 sites that operated during World War II and the Cold War. Long-term stewardship activities include site inspections, maintenance, environmental monitoring, information management practices, and land use controls, all of which help protect human health and the environment.

LM routinely monitors the environment and assesses site conditions at more than 40 of the 101 sites across the United States. LM support staff conduct environmental monitoring on or near these sites, which includes recurring sampling and air, surface water, groundwater, and, in some cases, oceanic water analysis and reporting.

LM support staff use industry-standard operating procedures to collect environmental samples to ensure samples are consistent, accurate, well preserved, and properly transported. For example, water sampling procedures include:

- Purging wells.
- Handling and preserving samples.
- Calibrating and ensuring field equipment and instruments are operational.
- Collecting quality-control field samples.
- Documenting sampling activities.
- Training sampling personnel.
- Managing records.
- Using chain-of-custody forms.
- Performing analytical work through accredited commercial laboratories.
- Validating and qualifying data.

“Recurring environmental sampling is an essential component of our long-term stewardship of our sites,” said Paul Kerl, one of LM’s environmental team leads. “Sampling, analyzing, and reporting the results to interested stakeholders is essential for building and ensuring confidence that the sites in our portfolio remain protective of human health and the environment.”

LM support staff collect groundwater samples from a variety of monitoring wells, extraction wells, public supply wells, private wells, natural gas wells, and even temporary boreholes installed with a Geoprobe drill rig. Staff collect surface water from rivers, streams, lakes, ponds, seeps, springs, ditches, and oceans.

LM conducts environmental monitoring at different frequencies throughout the year depending on site-specific regulatory requirements. In 2022, LM collected 2,472 groundwater samples and 1,677 surface samples.

“Water-quality data generated from routine sampling activities is the foundation for LM’s decisions at each site,” LM Support contractor Environmental Monitoring Operations Manager Sam Campbell said.

“This data is used to assess compliance to applicable permits and standards, establish remediation strategies, evaluate remedial action progress, address regulatory issues, evaluate treatment system effectiveness, and assess risk to human health and the environment.”

In addition to groundwater and surface water sampling, LM also conducts other environmental monitoring, such as sampling natural gas, biota, radon, gamma radiation, leachate-collection systems, treatment systems, sediments, and soils.

“Each element of the robust environmental monitoring LM does is just another way for us to continue to ensure the protection of human health and the environment,” said Kerl. “This analytical data, combined with many other inspection and assessment information, helps convey the condition, health, and protectiveness of our sites and serves as early indicators if problems were to materialize, requiring corrective measures.” ❖

Newly Retired Partner Honored for Decades-Long Service to Hopi People and Supporting LM Projects

GOAL 4



Norman Honie, Jr. recognized for working with LM to protect public health and the environment at the Tuba City, Arizona, Disposal Site

U.S. Department of Energy Office of Legacy Management Director Carmelo Melendez honored Norman Honie, Jr., one of LM's longtime Hopi tribal partners, during the Navajo-Hopi-DOE triannual meeting in Durango, Colorado, on March 14.

Melendez developed an award for Honie "in grateful recognition of your dedication and numerous contributions to the Department of Energy Office of Legacy Management, particularly for your outstanding leadership, guidance, and support to LM's Uranium Mill Tailings Radiation Control Act program on the Hopi Nation."

UMTRCA Team Lead Paul Kerl presented a plaque to Honie on behalf of Melendez to recognize his 22 years of service to the Hopi people and support of groundwater remediation efforts at the Tuba City, Arizona, Disposal Site.

Honie is a member of the Cloud Clan from the Village of Tewa. He is the former program manager for the Hopi Tribe Department of Natural Resources Mining and Mineral Resources. Melendez said Honie's keen technical understanding of UMTRCA, the Tuba City site, and the Hopi people ensured a mutual commitment to protecting public health and the environment.

"Your leadership and tactful and diplomatic contributions were instrumental in bringing together Tribal and local knowledge, guidance, policies, and support to accomplish many mutual goals," Melendez wrote to Honie. "You have also been a valuable collaborator to understanding the importance of Moenkopi Wash and other natural resources in the vicinity of the site."

During his career, Honie focused on active remediation to clean contaminated groundwater at the former uranium processing site east of the Hopi Moenkopi Villages and Tuba City in northeastern Arizona.

"The Navajo Aquifer is a high-quality water resource with significant cultural, religious, and traditional values to Hopi and Navajo tribal members," Honie said. "The aquifer should be protected from contamination at all costs to prevent life-threatening health effects to the public and all living things that depend on it for survival."

Representatives from the Navajo Abandoned Mine Lands Reclamation Program, Hopi Department of Natural Resources,

UMTRCA Team Lead Paul Kerl presented Norman Honie, Jr. an award from LM Director Carmelo Melendez to recognize Honie's 22 years of service to the Hopi people and support of groundwater remediation efforts at the Tuba City, Arizona, Disposal Site.



Navajo-Hopi-DOE triannual meeting attendees toured Animas City Park in Durango, Colorado.

DOE, and DOE contractors meet three times a year at different locations on and off the Navajo Nation. They held the first 2023 triannual meeting in Durango, Colorado, which is the site of a former uranium mill and nearby disposal cell. At a typical triannual meeting, representatives share presentations about ongoing work at four former uranium-processing sites on the Navajo Nation, followed by technical discussions.

In Durango, LM Defense-Related Uranium Mines team members updated meeting participants about DRUM work on the Navajo Nation. DRUM teams safeguard abandoned uranium mines on tribal lands to protect human health and the environment. March meeting attendees learned about Durango's processing site cleanup and contaminated materials placement in a nearby, protected disposal cell.

The group also toured Animas City Park, which was developed by the city of Durango after the mill site was closed, remediated, and returned to the city for unrestricted public use. ❖



RECOGNITION

Digitizing History One Record at a Time at Legacy Management Business Center

GOAL 2



LMBC Morgantown team converting physical records into electronic format to better preserve DOE's story

The Legacy Management Business Center, based in Morgantown, West Virginia, is performing a herculean task. The Records and Information group, under LM Archives and Information Management, is organizing thousands of U.S. Department of Energy records, some nearly a century old.

Giancarlo Deguia, LM records and information management specialist, is part of this work. For decades, documents covering countless topics and dating back to the Cold War were scattered across the country at LM-managed sites.

For Deguia, the entire undertaking has been a history lesson. "My favorite part of this process has been learning more about the DOE story," Deguia said.

In February 2010, LM began moving more than 80,000 physical records stored at various sites around the country to the National Archives and Records Administration Records Storage Facility at the LMBC in Morgantown.

The massive record collection requires a nearly 20-person team to review, analyze, and categorize original paperwork that, in some cases, documents activities related to the Manhattan Project. In addition, the team continually receives new records from LM's 101 sites.

Staff sort documents in a facility that can accommodate up to 130,000 cubic feet of records. Deguia said his team doesn't feel burdened by the project's weight; instead, they feel buoyed by it.



LM Records and Information Management Specialist Giancarlo Deguia (standing) works with LM Support contractor Warehouse Logistics Specialist Daniel Raines at the Legacy Management Business Center in Morgantown, West Virginia.

"This work proves how others truly encompassed that American spirit. Everyone contributed to the success of America during that time and helped shape it into what it has become," Deguia said.

Today, DOE continues to focus on nuclear-deterrence research and clean energy while also cleaning up legacy sites and meeting long-term stewardship and post-closure responsibilities.



The Legacy Management Business Center in Morgantown, West Virginia.



Dale Spradley, LM Support contractor information management specialist, sorts boxes of material at the Legacy Management Business Center storage facility in Morgantown, West Virginia.

Meanwhile, the Morgantown Records and Information group laboriously converts physical records into digital versions, preserving and indexing them for future generations.

“There’s a lot of different ways of looking at this information and understanding what it is, where it’s archived, how to reach it, and how to access it, to help us in the future for the decision-making process,” Deguia said.

The job involves more than organizing. “LM’s main role [for information management] is to identify the historical value and then determine whether a document is considered valuable to scientific and technical data or research,” he said. “The next step is deciding whether that information should be considered a record and remain in its original format or if it needs to be digitalized.”

Deguia said the importance of this information, in terms of impacting public health and the environment, cannot be overstated. It’s also essential for future generations to look back and learn about what happened and how it happened in order to understand the processes, procedures, and policies in place today. The historical data, information, and records also lend to the foundational building blocks of planning for the future. If we

can better understand what happened in the past, we can ensure and develop a more successful and prosperous path forward.

“Reviewing the records opens a time capsule that reveals the expansive history of DOE’s legacy and the importance of LM’s role as stewards of these legacy sites, and how they together helped to shape American history,” Deguia said.

The records tell the story of each LM site — from inception and production to shut down, remediation, and cleanup. This historical context is vital to LM’s present-day goals of long-term stewardship, monitoring, and beneficial reuse.

“You can’t know where you’re going if you don’t know where you’ve been,” said David Von Behren, Education, Communication, History, and Outreach team supervisor. “We need to know that history to go forward and fulfill our mission of protecting the future of public health and the environment.” ❖

LM Contractor Janice Maruniak Reflects On Her Female Role Models



Former journalist sees similarities between her role at LM and the traditions of storytelling

March 2023 Women's History Month theme was "Celebrating Women Who Tell Our Stories," recognizing "women, past and present, who have been active in all forms of media and storytelling, including print, radio, TV, stage, screen, blogs, podcasts, news, and social media."

This theme resonates with Janice Maruniak, LM Support contractor executive administrative assistant for the U.S. Department of Energy Office of Legacy Management. Maruniak started her career as a part-time staff writer for The Herald-Standard, a small newspaper in southwestern Pennsylvania — an experience that brings back fond memories.

"I had an assigned beat covering local government meetings held by municipalities, boroughs, and townships within that area," she said. She also wrote numerous feature stories for the Sunday paper.

She later took a full-time position at the Pittsburgh Tribune-Review, where she put together a bimonthly advertorial insert focused on local women.

"I wrote about a lot of very interesting women who were very active in their communities," Maruniak said.

A few of the profiled women included a certified-nurse midwife, a licensed wildlife rehabilitator, and a dual-career mom who was a dental hygienist and a pro bono family court attorney.

"Drawing a parallel to Women's History Month, the stories provided a very meaningful way to recognize and celebrate the achievements and contributions those women were providing to the local community," she said.

Although working as a federal contractor may seem completely different than her previous role as a reporter, Maruniak sees more similarities than differences. Working the night shift as a reporter, she constantly ran against the clock, turning stories around within hours of publication in the next morning's paper.

"I learned a lot about being flexible and adaptable," Maruniak said. "And how every task you start is one you should finish as quickly and as accurately as possible."



LM Support contractor Executive Administrative Assistant Janice Maruniak began her career as a newspaper reporter in southwestern Pennsylvania.

Those formative years taught Maruniak the art of wearing multiple hats in multiple arenas. Today, as a member of the field and headquarters correspondence teams, she juggles many administrative requests daily, monitors five separate email inboxes, coordinates several federal staff calendars, organizes teleconferences, and trains newly hired staff.

As a former reporter, Maruniak is accustomed to thriving quietly and letting each story's subject take center stage. Although Maruniak's work is essential to LM, much of what she does happens behind the scenes.



Maruniak with her granddaughters Eva and Mabel.

When asked which three women in history she would invite to dinner, Maruniak cited her role models. “The first one would be my mom, who passed away 15 years ago,” she said. “That’s a definite dinner request.”

Maruniak would also invite NASA astronaut Judy Resnik, the second woman to travel in space. Resnik was among the seven crew members who died when the space shuttle Challenger exploded.

Her third dinner invitation is for Barbara Walters. In the spirit of this year’s “honoring storytellers” theme, it’s no wonder why a former reporter would pick a news legend. A broadcast journalism trailblazer, Walters interviewed every sitting president from Richard Nixon to Barack Obama.



Maruniak and her grandson Jack.

“She was just an iconic TV newswoman who broke the barriers in the industry for women,” Maruniak said. “I think it would be really interesting to sit down over dinner with her and listen to all the stories that she would have to tell.”

Maruniak believes her role at LM follows in the tradition of what storytellers have always done: preserve history for future generations.

“That Women’s History Month recognizes and celebrates all the achievements that have been accomplished up to this date is important,” she said. “But we also need to recognize there are still challenges we have to overcome. And kudos go out to those women who were able to stand up and fight for all the achievements we honor today.” ❖

LM Site Manager Reflects On Her Unexpected Career Path



Mary Young's passion for helping people and her love of the environment led her to LM

U.S. Department of Energy Office of Legacy Management Site Manager Mary Young never pictured herself working for DOE when she started her career as a veterinary hospital manager.

"Honestly, my path wasn't always lined out and straight. In college, I initially wanted to focus on marine biology, but I wasn't getting the experience that I wanted or needed. So, I decided to work full time to support myself instead," Young said. "After I moved to Colorado, I decided to finish my degree and eventually pursue my master's."

Six months after graduating from Colorado State University, Young learned that LM's prime contractor was hiring field biologists and ecologists for their new Defense-Related Uranium Mines program.

"While I had no paid fieldwork experience, my undergraduate research was on birds and local native vegetation, which made me an ideal candidate for the field teams." Young added, "I started on the contract in 2017, then, after a couple of years, I became a field team lead, and a year later was hired on as a project manager for the DRUM team on the federal side."

Young's path may not have been the one she envisioned, but others recognized her abilities. In fact, LM Director of Site Operations Jay Glascock said Young's professional work and leadership immediately stood out to others.

"After Mary was promoted to field team lead by our strategic partner in 2019, she led and managed her own DRUM field team of four science specialists. She not only owned the mission to investigate and validate the condition of these mine sites, but also ensured the team had the information, resources, support, and equipment to complete their investigatory work safely," Glascock said. "This is especially important since these mines are in geographically remote areas with limited access and cell [phone] coverage."

In July 2020, LM continued to recognize Young's potential when LM moved her to the federal team as a physical scientist and DRUM project manager. Young collaborated and coordinated with federal, state, and tribal partners so DRUM field teams could fulfill their mission. She made sure the DRUM team had clear, safe access to mine sites so they could inventory and sample items from the mine sites, and so partner agencies could safeguard the sites' physical hazards.

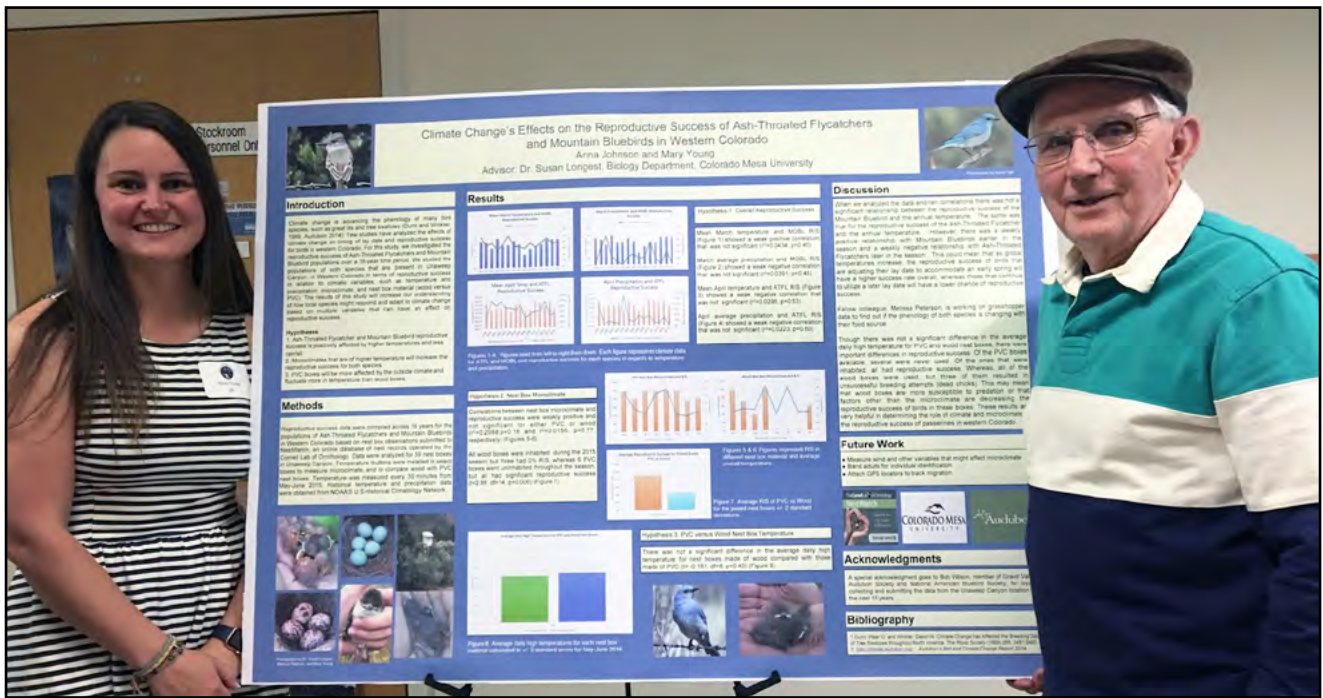
"Mary continues to shine and be recognized for work within LM," Glascock added. "She is doing an incredible job and we are very happy to have her at LM."



Young visiting an abandoned uranium mine site near Sawpit, Colorado.



Young and her dog Chewy (short for Chewbacca) after his eye treatment.



Young presenting her undergraduate research on climate change, food availability, and reproductive success of Mountain Bluebirds and Ash-throated Flycatchers in western Colorado (primarily in Unaweep Canyon in Mesa County). She's pictured with mentor and local expert "Bluebird Bob" Wilson. "I went on to present this poster at the International Animal Behavior Society Conference in 2016," she said.

She has since been transferred from the DRUM team to one of LM's environmental teams. Still a physical scientist, she is also a site manager for the Green River, Utah, Tonopah Test Range, Nevada, and Rifle, Colorado, sites.

As a site manager, Young is responsible for long-term surveillance and maintenance management and regulatory and environmental compliance at each assigned LM site. She works closely with LM Support contractor employees and technical experts to ensure successful collaboration with LM stakeholders.

"One of the best things about working for LM is that I think I'll always be learning new things. It takes many disciplines, like ecologists, geologists, hydrologists, and engineers, working together in this field to be successful," Young said. "I enjoy working in the communities and building relationships with the locals and other stakeholders."

While Young's passion to help is at the core of her LM work; her dedication, work ethic, and the role models in her life pushed her to achieve.

"One of my main motivations started in elementary school. I wanted to enter the accelerated learning program, but after taking an IQ test, I was told I wasn't 'naturally smart' and that I was just a hard worker," Young said. "Little did they know that small thing pushed me to prove, for the rest of my life, that I could do anything, whether I was 'smart' or not. In turn, I ended up graduating salutatorian of my class and voted to be most successful by my teachers."

"Of course, that was a long time ago," Young added. "However, I think that's the thing I'm most proud of — my tenacity to stay motivated and stick with it through the hard times — because I wouldn't be where I am today without it."

As for the role models in her life, Young said the women in her family are her key inspiration.

"The women in my family have always been my strongest supporters and biggest inspirations. While I have traveled a much different path than them, I would not be who I am today without learning from the loving, strong, and intelligent women that I grew up around," Young said.

"I think that's why women's history is so important to remember and celebrate," Young said, reflecting on Women's History Month. "All the women who came before me took the steps to allow me to live the way I do today."

Young supports future generations by participating in every STEM-related event that she can and works to support grants for minority serving institutions.

"Unfortunately, not all women of the world are offered the same opportunities I was," she said "I think it's important to not only celebrate wins of the past, but to focus on helping women of the present overcome 'impossible' barriers." ❖

LM Installs Quality-Control Monuments at Falls City, Texas, Disposal Site

GOAL 1



Quality-control markers built at LM disposal site in February aid terrestrial and aerial surveys

U.S. Department of Energy Office of Legacy Management staff installed six aerial-survey quality-control monuments at the Falls City, Texas, Disposal Site in early February. The monuments, which are installed at various LM sites, are essential for maintaining survey control and provide geographically consistent reference points to ensure the quality of terrestrial and aerial surveys.

The monuments consist of a 3-foot-long, smooth-finished concrete slab, about 6 inches thick, centered on a National Geodetic Survey-type stainless steel rod. The size, shape, and smoothness ensure good visibility during aerial surveys.

Using drones in the daytime, LM conducts aerial surveys to collect imagery and accurate topographic-elevation data on each site's surface conditions. A baseline aerial survey is planned at the Falls City disposal site in 2024.

LM Site Manager Charlee Boger emphasized the importance of the monuments and their significance in data collection during aerial surveys.

“These monuments are important for the long-term stewardship of the site,” said Boger. “Utilization of these monuments during baseline and future aerial surveys ensures LM can monitor any surface level changes that may occur. They are very important to assess the precision and accuracy of the data.”

The Falls City disposal site is the location of a former uranium ore-processing facility in Karnes County, Texas, about 40 miles southeast of San Antonio. LM, in accordance with the site's Long-Term Surveillance Plan, inspects the site annually, monitors groundwater as best management practice, controls vegetation, and performs site maintenance as necessary.

For more information on the Falls City disposal site, visit: <https://www.energy.gov/lm/falls-city-texas-disposal-site>. ❖



The form built for a quality-control monument before concrete was poured.



The finished product after concrete was poured to securely anchor a quality-control monument.

Giancarlo Deguia Receives Award for Superior Service



LM records and information management specialist coordinated LM employee donations for 2022 philanthropy campaign

Giancarlo Deguia is a helper by nature.

When U.S. Department of Energy Office of Legacy Management Director Carmelo Melendez needed someone to coordinate LM's response to a federal philanthropy campaign, LM Records and Information Management Specialist Deguia said he felt a personal obligation to contribute.

"When I initially asked to volunteer, I only wanted to assist whoever was seasoned in the role as coordinator," Deguia said. "Obviously, Mr. Melendez had other plans. I hope I didn't let him or LM down."

He needn't have worried. Melendez was so impressed with Deguia's coordination of employee donations to the 2022 Combined Federal Campaign (CFC), he awarded Deguia a Certificate of Superior Service.

"Your creativity and personal, compassionate approach for soliciting support from your co-workers resulted in LM raising over \$9,500, representing a 153% increase in donations over the previous year's campaign," Melendez wrote to Deguia. "Your leadership and selfless service as the LM coordinator contributed to the Department of Energy's overall donation increase of 18% from the last campaign. Thank you for a job so very well and professionally done!"

Deguia said he was humbled and honored to receive the tribute. He credits his associates for helping him succeed in his first year as CFC campaign coordinator.

"It certainly came as a surprise. I had no expectation of receiving anything in return for this service," Deguia said. "My success as a coordinator could not have been achieved without the support of my key co-workers: Doc Parks, Quin Clyburn, Mary Young, and Shawn Montgomery."

CFC is a workplace charity campaign that raises millions of dollars each year, according to the U.S. Office of Personnel Management. Pledges made by federal civilian employee, postal, and military donors during the campaign season support eligible nonprofit organizations that provide health and human service benefits throughout the world.



Personnel Management oversees the CFC across all federal agencies. CFC's mission is to promote and support philanthropy through an employee-focused, cost-efficient program that is effective in providing all federal employees the opportunity to improve the quality of life for all.

Deguia is grateful for his colleagues' generosity, especially because they have so many other options for charitable giving.

"It doesn't matter what organization a person gives to. What should be highlighted is that a person is giving time, money, or both," he said. "The very nature of providing assistance in any form speaks volumes. I'm just happy to be a part of it. The real challenge is figuring out how I can give more."

Deguia feels the world needs more kindness, and helping people should just be a fact of life. He said he'll never be satisfied with what he's already accomplished. He'll keep looking for ways to improve people's lives, and he encourages others to think the same way.

"Every dollar and hour donated is a reason why there's still hope for humanity in this world," Deguia said. "From a selfless service perspective, DOE is a force to be reckoned with and I'm proud to be part of such an impactful team!" ❖

LM
Business
Operations
DEPUTY DIRECTOR



Records Official Sworn in as LM Business Operations Deputy Director

GOAL 5



Edwin Parks promoted to LM deputy director for business operations

During a special in-person ceremony Feb. 13, the U.S. Department of Energy Office of Legacy Management promoted Edwin “Doc” Parks to deputy director for business operations.

During his 27-year tenure in the U.S. Air Force, Parks held numerous jobs, from command to staff positions in nuclear policy, budgeting, training, and program management. He worked for USAF Headquarters, the Joint Staff, the Defense Threat Reduction Agency, and numerous USAF units. Parks joined LM in September 2010 as a records management program analyst, providing records and information programs, policies, procedures, plans, budgets, and operational analyses support.

Parks eventually became LM’s program records official, the authorizing official, the federal official accountable for risks associated with LM’s information systems, and the Freedom of Information Act and Privacy Act point of contact.

LM Director Carmelo Melendez inducted Parks to his new position at the Legacy Management Business Center in Morgantown, West Virginia. About 50 people, including LM and LM Strategic Partner staff and Parks’ family members attended the event. Melendez recognized Parks’ achievement by delivering the oath of office and presenting him with a U.S. Department of Energy flag and gold pin.

“This position represents the trust bestowed on Parks by the Secretary of Energy to represent the department and lead a particular LM mission,” Melendez said. “Congratulations to Doc on this great achievement. It is a testament to his hard work and effort within this organization. We appreciate you and enjoy having you as a coworker and a leader.”

The Office of Business Operations is responsible for a variety of functions within LM, including overseeing LM’s records and information technology management program, continuity of post-closure and retiree benefits for eligible former contractor employees, and real and personal property programs. Parks will also take on strategic planning, program integration, finance and budgeting, human capital operations, and acquisition responsibilities.



Parks expressed his gratitude to Melendez and all staff in attendance.

“This means a lot to me,” Parks said. “I almost retired in 2014, but I decided to stick around, as LM had become a really amazing place. I’m glad I can continue to do this important work and stay close to my family in Morgantown. I want to thank all of you sincerely for being here today and for Director Melendez and LM for continuing to support me.” ❖



Mile High Youth Corpsmembers discuss environmental career paths with LM Support contractor Dana Santi (back left), CDPHE Environmental Protection Specialist Lindsay Murl (back right), and LM Site Manager Andy Keim (right).

LM Partners With Federal and State Agencies To Host Youth Corpsmembers at Colorado Site

GOALS 4 & 6



Program provides opportunity to engage with young adults about environmental career paths

In March, Mile High Youth Corps Energy and Water Conservation Program members toured the Rocky Flats Site, Colorado, near Denver for the second year in a row.

"Our new crew of Energy and Water Conservation corpsmembers were thrilled for the site visit to Rocky Flats this year," said Samantha Mooney, education and outreach coordinator for the Mile High Youth Corps Energy and Water Conservation Program. "They love the chance to switch up their typical Monday to Thursday schedule of retrofits in the community; especially when it allows them to get outside into nature and learn a bit of local environmental history!"

Mile High Youth Corps is a nonprofit organization established in 1992 to give young adults ages 17 to 24 a chance to earn an income and learn hands-on job skills while serving their communities. The Energy and Water Conservation Program engages corpsmembers in providing water and energy efficiency measures to income-qualifying households and

nonprofit facilities. During the course of three months to two years, corpsmembers gain customer service skills and technical training for "green" industry careers.

Corpsmembers gained valuable career insights while talking with staff from the U.S. Department of Energy Office of Legacy Management, Colorado Department of Public Health and Environment, U.S. Environmental Protection Agency, and U.S. Fish and Wildlife Service.

"This was a great collaborative opportunity to show individuals from the Mile High Youth Corps the extent and complexity of activities associated with the Rocky Flats Site and the Rocky Flats National Wildlife Refuge," said LM Rocky Flats Site Manager Andy Keim. "It provided a chance to showcase the solar-powered treatment systems, the monitoring network, and the wildlife at Rocky Flats and to engage with young adults about our jobs and environmental career paths."



LM Support contractor George Squibb (far right) talks about surface water monitoring systems with Mile High Youth Corpsmembers (center) while LM Support contractors John Boylan (back left) and Dana Santi (back right) look on.

During lunch at the site, Keim talked with youth corpsmembers about his diverse career. Keim has worked at LM for six years and is a geologist who specializes in hydrogeology. His early-career experiences included navigating wildlife and weather conditions in the Louisiana bayous near Baton Rouge to conduct sampling for ecological and human health risk assessments.

David Connolly, EPA environmental remediation project manager; Lindsay Murl, CDPHE environmental protection specialist; and David Lucas, project leader and refuge manager for USFWS Colorado Front Range National Wildlife Refuge Complex, also spoke with program members. Lucas encouraged the members to explore what they enjoy and to be flexible early in their careers.

LM Support contractors George Squibb, principal environmental engineer; John Boylan, senior hydrogeologist; and Dana Santi, site lead and engineer, worked at the Rocky Flats Plant during its operation years producing nuclear weapons components. Karin McShea, ecologist, worked at the site during cleanup. Santi shared how each job experience builds on the next phase of someone's career.

On the tour, Boylan shared that the nuclear weapons complex production activities formally ended in 1994, after which site cleanup began. The site closed and cleanup was completed in 2005. Murl explained why regulations require continued site monitoring.

Youth corpsmembers learned about the site's renewable energy while visiting the solar facility at the Solar Ponds Plume Treatment System. The SPPTS treats uranium- and nitrate-contaminated groundwater at the Rocky Flats Site. The entire site is off the grid, and treatment systems are solar energy powered.

The tour group also walked to North Walnut Creek where Squibb explained the solar-powered flow-paced sampling used to continuously monitor surface water. This and other systems at the Rocky Flats Site are connected to telemetry, allowing staff to view sample collection progress and flow rates remotely.

Additionally, McShea discussed Rocky Flats wildlife, including the boreal chorus frog, mountain bluebirds, western meadowlarks, and a herd of elk that appeared multiple times during the tour. McShea explained how the habitat at the site has drawn species that are native to grassland ecosystems. ❖



Back row, left to right: Former Navajo Nation President Jonathan Nez; LM Site Manager Joni Tallbull; Miss Navajo Nation Valentina Clitso; LMS Navajo Nation Outreach Coordinator Kayla Bia; and LM STEM Coordinator Shawn Montgomery.

Front row, left to right: LMS Hydrologist Katie McLain; LMS Hydrologist Stacy Trowbridge; and LMS Navajo Nation Public Affairs Specialist Lillie Lane.

LM Attends, Cosponsors STEM-Sation at Arizona High School Featuring Miss Navajo Nation 2022-2023



Miss Navajo Nation Valentina Clitso is a graduate of Monument Valley High School, where STEM-Sation took place

More than 600 high school students participated in a STEM-Sation event with the U.S. Department of Energy Office of Legacy Management and partners at Monument Valley High School in Kayenta, Arizona, April 13.

LM cosponsored STEM-Sation with Miss Navajo Nation Valentina Clitso, Navajo Transitional Energy Company, Diné College Land Grant Office, Navajo Abandoned Mine Lands Reclamation Program, Arizona Public Service, and BHP.

Clitso is from Forest Lake on Black Mesa in Arizona and is a Monument Valley High School graduate.

Clitso opened the event with a traditional Navajo greeting and blessing and expressed her excitement in bringing the STEM-career event to her alma mater. She told the audience she always wanted an event like this for students so they could learn about mining- and science-career opportunities.



She advised students to open their hearts and minds and to ask questions of the many professionals attending. When she graduated high school, she left the Black Mesa area to attend Arizona State University, where she received a Bachelor of Science in aeronautical engineering.

In fall 2021, Clitso applied to participate in the Miss Navajo Nation pageant during the annual Navajo Nation Fair. Candidates must know how to provide for their families, speak the Navajo language, and share a Navajo skill or talent. Clitso shared traditional cultural stories and wore traditional Navajo clothing.

Dressed in a dark red outfit, traditional moccasins with buckskin wrappings, and wearing a silver crown embedded with turquoise stones, she reminded high school students that they have a lot of higher-education opportunities. “I want the best for each and every one of you,” she said.

LM physical scientist Joni Tallbull also spoke at STEM-Sation, expressing joy in honoring Miss Navajo Nation and Monument Valley High School students. Tallbull is from Shiprock, New Mexico, and attended college in California, graduating with a physics degree. After college, Tallbull returned to her hometown and worked with the Abandoned Mine Lands Reclamation program. She is currently the Shiprock, New Mexico, Disposal Site manager, where she monitors remediation activities.



Jonathan Nez, former Navajo Nation president and Monument Valley High School graduate, spoke with students about Navajo peoples’ stories persevering and overcoming hardship. Nez told the “Long Walk of the Navajo” story, in which Navajo people were forced to march to Bosque Redondo in southern New Mexico in the 1860s, where about 20,000 Navajo people lived with hunger, diseases, and without shelter.

“Many died,” he said. The U.S. government wanted to move the Navajo people elsewhere; however, Navajo leaders insisted on returning to their homes and formed the Navajo Treaty of 1868 with the U.S. government.

Nez illustrated that while there are many hardships, past and present, Navajo people are resilient. He emphasized that every student has the potential to overcome and carry on no matter the difficulties.

In his closing remarks, Nez said, “the future is bright,” and students have the power within them to learn, set, and follow their goals and become the best at whatever they pursue. He urged young people to return home to make a difference in their communities.

STEM-Sation events include professional organizations and agencies that share career and professional expertise and knowledge, educational opportunities, and resources with students on and near the Navajo Nation. STEM-Sation supports students in learning about science, technology, engineering, and math to solve current and future challenges. ❖





From left, LM Site Manager Sara Woods and LM Support contractors Trent Haskell and Bailie Bergman lead the students through a litmus-paper experiment at the children's water festival.

LM Makes a Splash at 28th Annual Western Colorado Children's Water Festival

GOAL 6



LM Site Manager Sara Woods represents LM at largest festival of its kind in Colorado

It was the first session of the morning, but before she could give her water-quality presentation to the fifth graders gathered at her booth, LM Site Manager Sara Woods had to fire up the crowd.

"Are we ready to get started?" she asked.

"Yeahhhhh," came the monotone chorus.

"Come on, I need some excitement!" she said.

A much livelier "YEAH!" followed, and the 28th Annual Western Colorado Children's Water Festival was underway in Grand Junction, Colorado.

By now, Woods knows the drill. The LM site manager for the Grand Junction, Colorado, Disposal/Processing Site has represented the U.S. Department of Energy Office of Legacy Management twice at the festival. The event has a special place in her heart; she attended the festival as a Chatfield Elementary School fifth grader and remembers the excitement the kids felt on the big day.

"You can see the spark in their eyes — they are so close to summer vacation but they're even more excited to embark on the next adventure that is middle school," Woods said. "It is the bittersweet time of the end of elementary school but the beginning of the next step. And what's not fun about riding the bus back soaking wet from a day in the sun away from school?"

Around 1,500 students from about 70 different classrooms attended this year's festival, the largest of its kind in Colorado, organizers say. It's free for students, thanks to the generosity of corporate sponsors and presenters like LM, said Andrea Lopez, Ute Water Conservancy District external affairs manager.

The kids participated in presentations by 37 different agencies on the water cycle, dams and reservoirs, a journey along the Colorado River, water distribution systems, water conservation, and much more. The U.S. Bureau of Reclamation, the city of Grand Junction, Ute Water Conservancy District, Natural Resources Conservation Service, and many others also presented.



LM Support contractor Grand Junction Site Lead Sam Campbell (left) demonstrates water sampling for fifth graders at the Western Colorado Children's Water Festival on May 15 as LM Site Manager Sara Woods looks on.

To kick off LM's "Go With the Flow" themed presentation, Woods asked the group if they had heard of the U.S. Department of Energy.

"Yesssss," they replied in unison.

Most had heard of uranium; some knew it was used to make atomic weapons — few knew they were standing on land that had once been occupied by a uranium mill.

Woods told them the history of the large brick building to the north of where they stood — the only landmark that remains at the mill site — known today as Las Colonias Park. She told them about the milling operations and described the sandy soil that was left behind in the process, which locals used as fill dirt and topsoil in their gardens.

"Advertisements invited people to come and get that sandy soil," Woods told the kids, and residents noticed that their rosebushes thrived in the dirt they'd brought home from the mill site.

Scientists later realized that contaminated dirt posed a health risk to anyone who lived near it. A massive cleanup project in Grand Junction in the 1980s and 1990s collected more than two million cubic yards of soil and moved it to a remote site 18 miles southeast of Grand Junction. The disposal cell that holds the dirt is monitored to ensure that it no longer poses a risk to human health and the environment.

Woods told the kids that milling uranium used a lot of water, and that's why the site was so close to the Colorado River. That meant, of course, that some of the uranium tailings (material left over from milling) remained at the site.

"Where do you think that went?" Woods asked.

"It seeped into the ground?" a few kids ventured.

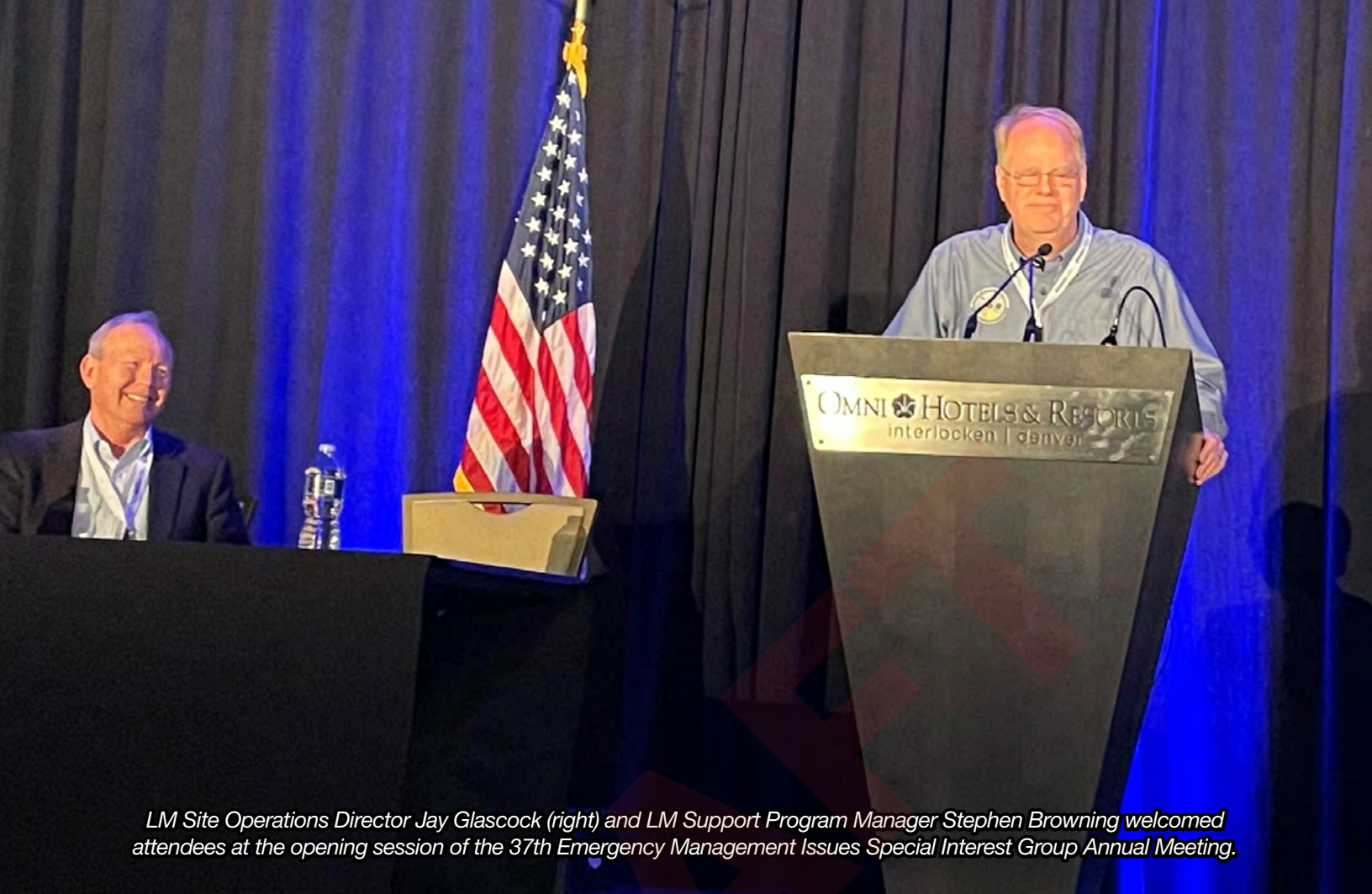
Correct, and that's the reason LM monitors not only surface water above the ground, but also groundwater underneath, she explained. The concentration of uranium is now at a safe level, which means LM only samples groundwater at Las Colonias every five years.

Grand Junction Site Lead Sam Campbell, Education Specialist Trent Haskell, and Environmental Compliance Specialist Bailie Bergman, all LM Support contractors, helped Woods demonstrate how scientists check water samples for contamination. Campbell collected water samples from a side channel of the Colorado River, flowing swift and cold near the LM tent. Campbell showed the kids how LM scientists filter the water to strain out the dirt before they test the water's pH level.

Haskell explained the difference between acids and bases and showed the kids how to use litmus paper to test water samples' pH balance. Each group of kids got litmus paper sample packets to take home to use in their own experiments. A QR code on each pack leads to an online activity page where students can learn about pH levels and how to test different materials on their own.

For Woods, it was another chance to work outside on a beautiful day by the river, sharing the success story that is Las Colonias with a new group of kids every year. If she has her way, the job is hers to keep.

"I will keep showing up if it means I can spark that joy of STEM in just one student," she said. "I will be back for many years to come." ❖



LM Site Operations Director Jay Glascock (right) and LM Support Program Manager Stephen Browning welcomed attendees at the opening session of the 37th Emergency Management Issues Special Interest Group Annual Meeting.

LM, EMI SIG Tackle Emergency Management Planning at Annual Meeting

GOAL 5



Conference seeks to establish best practices to support emergency plans and programs

Natural and human-made disasters seem to be wreaking havoc around the world. Federal, state, and local government organizations are continually considering these threats in their current and future emergency management planning.

One resource helping U.S. Department of Energy officials make these plans is the Emergency Management Issues Special Interest Group, an organization sponsored by the DOE Office of Plans and Policy (NA-41). Emergency management professionals across DOE and the National Nuclear Security Administration complex — both federal and contractor — make up EMI SIG membership.

Several Legacy Management Strategic Partners, contractors to the DOE Office of Legacy Management, are emergency management professionals and EMI SIG members. Their participation led to LM serving as a first-time cohost, with the National Renewable Energy Laboratory and the Western

Area Power Administration, for the 37th EMI SIG Annual Meeting held April 25-27 in Broomfield, Colorado.

Established in 1986 to include all phases of emergency management, EMI SIG provides a “collaborative network of experienced emergency management professionals across the enterprise to support site compliance with DOE orders and guidance, share lessons learned and best practices, and leverage resources to support emergency plans and programs.” The group also “assists in disseminating and interpreting policy, promotes evolving emergency management technologies, and benchmarks departmental emergency management operations.”

EMI SIG members are emergency managers, coordinators, planners, and trainers from DOE facilities. A steering committee, composed of DOE sponsors and advisors and EMI SIG members, approves products for SIG subcommittees

and working groups to develop. EMI SIG conducts an annual meeting that includes presentations, panel discussions, and workshops on emergency management topics that interest members. In addition to meeting individually at the annual meeting, subcommittees, working groups, and task groups hold regular virtual meetings throughout the year.

“I serve on the EMI SIG Steering Committee, which is the body that oversees the strategic direction of EMI SIG,” said Jesse Sievers, LMSP Emergency Management department manager. “Last year, after consulting with our LM partners, I offered Denver as a place for the conference and for LM to cohost, which is how we ended up cohosting with NREL and WAPA.”

Sievers says the steering committee worked in partnership with NNSA to organize the annual meeting and held regional working meetings throughout the year to support the event.



Jesse Sievers, Legacy Management Support Emergency Management department manager, explains the wildland fire management assessment his department conducted on LM sites.

LM hosted an information booth, and LMSP staff gave three presentations to share how LM continues to grow by adding new sites every year and developing a comprehensive emergency management program.

LM oversees the nuclear weapons-production legacy for former weapons complex sites that have been cleaned up and turned over to LM for long-term stewardship. LM manages more than 100 sites and several programs across the country, including the Uranium Leasing Program, Defense-Related Uranium Mines, and Formerly Utilized Sites Remedial Action Program.

No two LM sites are the same, ranging from large former nuclear weapon production sites like the Rocky Flats Site in Colorado and the Fernald Preserve Site in Ohio, to small, privately owned Manhattan Project manufacturing and fabricating facilities that helped create the first atomic bombs used during World War II. Some sites are in urban industrial areas, while others, like former uranium mill sites, are in rural areas. Each site has its own emergency management challenges.

Commonly, the sites lack on-site emergency responders. Since LM does not have police or fire departments under their control, they must work with local organizations to provide emergency response capabilities for their sites. LM site managers identify appropriate response agencies and develop agreements to support response actions.

Prior to 2018, emergency management functions were fractured and responsibilities were distributed across various LM organizations. There were no emergency management professionals on staff and no centralized emergency management system. In 2018, LMSP hired two emergency management professionals and in 2019 began conducting evaluations and assessments to support creating an office-wide program.

New professional emergency management staff were hired to form an Emergency Management department. EM initiated several programmatic self-assessments and determined the need to develop an LM watch office to take and respond to emergency calls 24/7. In addition, the new team identified the need for creating an off-site response interface program. The interface program includes a framework for tracking existing response agreements with local, state, tribal, and federal emergency response agencies, and identifying where new agreements need to be pursued. The program also identifies specific hazards at individual LM sites and provides information and documentation to responding agencies so they are aware of issues. LM continues to develop additional program-support tools as the emergency management program evolves.



Greg Cummings, LM Emergency Management program manager, was selected as the “Federal Member of the Year” at the 37th Emergency Management Issues Special Interest Group Annual Meeting in Broomfield, Colorado, on April 27. Pictured from left: John Lombard, EMI SIG Steering Committee chairperson; Cummings; Jessica Falcon, National Nuclear Security Administration Office of Emergency Management Policy director; and Kimberly Alahmadi, NNSA Office of Emergency Management Policy deputy director.

In 2022, EM conducted a wildland fire management program evaluation, which identified the need for a sitewide, integrated wildland fire management plan and strategy. The evaluation identified where LM’s wildland fire protection procedures needed to be consistent with DOE standards and federal policies that were upgraded in 2016. LM is currently revising those policies to meet the standards.

At the end of the three-day annual meeting, EMI SIG recognized two LM and LMSP personnel for their contributions to the group at the meeting and over the past year.

EMI SIG selected LM Emergency Management Program Manager Greg Cummings as the “Federal Member of the Year” for being “a steadfast champion of a new emergency management program within LM” and for helping to coordinate the annual meeting. Throughout the year, he supported EM in developing drills and exercises, training, and readiness assurance programs, as well as an enhanced LM Watch Office to support the office’s mission to protect life, property, and environmental resources. Cummings also contributed greatly to the EMI SIG community and the annual meeting, working with local communities to coordinate an LM exhibit and handout items, the opening ceremony color guard, multiple LM presentations, and welcoming remarks from LM and LMSP leadership, as well as a closing presentation from DOE Historian Eric Boyle.



Pictured from left: Ivy Hidalgo-Olberding, EMI SIG Steering Committee vice-chairperson; John Lombard, EMI SIG Steering Committee chairperson; Cody Dye, LMSP EM off-site response interface coordinator; Jessica Falcon, NNSA Office of Emergency Management Policy director; and Kimberly Alahmadi, NNSA Office of Emergency Management Policy deputy director.

“Please join me in congratulating our coworker Greg Cummings for being selected as the Federal Member of the Year at the 37th Emergency Management Issues Special Interest Group Annual Meeting,” said LM Director Carmelo Melendez. “I want to acknowledge all the efforts from the combined federal and partner staff that has collaborated in an area that is extremely important but often overlooked.”

LMSP EM Off-Site Response Interface Coordinator Cody Dye also earned two awards at the EMI SIG annual meeting. Earlier this year Dye was elected as the Subcommittee for Emergency Management Planners co-vice chairperson.

Dye is a member of two groups within the subcommittee that earned annual awards: “Working Group of the Year” for the Emergency Management Resource Working Group developing and promoting the emergency management resource library and database; and the “Task Group of the Year” for the DOE Order 151.1D, “Comprehensive Emergency Management System,” Rewrite Task Group that developed a process to obtain contractor feedback for the upcoming DOE Order rewrite, which establishes departmental policy and assigns roles and responsibilities for emergency management. ❖

NEJC Encourages Capacity Building, Technical Assistance for Communities

GOAL 6



Program education and utilization are keys to effective program performance

The 2023 National Environmental Justice Conference and Training Program identifies how to enhance community living in a healthy environment through capacity building and technical assistance. These initiatives were the 2023 conference's key focuses.

The conference subtheme was "Fully Integrating and Institutionalizing Environmental Justice and Equity."

The 2023 conference builds on past annual conferences and is recognized as a rapidly changing and diversifying landscape. The 2023 conference was held jointly with Race Forward's "Justice and Equity: From the Inside Out" Training Program for Federal Civil Servants.

The U.S. Department of Energy has sponsored NEJC, the nation's largest annual environmental justice conference, since 2007. This year's conference took place March 7-9, 2023. The event was held at the Walter E. Washington Convention Center in Washington, D.C.

The conference featured thought-provoking panels and workshops and numerous opportunities to hear from young people, activists, and others from across the United States who are engaged and committed to EJ principles. Individuals with unique backgrounds and different experiences presented, focusing on these ideas:

- EJ cannot exist without an informed citizenry.
- All Americans are entitled to live in a healthy environment.
- Empowerment is key to advancing any cause that can improve everyone's quality of life, especially those in underserved and underrepresented communities.

The first day of the conference focused on young, interested citizens during the Youth/Emerging Leaders' Summit. The day included a Mentorship for Environmental Scholars panel titled "Five Paths, One Destination." Undergraduate MES students created environmental justice trainings for middle and high school students, which resulted in forming Pre-College University's Environmental Justice Academy.

Keynote addresses given by:

- U.S. House of Representatives Assistant Democratic Leader James E. Clyburn, D-6-S.C.
- DOE Deputy Secretary David Turk.
- White House Council on Environmental Quality Senior Director for Environmental Justice Jalonne L. White-Newsome.
- Federal Energy Regulatory Commission Chair Willie L. Phillips.
- Deloitte Digital Chief Experience Officer and best-selling author of *Elevating the Human Experience* and *The Four Factors of Trust* Amelia Dunlop.



U.S. House of Representatives Assistant Democratic Leader James E. Clyburn, D-6-S.C., with the Mentorship for Environmental Scholars panel during the Youth/Emerging Leaders' Summit.

Continued on page 36

NEJC Encourages Capacity Building, Technical Assistance for Communities

The following are additional presentation topics:

- Environmental Justice and the Role of Indigenous Traditional Ecological Knowledge of the National Laboratories.
- Broadening Minority Students' Interest and Participation in Science, Technology, Engineering, and Mathematics Research Through Annual Research Symposium.
- State Disparities in Climate Change Policy: An Environmental Justice Perspective.
- The U.S. Department of Justice's New Office of Environmental Justice and the Comprehensive Environmental Justice Enforcement Strategy.

Additionally, the three-day conference included more than 20 technical assistance workshops and training programs, covering topics such as:

- Federal Government Panel on Advancing Environmental Justice Through Title VI of the Civil Rights Act.
- Environmental Justice and National Environmental Policy Act Workshop: Environmental Justice and Equity.
- Community Lead Awareness – Using the Lead Awareness in Indian Country: Keeping Our Children Healthy!
- It's Not About Us: How to Build Sustainability Within Environmental Justice and Community-Engaged Education.
- Efforts to Advance Environmental Justice Across the Biden-Harris Administration.

NEJC will reconvene April 16-18, 2024, in Washington, D.C., when leaders from various sectors will again exchange ideas and approaches to achieving environmental justice. The three days of interactive training sessions will include thought-provoking dialogue and sharing and discussing experience and research.

For additional information, view the 2023 NEJC Booklet at <https://drive.google.com/file/d/16rVT63VtiiOH2yNeLuq6yNecAJsXa6Y5/view>. ❖



DOE Environmental Justice Program Manager Melinda Downing (left) presents the EJ Distinguished Service award to Federal Coordination and Compliance Section, Civil Rights Division, U.S. Department of Justice Deputy Chief Daria Neal.



DOE Environmental Justice Program Manager Melinda Downing (left) presents the Environmental Justice Distinguished Service award to DOE Environmental Justice Senior Advisor Denise Freeman.

New Employee Bios

Jennifer O'Brien



Jennifer O'Brien's experience with the U.S. Department of Energy Office of Legacy Management began in 2019 when she provided National Environmental Policy Act and site-specific Legacy Management support on the LMS contract. Since then, O'Brien has supported the Burro Mines Complex reclamation project in Colorado, the Shiprock Evaporation Pond Decommissioning Project and environmental assessment at the Shiprock, New Mexico, Disposal Site, and the U.S. Bureau of Land Management withdrawal EAs. She also helped finalize the NEPA Handbook.

After 20 years as a NEPA specialist and environmental planner for other federal agencies, O'Brien started a new chapter with LM in February 2023. At this career stage, she brings vast experience integrating project planning and implementation with environmental considerations and regulatory requirements.

In addition to the intellectual rigor of her work, there is another type of "environment" that keeps her engaged. "What drew me to work for LM was primarily the people and the importance of the mission, particularly LM's work to be environmental stewards and lead stakeholder engagement," O'Brien said.

Paige Schwarz



Paige Schwarz is the Defense-Related Uranium Mines program project manager for the U.S. Department of Energy Office of Legacy Management. In this role, she collaborates and coordinates with stakeholders to close hazardous abandoned-mine openings, supporting LM's mission to protect human health and the environment and to manage DRUM's database, which includes mine site information. "Our database is one of the best databases out there," Schwarz said. "Every single feature has been reconciled and fully vetted by field teams to reflect accurate data." Her job includes safeguarding abandoned uranium mines while preserving native habitats for wildlife.

Prior to joining DRUM, Schwarz worked on groundwater and waste disposal monitoring, remediated real property beneficial reuse, and other LM-mission tenets for DOE's contract with RSI EnTech. She worked as a lead for Uranium Mill Tailings Radiation Control Act Title II sites and was also a DRUM program team lead and ecologist for three years.

Schwarz emphasizes a crucial part of her job: stakeholder engagement across all fronts. "From education about the environment to the exchange of ideas and information, our success hinges on collaboration and teamwork to preserve history in the best ways possible," she said.

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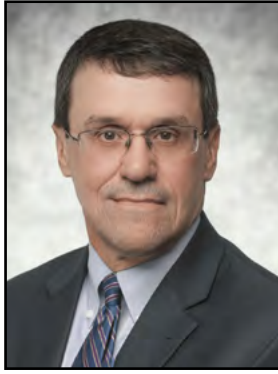


Office of Legacy
Management



New Employee Bios (continued)

Scott Whiteford

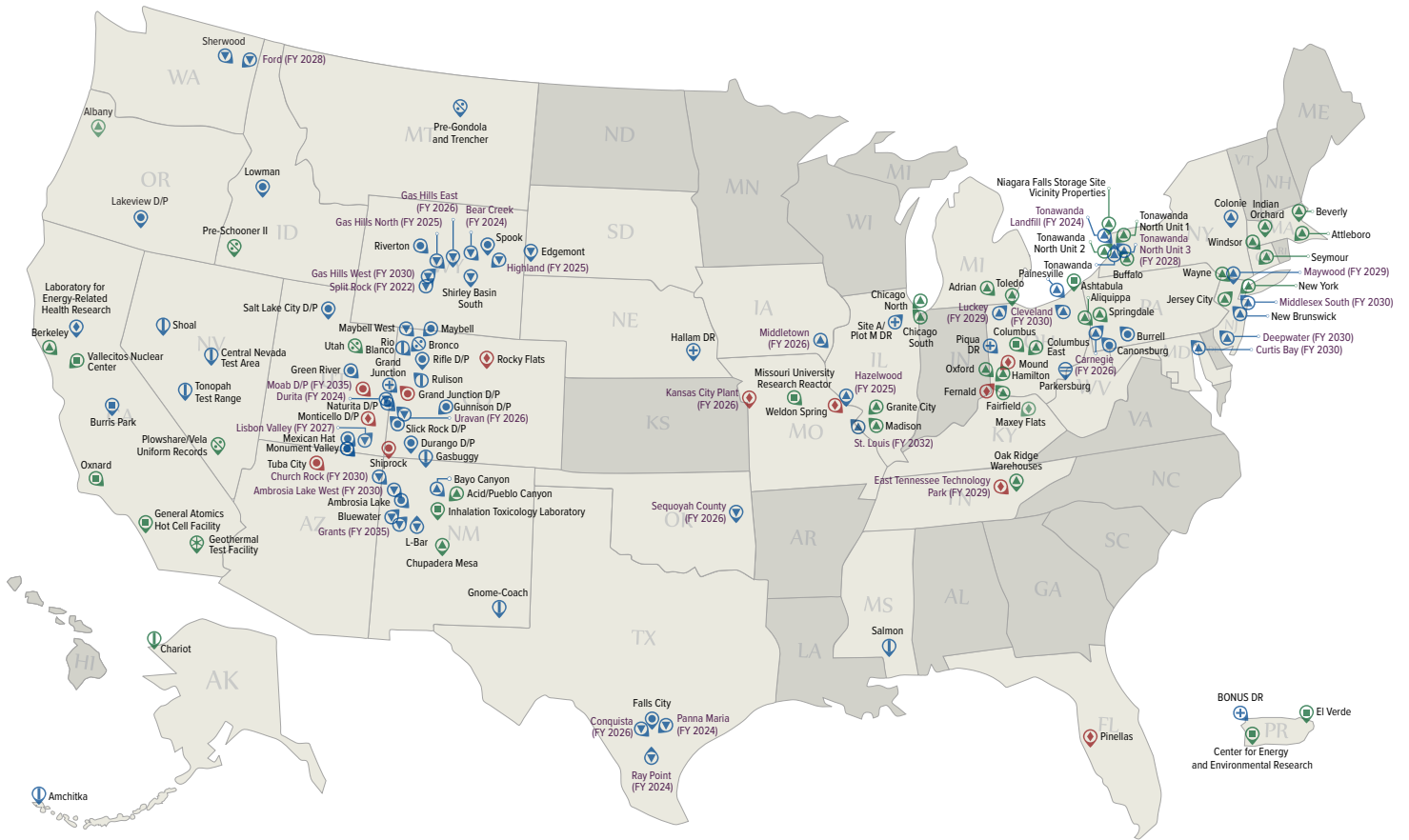


In January 2023, after almost a decade with the U.S. Department of Energy, Scott L. Whiteford became the DOE Office of Legacy Management Deputy Director. He is also the former Head of Contracting Activity for Real Estate and the Senior Real Property Officer. Whiteford was previously the Office of Asset Management Director, where he led policy oversight and real estate, facilities, and infrastructure guidance.

Whiteford began his career as a federal employee in 1998 with the U.S. Navy. In his nine-year tenure, he worked his way up from Chief Appraiser to Acting Director of Real Estate with the Naval Facilities Engineering Command. In 2007, Whiteford led a team of 850 realty specialists across 40 locations worldwide as the U.S. Army Corps of Engineers Director of Real Estate.

Whiteford has a bachelor's degree in finance from the University of Iowa. Having grown up on a farm in Iowa, he loves being outdoors and connecting with nature. He resides in Maryland with his wife.

Anticipated LM Sites Through Fiscal Year 2035



Anticipated Sites in LM Through FY 2035 Requiring LTS&M					Site Category	
CERCLA/RCRA	D&D	FUSRAP	MED/AEC Legacy Site	Nevada Offsites	Category 1 activities typically include records-related activities and stakeholder support. Category 2 activities typically include routine inspections (site visits are conducted to verify the integrity of engineered or institutional barriers) and monitoring/maintenance, records-related activities, and stakeholder support.	Category 3 activities typically include operation and maintenance of active remedial action systems, routine inspections (site visits are conducted to verify the integrity of engineered or institutional barriers) and monitoring/maintenance, records-related activities, and stakeholder support.
NWPA	Plowshare/Vela Uniform Program	State Water Quality Standards	UMTRCA Title I	UMTRCA Title II		

D/P = Disposal/Processing **DR** = Decommissioned Reactor 06/2022

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