U.S. Department of Energy

PROGRAM UPDATE

April-June 2022

Aha Nature Moments: Fernald Preserve's Answer to Educational Virtual Programming During the COVID-19 Shutdown

LM, Partners Welcome Community into New Weldon Spring Site Interpretive Center

Turning Vulnerabilities into Plans of Action

DIRECTOR'S CORNER

Weldon Spring not just a great DOE story, but a great American story

The opening of the new Weldon Spring Site Interpretive Center near St. Charles, Missouri, on April 14 was a proud moment for the U.S. Department of Energy (DOE) Office of Legacy Management (LM).

But it was something else, too.

It was a time for reflection.

I was reminded of that by the eloquent words of Dr. Daniel Brown, a local historian, educator, and author who was one of the speakers during the ribbon-cutting ceremony that day. During the ceremony the presenters spoke a lot about the important mission that occurred at the Weldon Spring Site, the dedicated workers who performed the work, and the amazing facility that will tell the Weldon Spring story for many years to come and provide educational opportunities for many thousands.

Dr. Brown reminded us, however, that it all started with sacrifice from the roughly 600 people who were displaced when the land was acquired for the project that was necessary for the nation's defense. Dr. Brown mentioned those people because he didn't want them to be forgotten, and they will not be forgotten.

"They said, 'We'll go.' They didn't like it, but they said that if the federal government says they need our land for the defense of our country … 'We'll go,'" Dr. Brown said.

I was proud to stand alongside some of the site's earliest workers when we cut the ribbon to the facility that tells the story of those workers, those displaced families, and gives perspective to the world condition at that moment in history.

From 1941-1945, the U.S. Army manufactured trinitrotoluene (TNT) and dinitrotoluene (DNT) at the Weldon Spring Ordnance Works. In 1956, the U.S. Atomic Energy Commission constructed the Weldon Spring Uranium Feed Materials Plant, now referred to as the Weldon Spring Chemical Plant. The plant converted processed uranium ore concentrates to pure uranium trioxide, intermediate compounds, and uranium metal. A small amount of thorium was also processed.

It wasn't lost on me that the Weldon Spring Site is not just a great story for DOE and LM. Indeed, it is a great American story.

From everyday citizens like the ones Dr. Brown identified, to the site workers, to our military personnel, and so many others, the Allied victory in World War II required sacrifice from the American people and people around the world. And places like Weldon Spring illustrate that Americans were willing to answer the bell when their moment in history called for the preservation of democracy.

In partnership with the U.S. Army Corps of Engineers (USACE), the new interpretive center was built for many reasons. It pays tribute to the contributions of so many people and is also a powerful tool for education. We were honored to have USACE Col. Kevin R. Golinghorst join us for the ceremony, and I also appreciated his words on how intergovernmental cooperation serves the public.

LM Weldon Spring Site Manager Rebecca Roberts spoke of how teachers and students will be some of the beneficiaries of this project with increased STEM offerings and other educational programs. Long-term stewardship at the site is a critical aspect of LM's mission, but so too is working with the community to tell this important story.

As I mentioned during the ceremony, I join many who are extraordinarily proud of the new interpretive center, but I'll be prouder when the sounds of children can be heard inside those walls. That's because that will be the evidence that the Weldon Spring story will be told and retold and that the many people who made sacrifices for our nation will most certainly never be forgotten.

Warm Regards,

Carmelo

Carmelo Melendez

COVER: *LM Director Carmelo Melendez shows former Weldon Spring Site worker Robert Laird one of the exhibits inside the new Weldon Spring Site Interpretive Center near St. Charles, Missouri. LM welcomed about 70 guests to a ribbon cutting ceremony on Thursday, April 14.*

Welcome to the April-June 2022 issue of the U.S. Department of Energy (DOE) Office of Legacy Management (LM) Program Update. This publication is designed to provide a status of activities within LM. Please direct all comments and inquiries to ***LM-ProgramUpdate@lm.doe.gov****.*

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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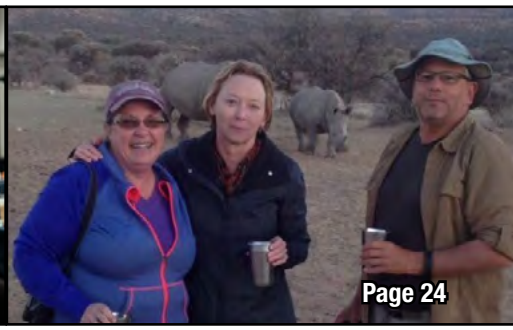
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LM Interpretive Centers Reopen April 15

GOAL 6

After two years of the indoor areas being closed to the public as a result of the COVID-19 pandemic, the DOE Office of Legacy Management reopened its three interpretive centers on Friday, April 15

Two years ago, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) closed its doors to all three interpretive centers due to the COVID-19 pandemic. LM staff quickly adjusted to the closure, offering a variety of virtual programming and events to the public, until federal guidelines for workers allowed opening the centers' indoor spaces again.

On April 15, LM reopened its three interpretive centers. The Atomic Legacy Cabin in Grand Junction, Colorado; the Fernald Preserve Visitors Center near Hamilton, Ohio; and the new Weldon Spring Site Interpretive Center, in St. Charles, Missouri, once again are welcoming visitors indoors.

Each of the three centers will be open during normal business hours, and the staff at the sites will continue to produce and host virtual programming for audiences.

"The site managers and site caretakers at Office of Legacy Management sites where there are interpretive centers are proud to work with the public inside once again," said LM Director Carmelo Melendez. "We have been careful and thoughtful in our approach to reopening these facilities, always making safety the priority. We look forward to welcoming back our friends and neighbors to experience the programs and services offered inside."

Visitors are encouraged to continue practicing COVID-19 protocols, including social distancing and proper hygiene, such as washing hands for at least 20 seconds, covering your mouth and nose when coughing and sneezing, and staying home when feeling ill. Face cover requirements follow the Centers for Disease Control and Prevention (CDC) county transmission levels. You can preview face cover requirements by searching either Hamilton County, Ohio; St. Charles, Missouri; or Mesa County, Colorado, in the CDC's COVID-19 by County tool.

Staff will continue to monitor guidance from the federal government, CDC, and state and local health departments. Adjustments to protocols may change with community conditions.

"The staff at the interpretive centers are thrilled to again welcome visitors back to participate in LM's programs," said LM Education, Communications, History, and Outreach Supervisor David Von Behren. "These facilities play a valuable role in telling the important stories of the critical mission to the nation by those who worked at these sites. The interpretive centers also offer teachers and students access to meeting rooms, educational materials, and opportunities to connect with scientists and engineers. ❖

Atomic Legacy Cabin in Grand Junction, Colorado.

Fernald Preserve Visitors Center near Hamilton, Ohio.

New Weldon Spring Site Interpretive Center near St. Charles, Missouri.


"Hot Town"
Las Colonias Park


RED WATER
WORLD WAR II
COMES TO A CLOSE


The Nuclear
Arms Race
STEEL BOMB:
FEED MATERI

LM Director Carmelo Melendez addressed about 70 guests during a ribbon-cutting ceremony for the Weldon Spring Site Interpretive Center on Thursday, April 14, near St. Charles, Missouri.

LM, Partners Welcome Community into New Weldon Spring Site Interpretive Center

GOAL 1

LM Director Melendez pays tribute to workers, says versatile $7.4M facility can illustrate the Weldon Spring Site story and provide a valuable community resource

U.S. Department of Energy (DOE) Office of Legacy Management (LM) Director Carmelo Melendez paid tribute to workers at the Weldon Spring Site near St. Charles, Missouri, during a ceremony April 14 to celebrate the opening of the site's new interpretive center.

The 25,000-square-foot interpretive center opened its doors to the public on April 15. Technical assistance with the design and construction of the $7.4 million facility was provided by a support agreement between LM and the U.S. Army Corps of Engineers (USACE).

The facility was constructed to honor the work performed at the Weldon Spring Site, highlight the workers who provided their service to the nation, and recognize the sacrifices of displaced families and others who were impacted. The interpretive center will also offer the surrounding community a versatile resource for education, research, and community involvement.

"The United States owes a debt of gratitude to the workers at the Weldon Spring Site and workers throughout the nuclear complex who gave so much to our nation," Melendez said.

"Facilities like the Weldon Spring Site Interpretive Center provide valuable resources to the community and allow DOE to recognize the work of so many people who played critical roles in the Allied forces winning World War II and the Cold War."

Melendez spoke to a crowd of about 70, as did Col. Kevin R. Golinghorst, Commander, USACE St. Louis Engineers District; Dr. Daniel Brown, local historian, educator, and author; and Rebecca Roberts, LM Weldon Spring site manager.

Golinghorst said the collaboration between LM and USACE is an example of how intergovernmental cooperation can serve the public.

"We are incredibly proud of the partnership and our team's contribution to achieve this public space," Golinghorst said. "Utilizing state-of-the-art engineering principles will enable the U.S. Department of Energy Office of Legacy Management to provide a sustainable community resource to the many visitors, teachers, and school groups who will visit this facility."

Recently installed exhibits at the interpretive center highlight the site's history, cleanup, and continuing long-term stewardship. The Weldon Spring Site is located in St. Charles County near St. Louis and is now managed by LM.

"The DOE Office of Legacy Management takes seriously its responsibilities of post-closure and protecting human health and the environment at DOE sites. The Weldon Spring Site is a success, not only in the work that occurred here during its operations, but the cleanup and beneficial reuse that followed," Melendez said. "This interpretive center plays an important role by allowing DOE to tell that important story."

Brown indicated it was important to remember the more than 600 people who were displaced when the facility was built in the 1940s.

"They said, 'We'll go.' They didn't like it, but they said that if the federal government says they need our land for the defense of our country … 'We'll go,'" said Brown, who said he looks forward to generations of children coming to the interpretive center to learn about the people in the area who made sacrifices.

From 1941-1945, the U.S. Army manufactured trinitrotoluene (TNT) and dinitrotoluene (DNT) at the Weldon Spring Ordnance Works. In 1956, the U.S. Atomic Energy Commission constructed the Weldon Spring Uranium Feed Materials Plant, now referred to as the Weldon Spring Chemical Plant. The plant converted processed uranium ore concentrates to pure uranium trioxide, intermediate compounds, and uranium metal. A small amount of thorium was also processed.

LM Weldon Spring Site Manager Rebecca Roberts talks with local historian Dr. Daniel Brown as part of activities at a ribbon-cutting ceremony at the new Weldon Spring Site Interpretive Center near St. Charles, Missouri, on Thursday, April 14.

The state-of-the-art interpretive center is energy efficient and features the exhibit hall, four classrooms, an auditorium, and meeting spaces available for use, at no cost, to community groups such as non-profit organizations and schools. Expanded offerings of on-site STEM education, an emphasis of DOE, will also be offered.

"DOE looks forward to providing valuable resources to the community through the Weldon Spring Site Interpretive Center," Roberts said. "The interpretive center allows DOE to provide educational programs, tours, research opportunities, and meeting rooms for public use. The surrounding gardens and prairie trails are also open to the public to explore."

For more information on the Weldon Spring Site Interpretive Center visit www.energy.gov/lm/weldon-spring-site-interpretive-center and for more information on the Weldon Spring Site visit www.energy.gov/lm/weldon-spring-site-missouri. ❖

Aha Nature Moments: Fernald Preserve's Answer to Educational Virtual Programming During the COVID-19 Shutdown

GOAL 6

Fernald Preserve's solution to continuing educational programming during the pandemic evolves into a popular video series

If you've heard about the whistle pig that can forecast the start of spring, or the cow killer that's actually a wasp, then – AHA! – you know about Fernald Preserve's "Aha Nature Moments" series. It's an entertaining and educational library of short-form videos, featuring Fernald's flora, fauna, and other fun facts about the site and its residents.

The series is produced by the U.S. Department of Energy's (DOE) Office of Legacy Management's (LM) Fernald Preserve Site in Ohio, and LM's Education, Communications, History and Outreach (ECHO) department. The staff, accustomed to working with a physical audience, was looking for a safe and effective alternative to present their programs virtually, giving LM a way to stay connected to the community during the COVID-19 pandemic.

The series started with a single video called "Secret Lives of Wild Creatures at LM's Fernald Preserve, Ohio, Site." The five-minute video features live shots of birds, bobcats, beavers, and other preserve residents going about their daily and nightly routines. It's the top-streaming video on LM's social media channels, and its numbers are increasing. Since June 2020, more than 11,500 viewers have watched "Secret Lives…" on Facebook.


Secret Lives of Wild Creatures at LM's Fernald Preserve, Ohio, Site

With the success of the first video, the team moved to create an entire virtual interpretive video series, focusing on the natural history and ecology of the Fernald site. The videos run between one and four minutes each, with topics ranging from animal track identification on Fernald's seven miles of hiking trails to a mini-series on the American Beaver busy building dams throughout the property. Some of the most popular episodes include "Aha Nature Moments – Cicada," logging more than 5,000 views in the past 10 months, and "Aha Nature Moments – Osage Orange: Hedge Apple," with more than 2,500 views since its debut four months ago. The series continues to dominate LM's social media feed, receiving more traffic and comments than any other postings.

Production of the early videos had its challenges. Due to pandemic-related site restrictions, Fernald Preserve's interpreters and naturalists were on their own to write, shoot, and host the videos. Most of the footage was shot with an iPhone, then shipped to Colorado for editing. But as the team became more creative and comfortable in front of, and behind the camera, the show's quality and imaginative storylines blossomed.

Some of the videos are scripted and hosted, while others are a visual feast of wildlife in action and breathtaking landscapes. The hosted programs feature Fernald Preserve's Interpretive Specialist Karen Cody, who takes viewers on a fun-filled informational tour of the area and its furry and sometimes frightening inhabitants. Cody and the team of talented producers, writers, editors, and videographers increase the fun with some sideshow antics, including firefly chases and Cody feasting on a live worm – recipe included!

More than two dozen "Aha Nature Moments" have been produced since the summer of 2020. As the Visitors Centers reopen, the video productions will slow down. However, Fernald Site Manager Brian Zimmerman said the series will still be around.

"Our Aha Nature Moment videos showcase the expertise and talent of Fernald Preserve's naturalist and interpretive team," Zimmerman said. "While originally filmed during the Visitors Center closure due to COVID-19, these videos will continue to spark curiosity about the site for years to come."

There are plans to continue filming and editing short-form videos on Fernald's wildlife, but the ending product will be a more au naturel format, with minimal editing and no narration. The current videos will still be available on social media for viewing with the hope that they will, as Cody says as she exits each of her stories, "inspire you to be curious, explore, and go outdoors." ❖

The Rifle, Colorado, Disposal Cell remediation system uses large solar panels to charge battery banks that power two groundwater pumps tasked with dewatering the cell.

LM Grows Solar Power Use to 136 Active Systems

GOAL 1

Increased emphasis on renewable energy has greatly reduced travel expenses and improved monitoring efficiency at a growing number of sites

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) has been using renewable solar energy to manage and maintain some of its sites as long as the office has existed. Let's look at how LM has grown its solar power use over the years.

In the early 2000s, a few DOE cleanup sites and long-term monitoring and maintenance sites were using solar panels and batteries to provide limited power to areas without line power. LM was established in 2003 to manage and maintain the cleaned-up former nuclear weapons production facilities.

In 2004, LM created the System Operation and Analysis at Remote Sites (SOARS) to take remote measurements of critical parameters and transmit these data immediately to end users. Before then, telemetry systems had been used at some of the sites now managed by LM. SOARS integrated some of these systems, added many more, and established a centralized data acquisition network and web access that provides real-time data to support personnel across LM.

"LM's been able to set a solid foundation of savings through using these SOARS systems," said Tracy Ribeiro, LM Environmental, Safety and Health, and Quality Assurance Team supervisor. "We were rewarded for these savings in 2010, when LM won a DOE Management Award for outstanding contributions to energy, water, and vehicle fleet management and associated cost savings at DOE facilities and field organizations. At the time, those systems reduced travel by 37,000 miles, saving 1,900 gallons of fuel. Our savings today are even greater."

The use of SOARS has expanded rapidly; as of January 2022, SOARS operates at 21 LM project sites, with about 125 environmental data stations, in eight states. Because it is web-based, SOARS data can be used worldwide wherever an internet connection is available. A typical environmental data station will use around 0.5 kilowatt-hours of energy per day. This equates to roughly 27,000 kWh of annual energy consumption that is provided by solar energy. For comparison, the average U.S. home uses about 10,000 kWh of electricity per year.

Many sites have remediation equipment that is controlled by the SOARS system, including equipment that operates groundwater pumps and valves. They allow site personnel to operate portions of their remediation systems from their desktops. As solar technology has improved, some LM sites have been able to expand the size and scale of their solar systems and increase their production to power other remediation-related systems and electric gates, lights and signs.

In addition to the generally smaller, remote sites that are monitored by the SOARS system, several large LM sites have increased their reliance on solar power. And one large site in Colorado relies entirely on solar power.

The Rocky Flats Site relies on renewable energy for access to electrical power; there is no choice. Rocky Flats is completely off the grid – no power, water, sewer, or other municipal infrastructure. Yet there are several groundwater collection and treatment systems, many automated surface-water sampling stations, a meteorological station, telemetry facilities, and an equipment shed with power needs.

When the former Rocky Flats Plant, then called the Rocky Flats Environmental Technology Site, closed in 2005, the groundwater treatment systems were passive (no power needs) and the shed was a simple storage facility; only the surface-water stations were equipped with solar panels and batteries to enable full-time, uninterrupted operation, plus a few telemetry facilities to enable their operational status to be monitored remotely. Over time the treatment systems needed to be improved to meet more restrictive treatment requirements and reduce significant maintenance costs.

Site personnel completely reconfigured three of the four groundwater treatment systems – one of which won a DOE sustainability award and a GreenGov presidential award because of the creative reconfiguration. And upgrading the solar/battery power supply at the equipment shed provided electrical power to use power tools and other items needed to maintain equipment. During fiscal year 2021, Rocky Flats generated and used about 35,000 kWh.

Solar installation at Rocky Flats Site, Colorado.

Another example of LM's expanding use of solar power is at the Rifle, Colorado, Disposal Site. The site's remediation system uses large solar panels to charge battery banks that power two groundwater pumps tasked with dewatering the disposal cell. The estimated electricity usage of running this system in spring, summer, and fall is around 32,000 kWh per year.

"We continue to look for expanded ways to use solar power," Ribeiro said. "The funding we continue to save by not purchasing power helps us to use those resources for other mission-related work."

Currently, LM operates 136 active solar energy generating systems across its sites. The largest generator of solar power is the Tuba City, Arizona, Disposal Site, where a solar array generated approximately 628 megawatt-hours,or 628,000 kWh, of electricity in fiscal year 2021. Added to the 95 mWh generated by two other arrays in Tuba City and the 723 mWh generated by all the other LM on-site solar power generators, LM is creating and using 1,447 mWh of electricity.

Since one megawatt is enough to power 100 homes for a year, LM is generating enough electricity with solar energy to power nearly 145,000 homes — all without adding greenhouse gases to the environment.

Other LM sites that generate solar energy for SOARS monitoring or other long-term care include the Bluewater, New Mexico, Disposal Site; Durango, Colorado, Disposal/Processing Site; Fernald Preserve, Ohio, Site; Grand Junction, Colorado, Disposal/Processing Site; Grand Junction, Colorado, Site; L-Bar New Mexico, Disposal Site; Lakeview, Oregon, Disposal/Processing Site; Mexican Hat, Utah, Disposal/Processing Site; Monticello, Utah, Disposal/Processing Site; Monument Valley, Arizona, Processing Site; Shiprock, New Mexico, Disposal Site; and Weldon Spring Site, Missouri. ❖

LM Staff Leads STEM with LM Outreach in Denver

GOAL 2

Office of Legacy Management FUSRAP Site Manager Darina Castillo recently led activities at a pre-kindergarten class at a school in the Denver Metro Area

U.S. Department of Energy (DOE) Office of Legacy Management (LM) Formerly Utilized Sites Remedial Action Program (FUSRAP) Site Manager Darina Castillo represented STEM with LM at a pre-kindergarten community helper session at a Denver Metro Area school on April 6.

The students participated in a discussion about LM's mission and how LM engineers and scientists help solve problems using science, math, and technology to protect human health and the environment.

In addition to the discussion on LM and its mission, students engaged in a hands-on activity that included coloring pages related to Earth Day provided by the STEM with LM Program. Teachers were also provided activities included coloring pages of women of the Manhattan Project, women in STEM, water or hydrologic cycle, and critters that live in mud and soils.

Students also learned about things that harm the Earth and what people can do to help make a difference for the future of the planet, such as recycling or using renewable energy sources such as wind or solar.

"The students recently learned about the solar system and the planets, so they were very engaged with the discussion of engineers and scientists protecting the Earth," Castillo said.

In addition to the STEM with LM activities, teachers received brochures on LM's Manhattan Project National Historic Park.

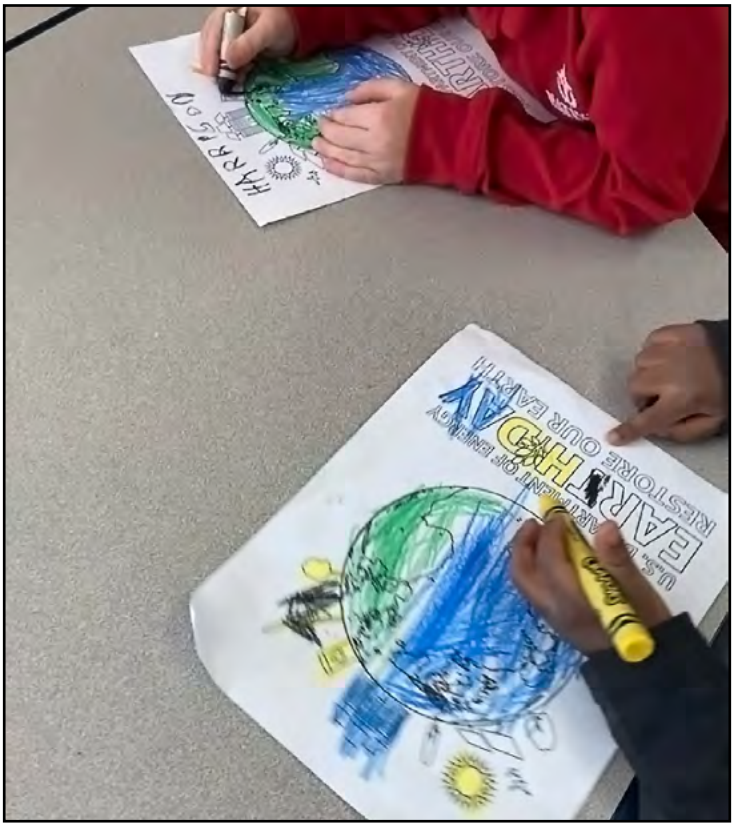
"LM's presence in communities across the country provides an opportunity for STEM with LM to not only showcase LM's mission but also the mission of the Department of Energy to students," Castillo added.

The STEM with LM program was established in 2020 and provides educational tools, resources, and activities for students of all ages and their teachers. STEM with LM also connects students to internship information and opportunities for STEM students and professionals.

"STEM with LM's main mission is to inspire the next generation of STEM professionals," said LM Public Participation Specialist Shawn Montgomery. "It's important that LM staff stay involved in their communities and spread LM's number one goal, which is to protect human health and the environment.

"Now that all our interpretive centers are open in Colorado, Missouri, and Ohio, I'm excited for LM to continue to do more of these types of outreach programs and really make an impact on future STEM professionals," he said.

For more information, visit the STEM with LM website and plan a visit to any of LM's interpretive centers: Atomic Legacy Cabin in Grand Junction, Colorado; Weldon Spring Site in St. Charles County, Missouri; or Fernald Preserve Visitors Center near Hamilton, Ohio. ❖



How LM Observes Earth Day, Every Day

GOAL 2

In keeping with its mission to protect human health and the environment, taking care of the planet is never a one-day affair for LM

For Department of Energy (DOE), Office of Legacy Management (LM), environmental stewardship is a continuous commitment. From monitoring groundwater and protecting natural habitats, to meeting with tribal experts or furthering educational programming for local students, the office's mission to preserve and protect human health and the environment is never a one-day affair.

This Earth Day, Senior Advisor to DOE EJ Program Manager Denise Freeman and Public Participation Specialist Shawn Montgomery demonstrated how the office's work propels environmental progress by pairing scientific exactitude with stakeholder expertise.

"Our day-to-day work is like a year-round celebration of Earth Day," Freeman said. "On a global level, it aims to bring awareness to environmental threats like pollutants – and on a local site level, we're mitigating the risks of those pollutants every day."

The theme of Earth Day 2022, Invest in Our Planet, included a call to action which echoes LM's purpose almost verbatim: "We must preserve and protect our health, our families, and our livelihoods."

For Freeman and Montgomery, the LM mission starts with environmental monitoring, but that work is driven by the interests and concerns of the people closest to its on-the-ground efforts. Montgomery routinely meets with representatives on sites across the country. He points to his work with tribal communities in the Southwest, who have taught him that caring for one's community is inextricably linked to caring for the Earth.

"Every interaction I have had with our tribal partners has afforded me the ability to learn so much about their histories and cultures," Montgomery said. "The events we host and take part in on Earth Day are informed by the takeaways we have with tribal and non-tribal stakeholders – what's important to them, the environmental concerns of the area, and what education or resources they find important for the community."

What Montgomery has learned is that for tribal communities, sustainable living isn't an afterthought: it is their default thinking. Minimizing water waste, creating hospitable environments for local species, protecting against erosion, and preventing against contamination have been top-of-mind priorities for many such communities for thousands of years. As these time-honored principles become more mainstream in America, Montgomery is hopeful the lessons take hold.

"Being a non-Native, I recognize that it is my job to listen and learn when I have the opportunity to interact with our tribal partners," Montgomery says. "It's critical that we continue to improve our communications with our tribal partners and never take those relationships for granted."

Many of this year's Earth Day celebrations wove environmental priorities in with artistic and cultural endeavors. Freeman, Montgomery, and their colleagues coordinated with local organizations to offer specialized programming to communities across the nation, including those in and around LM's sites.

The Office of Sustainable Environmental Stewardship under the Office of Environment, Health, Safety and Security (EHSS) led celebrations at DOE Headquarters in Washington, D.C. The programs included a photo and haiku contest, an art contest hosted for students within D.C. public schools, and take-home bingo-style cards for families, which offered tips to lead sustainable lifestyles.

This Earth Day which occurred April 22) – and every day – LM continues in its efforts to preserve land for generations to come. ❖

Turning Vulnerabilities into Plans of Action

GOAL 2

Dr. David Shafer on LM's evolution alongside climate related challenges

Its effects may vary, but climate change touches every corner of the United States, and of the world. For nearly two decades, the Department of Energy (DOE), Office of Legacy Management (LM) has been monitoring and maintaining nuclear sites across the country after remediation. LM has witnessed the environmental toll exacted by climate change. From droughts and wildfires to floods and erosion, climate change is also impacting how LM addresses its mission.

"The increasing frequency and intensity of weather events impacts our sites and as a result, the way we have to handle them," said Technical Director for Long Term Stewardship Dr. David Shafer. "As disrupting as climate change is, we are taking every opportunity to better prepare ourselves for the future."

Erosion exemplifies the type of complex challenge that climate change poses, according to Shafer. Decreased rainfall due to climate change increases the severity of droughts and often reduces the amount of vegetation that can mitigate erosion.

Shafer said LM is paying particular attention to 40 sites where landfills or disposal cells warrant additional monitoring, particularly with changing rain patterns. The disposal cell at the Mexican Hat site in Utah, for example, now requires repairs to protect against erosion under the surface.

"We are working with the Army Corps of Engineers, Desert Research Institute, Navajo Abandoned Mine Lands and Uranium Mill Tailings Remedial Action programs, Legacy Management Strategic Partners, and other subject matter experts to find a permanent solution so we can address the root cause of the issue," said LM Site Manager Angelita Denny.

Through its Applied Studies and Technologies program, LM is evaluating other conditions that may make some disposal cells more vulnerable to climate change impacts. "The use of dispersive clays during construction or long side slopes that cause water run-off, for example, are other factors," Shafer said.

"Strategic partnerships allow us to stay on the forefront of research and new mitigation tactics," Shafer said. With 10 years under his belt at LM, Shafer drives LM's science and technology efforts as well as international activities to ensure the organization's approach to protecting the environment is proactive and informed by current challenges.

LM Technical Director Dr. David Shafer works out of the LM Operations Center in Westminster, Colorado. He joined LM in 2011, first as the supervisor of the Uranium Mill Tailings Radiation Control Act /Nevada Offsites Environment Team and the Grand Junction, Colorado, office manager. He has also been the supervisor of the Asset Management Team, and the director of the Office of Business Operations.

"We don't want to wait for something bad to happen," Shafer said. "We want to turn vulnerabilities into plans of action."

To that end, LM is working with Lawrence Berkeley National Laboratory to enhance forecasting methods that would help identify potential vulnerabilities at sites, such as changes in rainfall patterns or vegetation.

Similar collaboration is underway at Florida International University, where one student is studying treatments LM can apply to groundwater contaminated with uranium. Meanwhile at LM's sites in the Southwest, the Navajo Nation Abandoned Mine Lands program is helping mimic local topography to improve stability against extreme weather events.

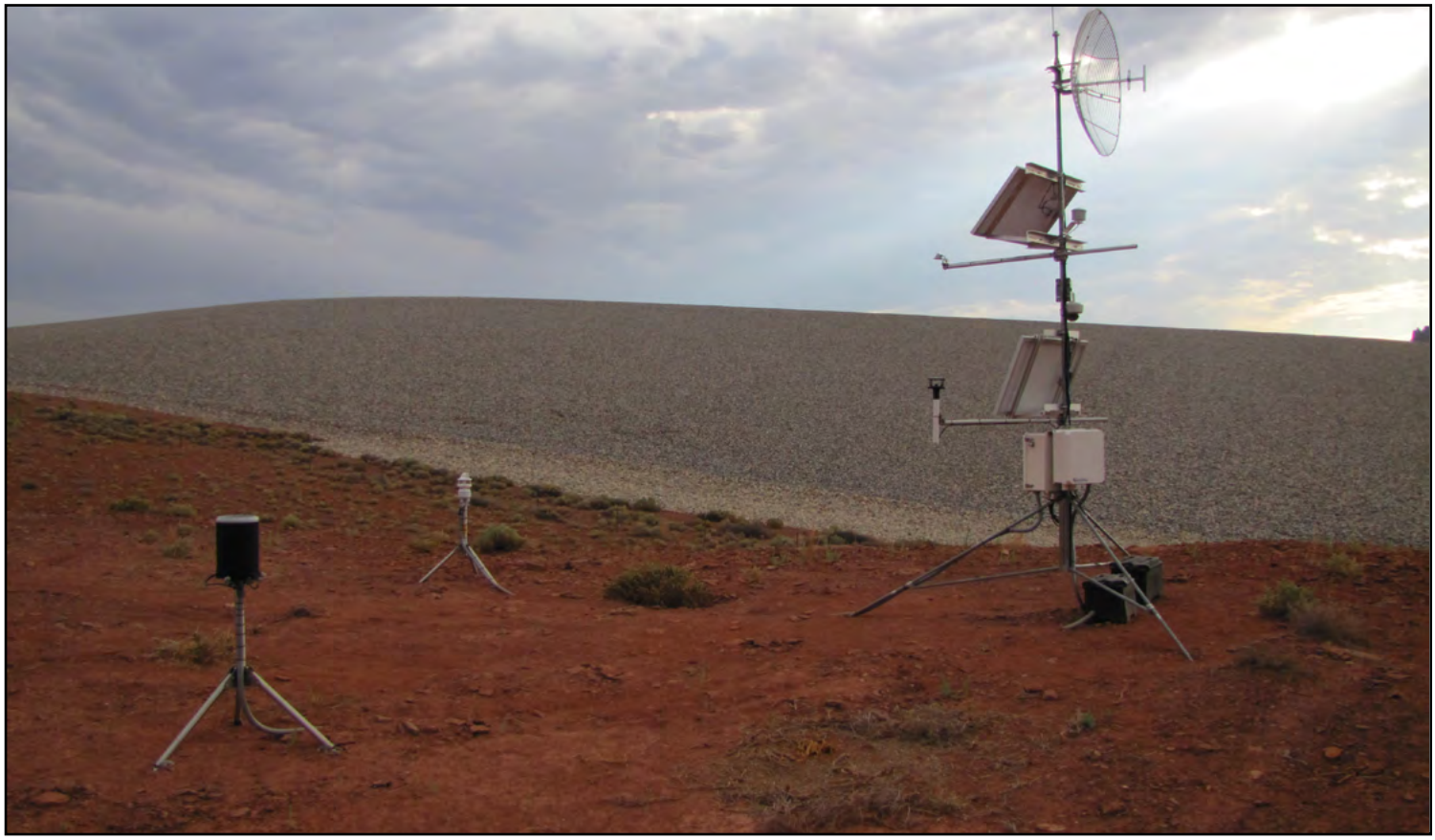
"Not only is climate change impacting the type of work we do at sites, but it is also impacting when we can do it," Shafer said. Increasingly frequent extreme weather events are narrowing the time frames when LM workers can safely venture out to the sites. In Washington state, for example, Shafer said teams have started to complete field work earlier in the year due to a longer wildfire season.

"When workers are on site, they can experience decreased air quality due to wildfires hundreds of miles away," Shafer said. "Protecting our workers in these changing conditions is a critical aspect of LM's commitment to human health and safety."

Borrowing from technology originally developed for sports teams, LM workers visiting abandoned uranium mines now wear wristbands that monitor body temperature and heart rate to ensure they are safe and healthy while out on the sites.

"We bring the same level of commitment to enhancing mitigation efforts at our sites as we do to improving things like environmental research and worker safety," Shafer said. "Climate change affects every aspect and region of LM's work, but we are stepping up to the challenge."❖

Wristbands that monitor heart rate and body temperature help LM ensure workers' safety in the field, particularly during wildfire season.



A large number of intense precipitation events between 2009 and 2018 likely contributed to water erosion below the rock cover on the disposal cell at the Mexican Hat, Utah, Site. LM is undertaking repairs to the cell to protect against erosion under the surface.

LM Completes Milestone Goal for DRUM Program

GOAL 2

The Office of Legacy Management (LM) Defense-Related Uranium Mines (DRUM) Program surpassed its goal of 500 verification and validation mine site visits by accomplishing 507 mine site visits between April 1, 2021, and March 31, 2022. These visits are used to assess whether mines pose potential risks to human health and the environment

The Defense-Related Uranium Mines (DRUM) team completed a major milestone March 28 by delivering 507 verification and validation (V&V) mine visits during the field season running from April 1, 2021 to March 31, 2022.

V&V processes verify historic records and validate current mine site conditions. Collectively, V&V is the process of reconciling mine data, inventorying mine features, performing environmental sampling, and documenting results.

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) DRUM program is a partnership between DOE, federal land management agencies, tribal governments, and state abandoned mine lands (AML) programs. LM's V&V work was completed by its support contractor RSI EnTech, LLC.

DRUM V&V activities include exchanging information with other agencies such as the Bureau of Land Management (BLM), National Park Service (NPS), and U.S. Forest Service (USFS); performing field inventories to document current conditions; conducting soil and surface water sampling to evaluate hazards; conducting gamma surveys; and producing inventory and evaluations of physical, chemical, or radiological hazards, if present.

The DRUM program comprises five teams, with four individuals per team to handle each of these tasks: a field team lead, a geologist, an ecologist, and a safety specialist/radiological control technician. These teams visit a variety of different mine sites across the country every year, using utility terrain vehicles (UTV) or hiking when the mines are difficult to reach, and trying to minimize their impact on resources, wildlife, and native flora.

"This goal was a crucial step in reaching the program's milestone of completing approximately 2,500 mines on public land by September 30, 2023," said LM's DRUM Team Technical Lead William Burns. "Approximately 1,830 mines have been completed to date."

Most of the 507 mines the DRUM teams visited are in Utah and Colorado. DRUM teams efficiently coordinated and planned efforts with multiple land management agencies to reach this important milestone, which started in April 2021 and was scheduled for completion by March 2022.

A DRUM team member approaching an abandoned uranium mine to survey its features.

"Reaching this milestone while navigating harsh weather, personnel changes, and a global pandemic speaks volumes to the focus and dedication of the DRUM field teams," Burns said.

DRUM is expected to continue additional field work on public lands and tribal lands in 2022. DRUM project managers are in contact with tribal AML programs to develop cooperative agreements, establish risk screening scenarios, and conduct environmental reviews.

"Mines on private lands will be visited by DRUM field teams starting in 2024," Burns said.

"These efforts come together into the DRUM safeguarding program where DRUM works with multiple stakeholders to continue to protect human health and the environment," he said. ❖

Dr. Melinda Downing (center), and Dr. Oluwole Ariyo, Allen University (far right), are pictured with Allen University interns.

NEJC Conference Identifies EJ Opportunities, Trends

GOAL 2

Right of all Americans to live in a healthy environment was a key point of focus at this year's conference

NEJC participants take part in a Q&A session.

This year's National Environmental Justice Conference (NEJC) theme, "New Opportunities and Trends in Environmental Justice in 2022 and Beyond," built upon past annual conferences and recognized a rapidly changing and diversifying landscape.

Since 2007, the U.S. Department of Energy (DOE) has been a sponsor of NEJC, the nation's largest annual environmental justice (EJ) conference. The conference took place March 9-11, 2022 in Washington, D.C., and was also offered virtually.

The conference featured thought-provoking panels and workshops, and numerous opportunities to hear from young people, activists, and others from all across the United States who are engaged and committed to the principles of EJ.

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2022 NEJC Conference Identifies EJ Opportunities, Trends

Presentations were provided by individuals with unique backgrounds and different experiences. The presentations focused on the concept that conference attendees believe EJ cannot exist without an informed citizenry; that all Americans are entitled to live in a healthy environment; and that empowerment is the key to advancing any worthy cause that could improve the quality of life for everyone, especially those in underserved and underrepresented communities.

NEJC 2022 participants, left to right: Clarence L. Brown, Pre-College University; Dr. David Padgett, TSU; Dr. Melinda Downing, DOE; Ms. de'Lisa Carrico, DOE Savannah River Site; Dr. Kenneth Sajwan, Savannah State University; Mr. Lloyd Moore, The Moore Company, Dr. Latecia Abraham-Hilaire, MUSC; and Dr. Oluwole Ariyo, Allen University.

"This conference has done much over the past 15 years to highlight the issue of EJ, but we have more to do in our efforts to prepare our youth and future EJ leaders to take the mantle in developing capacity-building techniques, education, training, outreach, research, policies, collaborations, and projects and activities for today and in the future," EJ Program Manager Melinda Downing said. "Attendees left the conference with a renewed commitment to continued cooperation, forging partnerships, and taking advantage of all appropriate opportunities to build and sustain viable safe and healthy communities."

Highlights of the program included a video address by U.S. House Majority Whip James E. Clyburn (D-S.C.); a live address by Secretary of Energy Jennifer Granholm; a video presentation by Deputy Secretary of Energy David Turk; and in-person keynote remarks by U.S. Fish and Wildlife Service Deputy Assistant Secretary Mike Martinez.

U.S. Secretary of Energy Jennifer Granholm gives her presentation to the 2022 NEJC via livestream.

The conference was dedicated to the memory of Dr. David E. Rivers, founder of the National Conference on Health Disparities and an integral planner, participant, and supporter of NEJC. Dr. Rivers was a professor in Academic Affairs and founding director of the Public Information and Community Outreach Initiative at the Medical University of South Carolina Libraries in Charleston.

The first day of the conference was dedicated to youth during the Youth/Emerging Leaders Summit. Example presentations during the second and third days included:

- Virtual Environmental Justice Academy. Undergraduate students interning with the Mentors for Environmental Scholars (MES) Program. Their internship focused on creating virtual environmental justice trainings to be delivered to middle and high school students. The results of this 20-week academic year internship formed the Pre-Collee University's Virtual Environmental Justice Academy.

Ms. Justice Right delivers remarks to the Mentorship for Environmental Scholars Panel.

Conference facilitator Carolyn Sawyer conducts the "Introduction of the College Underserved Community Partnership (CUPP) and the Educate, Motivate, Innovate Collaboration" presentation.

- Educate, Motivate, Innovate (EMI) and College/Underserved Community Partnership Program (CUPP) Collaboration: CUPP has completed more than 100 projects throughout the United States, obtaining several dedicated college, university, and nonprofit partners.
- Redlining and Environmental Justice: Identifying the Roots of Child Health Vulnerabilities to Climate Change.
- Tech for Environmental Justice: BEEnevolent Hive and Mobile Application. The plight of the honeybees and technological solutions for the insects.
- Kentucky State University Assisting in Development of Educational Materials for Lead Testing in Drinking Water in Schools and Childcare Facilities for Low-Income Communities in Kentucky.

The event's workshops included:

- EJ and the National Environmental Act (NEPA): Considering Cumulative Effects and EJ in the NEPA.
- What's in My Neighborhood? How Communities Can Use the Environmental Protection Agency's Toxic Release Inventory Toxics Tracker to Identify Industrial Sources of Toxic Chemical Releases and Other Waste Management Activities.
- Federal Title VI and Environmental Justice.
- Pragmatic Approaches: Reaching Students in Areas with Limited Broadband to Access College Education.

NEJC will reconvene in 2023 and more information can be found at https://thenejc.org. ❖

Melinda Downing 50-Year Service Pin

Environmental Justice Program Manager Melinda Downing was honored on April 6 for her 50 years of service to the federal government. Downing received a secretarial plaque from Secretary of Energy Jennifer Granholm at the U.S. Department of Energy's (DOE) James V. Forrestal Building in Washington, D.C.

At the event, Legacy Management Director Carmelo Melendez presented a 50-Year Service Pin to Downing. Downing began her service in 1972 with the U.S. Department of Agriculture, and before her time at DOE, she also served with the U.S. General Accounting Office and the Office of Policy at the Energy and Research Development Administration.

Legacy Management Participates in Western Colorado Children's Water Festival

GOAL 5

Grand Junction site manager draws from her own festival experience while presenting on behalf of LM

Sara Woods was a fifth grader when a field trip to a western Colorado water festival changed her life.

Fifth grade was "the top of the school" at Chatfield Elementary in Grand Junction, and with rank comes privilege – a trip to the Ute Water Festival, as it was known then, was an important rite of passage for kids her age.

It was a chance to see a real college campus – Mesa State College at the time – to learn about the water cycle, how to conserve water, "then hop on a bus soaking wet from a day full of fun," Woods said.

"I remember the enthusiasm the presenters had and thinking to myself, 'They must really love what they do,' " she said. "It's one of my core memories of elementary school."

It instilled in her a love of science that continues to this day. Woods is now the site manager for the Grand Junction Disposal and Processing Sites, and on behalf of the Atomic Legacy Cabin and STEM with LM, represented the U.S. Department of Energy (DOE) Office of Legacy Management (LM) as a presenter at the festival.

The event is now the Western Colorado Children's Water Festival, and is recognized as the largest event of its kind in Colorado, organizers said. Now in its 27th year, the festival took place at the Lazy River water park at Las Colonias Recreation Area, which was once home to the Climax Uranium Mill.

Woods was telling the students about the various uses for uranium, which started an exchange with a boy whose knowledge of the Cold War clearly exceeded that of a typical 10-year-old.

"OK, that kid knows his stuff," she said with a chuckle when the class left for the next station.

Organizers of the two-day festival expected more than 1,500 fifth grade students this year, visiting with about 150 different presenters and water experts from Colorado. The presentations were designed to teach students about the many roles water plays in their individual lives, their communities, and the world in which they live.

This year, LM gave students the opportunity to watch staff testing water samples taken directly from the Colorado River at its diversion into the Lazy River feature. Woods and LM Strategic Partner Sam Campbell, environmental monitoring operations manager, guided students through the demonstration.

Site Manager Sara Woods, right, and LM Strategic Partner Sam Campbell, speak with students at the Children's Water Festival at Las Colonias Recreation Area.

Woods explained to the students the history of the Climax Uranium Mill, formerly located on the site that is now Las Colonias Park. Campbell described the milling operations and the reasons LM monitors the groundwater at the site, pointing out the green monitoring wells near the riverbank.

Woods told the Scenic Elementary School students from Karen DeRose's class that as mill tailings were collected, they were taken to the Grand Junction Disposal Site near U.S. Highway 50 south of Grand Junction.

In a small voice, one boy asked, "How can we drive by it without getting radioactive?"

"That's a great question!" Woods said. She told the students that when LM receives the tailings for placement, they're buried, covered, compacted and covered with a soil sealant that acts as a top layer of glue that prevents windblown material from coming out of the cell.

Woods told the kids that although she and Campbell were both scientists, their jobs were different. Many types of scientists with a wide range of expertise work for LM, she said.

Campbell has a degree in geology, explained Woods, who has a degree in biology. Would anyone in this group be interested in becoming a scientist one day, she asked?

"I have no degree," one boy said with a trace of dejection.

"Well, that's OK," Woods said. "Let's get you through fifth grade first!"

Presentations were created with this age group in mind, to let the kids learn in a hands-on way, organizers said. LM staff and support partners worked closely with school districts, private schools, and home schools to match the festival experience with their water curricula.

Students learned about the variety of water-related career opportunities, as well as water rights, water in the human body, water conservation, water pollution, water safety, aquatic species, water treatment, the dependency on water in a variety of industries, and much more.

The festival is a collaboration among water providers in the Grand Valley. Andrea Lopez, external affairs manager for Ute Water Conservancy District, attended the festival when she was a student at Taylor Elementary School in Palisade. Like Woods, she said the festival was a major milestone.

"We learned that this is a very sacred day to these fifth graders," she said. "It's the last event they go to together and it represents a new chapter in their lives. We're so happy to be able to create this experience for them."

She said it's important for kids to be able to connect with real scientists like Woods and Campbell.

"Our hope is that jobs in the water industry are attractive enough that they'll move into these science and STEM-driven industries," she said.

With little break in between, Woods and Campbell made more than a dozen presentations during the event. By Monday afternoon, Woods was a little tired, but energized and exhilarated by her interactions with the precocious youngsters.

"Being able to come full-circle and spend the day teaching the kiddos about how my job positively impacts their lives and the environment is priceless," she said. "I hope they walk away from the festival with a love for science like I did all those years ago." ❖

DOE's Ingrid Colbert: Balancing Numbers and Promoting Women's Mentorship

GOAL 5

Her interest in federal work began in college, and she strongly believes women in government should serve as role models

When it comes to role models, Ingrid Colbert has a diverse list: voting rights advocates Ida B. Wells and Fannie Lou Hamer; Justice Ruth Bader Ginsburg; U.S. Sen. Barbara Mikulski; and Michelle Obama, just to name a few. Colbert said these women have a common distinction: they were pioneering leaders who fostered progress at critical junctures in history. This Women's History Month, she aims to do the same.

Ingrid Colbert

"I think that representation in federal offices is of paramount importance to bringing in the next generation of energy professionals and environmental advocates," Colbert said. "Women in government positions need to serve as role models – that's something I'm aware of each and every day I come to work."

As a woman of color in the workplace, Colbert knows firsthand how Black women sometimes contend with both gender-based and racially driven inequities, but she's encouraged by overlapping progress in each area, in perception and in practice.

"Pursuing gender and racial equity aren't always separate concepts," Colbert said. "We can further both, by implementing laws that level the playing field, improving social perception by fighting prejudice, and promoting fair treatment for all people."

Colbert first grew interested in government work as a college student and became a clerk typist with the U.S. Department of Defense (DOD) in the '80s while enrolled in the Stay in School Program, now known as the Student Temporary Employment Program. She was ecstatic in joining the federal government and began to visualize a career in which she could be in a position of leadership.

"In 1985, my goal was to make $25,000 a year." Colbert remarked. "That was a lot of money for a young person just starting out — things have changed quite a bit since then."

With an eagerness to learn and move ahead, Colbert quickly assumed a full-time position with DOD upon graduating from Norfolk State University. While working for DOD, a manager witnessed Colbert's mastery with numbers and suggested she consider career opportunities in downtown Washington, D.C. Colbert took heed of the advice, which eventually led her to the Department of Energy (DOE) as a Budget Analyst in the Office of the Chief Financial Officer. She worked in both the Office of Management and Office of the Human Capital Officer as a Program Analyst before coming to the Office of Legacy Management (LM) in 2008, drawn by its mission and people.

"The first thing I learned about LM was its commitment to protect human health and the environment, and that struck a chord," Colbert said. "I'd also met a number of LM staff during my daily commute; they were great people who spoke highly of their work."

Colbert realized LM's mission was aligned to her own: to uplift the people around her. She's held a variety of roles within the budgetary space but has always balanced her work with mentoring and training both interns and colleagues. She often reaches out to women, encouraging them to pursue leadership positions just as her former manager did early in her own career. This, she feels, is the best way to pay tribute to women who've paved the way for her.

Denise Freeman (left), Melinda Downing (second from left), Peter O'Konski (second from right), and Ingrid Colbert pose during an Environmental Justice conference.

"Reflecting on the women who've come before us helps us set our sights on the future," Colbert said. "I encourage women to follow their aspirations, persevere through adversity, and believe in their talents and abilities."

As a career employee of the Federal government for more than three decades, Colbert is a pioneer in her own right, climbing the ladder to her position as LM'S Supervisor of Financial, Audits, and Contracts Services. She credits her success to inspiration from her role models – as well as her mother, grandmother, and colleagues – who have helped to support and guide her career trajectory.

"Women's History Month is about paying it forward," Colbert said. "It's a special opportunity to further both gender and racial equity particularly in professional settings." ❖

Colbert, third from left, in attendance with DOE's Jeanie Gueretta, fourth from left, during the George Washington University's Center for Excellence in Public Leadership graduation.

The Office of Legacy Management Rolls Out Fiscal Year 2023 Budget Request

March 28, the Office of Legacy Management (LM) rolled out its fiscal year (FY) 2023 budget request of approximately $196 million. This request is nearly $17 million above the FY 2022 enacted and includes about $13 million to strengthen Departmental Environmental Justice activities, enabling the program to reach a larger number of affected communities. Additionally, the request includes an additional $4 million to support important maintenance and repair work at sites with natural and climate-change induced degradation, as well as the enhancement of core, long-term surveillance activities.

"We in the Office of Legacy Management are honored to support the communities and former workforce who sacrificed so much to preserve freedom during World War II and the Cold War. Through our stewardship mission, Legacy Management not only assures our sites remain safe, but they fulfill a new mission to the community via beneficial reuse," said Department of Energy Director of Office of Legacy Management Carmelo Melendez.

LM's FY 2023 request provides the resources necessary for LM to continue mission-related activities, a few of which include:

- Performing long-term surveillance and maintenance at more than 100 sites.
- Inventorying and safeguarding Defense-Related Uranium Mines on federal public land and in Native American communities.
- Funding post-retirement benefits to more than 10,000 former DOE contractor employees.
- Strengthening cybersecurity.
- identifying beneficial reuse opportunities.
- Managing infrastructure and facilities.
- Strengthening Environmental Justice.
- Engaging the public to enhance communication and further STEM education.
- Preserving records and information.

By the end of FY 2023, LM will be conducting transition activities at more than 20 sites scheduled to transfer to LM within the next five years.

U.S. DEPARTMENT OF ENERGY | Legacy Management

More information on LM's missions are available at
www.energy.gov/lm/mission

After Guiding Startup of New Historical Park, Tracy Atkins Ends LM Career

GOAL 4

Manhattan Project National Historical Park program manager joined LM from National Park Service in 2016

Tracy Atkins, U.S. Department of Energy Office of Legacy Management Manhattan Project National Historical Park program manager, turned a love for travel and a taste for adventure into a career that allowed her to pursue both.

That taste for adventure led her to trek to the base camp of one of the tallest mountains in the world – 26,545-foot Annapurna in Nepal in 2018 – to exploring the depths, and beaches, of the remote shores of the Republic of Palau island nation near Micronesia in the north Pacific in 2020. While the Annapurna ascent was a private adventure, visiting Palau was part of her job.

At Annapurna Base Camp in Nepal, 2018, with husband Nate and friends.

Atkins accepted a detail in 2019 with the Embassy Science Fellows Program, which identifies and provides technical assistance from the U.S. federal government to other nations.

"The Palau government is concerned about the impact from too many tourists on the integrity of their natural and cultural resources, including soil conservation," she said. "I'm still working with them as a consultant, including supporting National Park Service staff to train Palau protected area staff how to protect their resources from too much tourism."

Atkins, who retired from LM at the end of March, joined LM from the National Park Service in 2016 to manage the federally owned properties for DOE at the new historical park, also known as MAPR. DOE and NPS are jointly responsible for the park, which consists of significant Manhattan Project facilities at Los Alamos, New Mexico; Oak Ridge, Tennessee; and Hanford, Washington.

DOE manages, operates, maintains, and preserves the three Manhattan Project sites. NPS provides administration, interpretation, and education at the three park sites, and supplies technical assistance to support resource preservation.

"One of my most memorable experiences with LM came when we visited the three sites with the NPS site representatives and got to tour all the facilities, including the secure sites," Atkins said. "We also visited the Bradbury Science Museum in Los Alamos and the Trinity site. It really gave me a feeling of being a part of history."

Atkins has been involved with MAPR since its very inception. Prior to joining LM, she spent eight years working for NPS at the Denver Service Center in Lakewood, Colorado, as a community planner and manager for several NPS projects. When her bachelor's degree in Architectural Engineering, Project Management, and master's degree in Community and Regional Planning from the University of Texas, and another post-graduate degree in Civil Engineering, Construction Engineering and Management from Stanford University were combined with her experience, she was the right person at the right time to manage the startup of a new national historical park.

"I was selected for an Albright Fellowship with the NPS Director's Office in Washington, D.C. in 2015 to develop, track and assess proposals that could have significant impacts on the NPS," she said. "This led to our developing a multiagency memorandum of agreement with the Energy and Interior Departments to establish MAPR."

Following her fellowship, she served as the NPS interim superintendent until June 2016. When NPS assigned a permanent superintendent, she started looking to find a position with DOE in the Denver area, perhaps at the National Renewable Energy Laboratory in Golden. Her background fit well with DOE's role at MAPR, and an informal conversation with future LM Director Carmelo Melendez ended with him recommending that she look for a place with LM managing the new park.

"Well before Carmelo became LM's director, he told me that LM needed somebody to translate the cultures between the NPS and DOE," she said. "My experience as an engineer and a community planner meant that I could be a bridge between the two organizations as well as understand stakeholders from local governments, private sector entities, nonprofit organizations, and the public."

Site visit to Los Alamos and Trinity site (New Mexico) with LM Director Carmelo Melendez and Manhattan Project National Historical Park Team in 2017.

Secretary's award to Bill Coors (center) for his contribution to the Manhattan Project, October 2017, with Colin Colverson (left), former DOE Oak Ridge; Tom Pauling (right), acting LM1; LM Program Analyst Padraic Benson; (left-center) and Tracy (right-center).

One of Atkins' favorite accomplishments is her work on implementing Executive Order 13985 - *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*. The Order required all federal agencies and programs to assess whether their policies perpetuated barriers for underrepresented and underserved communities. In response, LM and the Bonneville Power Administration led the Stakeholder Engagement Working Group, one of six working groups led by a DOE steering committee. Atkins and BPA's Toya Bligen led the working group's efforts.

LM and BPA gathered information from subject matter experts in various DOE programs as part of the work to develop an assessment and a Key Findings Report. Each working group later provided input for DOE's Action Plan, which was delivered to the Office of Management and Budget as part of that agency's work to prepare its response to the White House.

"Our group was really excited to take on this project," Atkins said. "This is the kind of work that can have significant impact on how DOE engages with tribes and other stakeholders. Our team really believes this is the kind of work that impacts lives."

Now that she is putting her career behind her, Atkins says she is looking forward to continuing the volunteer work she has been doing over the years with her husband Nate in their hometown of Golden. Both are avid wilderness hikers and have served as Wilderness Trekking School instructors and members on the State Board and Trail Maintenance Committees with the Colorado Mountain Club. She also serves on the Golden Economic Development Commission.

She says her first post-retirement trip fulfills her love of travel and adventure by going to Baja California, Mexico on a marine conservation trip that will include snorkeling and whale watching. In the future you can expect to see her and Nate on the road in a travel trailer, traveling throughout the West four-wheeling and mountain biking.

"The best memories I carry with me are of the great folks I worked with at LM," she said. "Helpful people with lots of knowledge and overall positive working relationships. LM is well regarded in DOE for having good relationships with states, regulators, tribes, and the public and being transparent about their work." ❖

CERCLA/FUSRAP Supervisor Gwen Hooten Retires

GOAL 4

After years of dedicated service to the federal government, Gwen Hooten is retiring from DOE LM. She celebrated the start of the next chapter of her life with friends and colleagues during a virtual celebration

After years of dedicated service to the federal government, DOE Office of Legacy Management (LM) Supervisor Gwen Hooten has retired.

At a virtual retirement ceremony, friends, and colleagues across multiple offices of the federal government shared their kind words and well wishes through gifts, awards, and speeches for Hooten's decades of service in protecting human health and the environment.

Gwen Hooten

"I've been blessed to have a wonderful team, who work really hard and who are really engaged," Hooten said at the virtual celebration. "My successes are just as much theirs."

After Hooten earned her Bachelor of Science degree in agricultural engineering from Texas A&M University, she quickly set off to leave her mark on the world, serving as a citizen soldier in the U.S. Air Force National Guard as a civilian engineer with the Buckley Air National Guard (ANG) Base Design and Engineering unit in Aurora, Colorado.

In that role, Hooten was responsible for planning, execution, and support for the Colorado Air National Guard mission. She became essential in the transition of A-7 to F-16 aircraft and earned the Colorado Meritorious Service Medal from Maj. Gen. Charles M. Kiefner, president of the National Guard Association of the United States.

Hooten also served as a civil engineering officer in the 140th Civil Engineering Squadron providing training and security reporting for war readiness. Upon transfer to the high-performing 240th Civil Engineering Squadron, she held various responsibilities in record management and conducted environmental assessments for other air bases. She became the first female commissioned officer in her unit, and a trailblazer for young women to follow in her footsteps.

While maintaining her position as a citizen soldier in the ANG, Hooten transitioned from design and engineering to focus solely on environmental concerns when she began working for the U.S. Environmental Protection Agency (EPA). During her time with the EPA, she worked as a Remedial Project Manager (RPM) and directed projects under the Comprehensive Environmental Response, Compensation, and Recovery Act (CERCLA) and Resource Conservation and Recovery Act (RCRA). She provided oversight to up to 16 Superfund sites. These efforts earned her national recognition and a Bronze Medal. She also co-led a team that was recognized as Superfund Team of the Year, and she participated as an original member of the Region 8 EPA Remedy Review Board.

Hooten began her career with LM in May 2011. She served as site manager for several LM sites, including Fernald, Mound, and Piqua, Ohio: Site A/Plot M, Illinois, Decommissioned Reactor Site; and multiple sites in the Formerly Utilized Sites Remedial Action Program (FUSRAP). Hooten was quickly recognized for her strong work effort and dedication to LM's mission and was promoted to CERCLA/RCRA/FUSRAP supervisor in 2016.

During her retirement ceremony, letters from multiple agencies she worked with within LM, including U.S. EPA Region 5 Chicago and the Ohio EPA, echoed their appreciation for her accomplishments, recognizing Hooten for her "pleasant professionalism and solid knowledge," which led to the successes of multiple projects.

"While working for EPA, I was a remedial project manager who reviewed and monitored the regulatory requirements and remedial progress being made by the Potentially Responsible Parties (PRPs) on my CERCLA sites," Hooten said. "I chose LM because working for LM allowed me to be in the driver's seat for performing the regulatory requirements. It's a difference between overseeing the work versus doing the work. LM does the work."

Among her many accomplishments in her career at LM, Hooten became the primary contact for the U.S. Army Corps of Engineers (USACE) National Memorandum of Agreement which opened up a viable resource to provide technical and real property support on multiple projects across LM. The work and support she provided to multiple projects led to the EPA recognizing multiple LM sites for the EPA National Federal Facility Excellence in Site Reuse Award. Her successful leadership also led to the creation of the new Weldon Spring Site Interpretive Center in St. Charles County, Missouri, which is scheduled to open later this year.

Gwen Hooten participated in the ceremonial groundbreaking at the new Weldon Spring Interpretive Center

Hooten said it was a privilege to be a part of several rewarding projects, including the creation of the Mound Cold War Discovery Center; the development of Piqua demolition; stabilization of the Rocky Flats Original Landfill; retiring pump and treat remedy at Mound; streamlining Life Cycle Baselines and improving USACE relations on FUSRAP; upgrading and right-sizing the electrical system at Fernald Preserve; and construction of the new interpretive center at Weldon Spring.

"These are the projects and activities that moved the needle toward protecting the environment, increasing engagement with the public and stakeholders, and creating a healthy work environment with our regulators and sister federal agencies," she said.

The ceremony wrapped up with LM Director Carmelo Melendez honoring Hooten with the Distinguished Service Award for her numerous contributions and dedication to DOE LM, and in recognition of her service to the nation.

Hooten said her success wouldn't have been possible without the support of multiple teams within LM.

"I'm just so appreciative of every member of our team. I'm so happy to have wonderful working relationships, and I will greatly miss everyone," she said. "My memories will be of the working relationships that I had with my colleagues, contractors, regulators, community groups, and sister federal agencies that led toward mutual respect and friendship."

While it was a bittersweet goodbye, Hooten expressed her excitement for this next chapter in her life, elated at the thought of traveling and getting to experience new things.

"I'm excited about traveling throughout the U.S. (hopefully to include Alaska) to visit national and state parks, scenic areas, cities, and museums and attending festivals and events," she said. "My husband and I will visit friends and family, do some hiking, play some golf, sun on beaches, bike some trails, play with the grandkids and pursue those hobbies and interests that have been neglected over the years." ❖

Balancing on calyx drill-core samples near Temple Mountain in eastern Utah.

DRUM Manager Looks Forward to Life After Long, Satisfying Career

GOAL 4

Navigating some ups and downs throughout his professional life, Brent Lewis ends federal career on high note

Brent Lewis has spent the past 36 years, in his words, "herding contamination in his hobby-career."

Now, he said, he wants to give his other hobbies a chance to compete for the top spot.

Lewis has retired from the federal government and from his position as the technical lead and project manager for Legacy Management's (LM) Defense-Related Uranium Mine Program (DRUM). Since 2017, his job has been to integrate the objectives of the DRUM program with the needs of LM's partner agencies. When he looks back on his career, he is proud to have played a major role in the development of a program that helps not only the U.S. Department of Energy, but a host of other federal, state, and Tribal partners.

His proudest accomplishment?

"Working with a team of more than 50 LM and contractor support employees, as well as partner agencies, to bring all the moving parts of DRUM together into a synchronized, productive program," he said.

Lewis started his career in 1986, sampling nerve agents at the Rocky Mountain Arsenal, a former chemical-manufacturing plant near Denver. For the next three decades he continued to feed his passion for solving environmental contamination issues.

His favorite hobby-job responsibility is defining the nature and extent of contamination and designing the cleanup actions that would be required. The arsenal was a top priority for cleanup of contamination and was designated a "Superfund" site under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Lewis eventually moved on to the U.S. Environmental Protection Agency's REM II program as a contractor, focusing on various Superfund sites across the country. Those initial jobs groomed him for a long and satisfying career, he said.

He spent nearly six years managing and overseeing field crews contracted by manufacturer Rockwell International and defense contractor EG&G at the Rocky Flats Plant north of Denver, a manufacturer of plutonium pits used in nuclear weapons.

Lewis was working at Rocky Flats in 1989 when he said its offices were investigated by agents from the FBI and EPA.

Lewis and his daughter, Chloe, at the Wyoming site.

"It was a difficult time," he said, "but it was also a great learning experience, and the greatest lesson I learned was how a political setting can overwhelm a project and proactive communication is the best method for avoiding and managing most issues."

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DRUM Manager Looks Forward to Life After Long, Satisfying Career

Little did he know, decades later, this knowledge would be tested, during his involvement in another environmental incident in Colorado — the Gold King Mine blowout near Silverton, in which 3 million gallons of water contaminated by mine tailings spilled from a holding pond into Cement Creek. The contaminated water ran into the Animas River, affecting water quality in Colorado, New Mexico, Utah, and the Navajo Nation in August 2015.

The accidental discharge was determined to be contractor error. It was another challenging time, he said.

"The Gold King blowout was extremely difficult, because my computer and phone records were seized and formal testimonies followed," he said.

Later, the U.S. Department of Energy hired Lewis in what seemed, to him, a natural progression in his profession.

"I started my government career managing the same programs I helped establish as a Rocky contractor," he said.

That path eventually led him to a position with the U.S. Department of Interior. His background made him an ideal candidate to become a national CERCLA advisor for Interior's Bureau of Land Management, a job in which he spent more than two decades traveling every state in the West, helping BLM characterize contamination issues of abandoned mining and landfill sites.

His specialty was selecting, applying, and integrating the right methods for characterizing site-specific problems and interpreting the data to determine the best response action for cleanup. During this tour, he won two National Environmental Achievement awards from the Interior Department for his creative integration of characterization and response actions.

When Lewis moved to LM in 2017, he used his knowledge of "herding contamination" to help create the Defense-Related Uranium Mine (DRUM) program, focusing on safeguarding abandoned uranium mines in the West. The mines present a variety of physical hazards that LM is working to mitigate.

Lewis described some of the aspects of LM's work in an interview with KZMU, a radio station in Moab, Utah. There is a lot of ground disturbance near uranium mines, as well as physical hazards which could be adits (mine entrances), vertical shafts, and high walls, Lewis said.

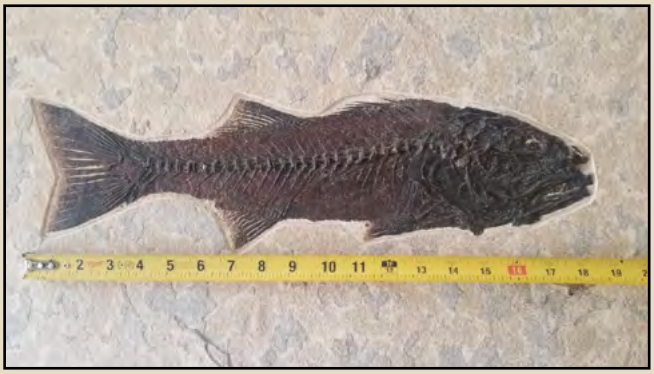
"We've noted on public land that recreation is increasing. And the unaware recreationalist can actually fall into shafts. It has happened before," Lewis said. "Or they are enticed by entering some of these adits just for adventure."

In fact, Lewis saw for himself how such adits can attract curious visitors who may not understand the risk involved in exploring these artifacts of mining history in the West.

DRUM team group photo, March 12, 2019.

A single reed with a small fish called a Dyplomystus. The specimen is "my favorite find so far," Lewis said.

A palm leaf and three Knightia fish Lewis found at the Wyoming site.



An unusually large Mioplosus, a now-extinct, walleye-like fish.

A common, but large, Diplomystus.

"Above Silverton, I happened upon a vacationing family coming out of an abandoned mine with kids wearing wading boots, and the stains from the acid mine drainage were above their boot tops," Lewis said.

Chuck Denton, who is the Mine Closure Program manager, Colorado project manager, and Navajo Nation project manager for LM, has worked with Lewis since 2004 when both men worked for BLM. Denton praised his colleague's work ethic.

"Brent delayed his retirement date from the original August 2021 date to manage the DRUM team through transition after the DRUM supervisor (Jay Glascock) was promoted," Denton said. "Brent performed daily supervisory and leadership administration and performed his technical leader responsibilities."

During this time, Lewis completed end of fiscal year responsibilities, initiated the new fiscal year, and started DRUM Campaign 2 to address mine hazards on tribal land.

"Brent worked tirelessly to develop program charter documents and workplans to describe processes that DRUM team members follow today," Denton said. "The DRUM team will miss Brent Lewis, but his legacy remains."

Now, with his LM career winding down, Lewis's next tour might just be a hardwater fishing trip — to look for 53-million-year-old fossils in the Green River Formation near Kemmerer, Wyoming. The world-renowned fossil formation is recognized by Fossil Butte National Monument, but Lewis does his collecting at licensed quarries in the area.

"The fossils preserved in this formation are extremely unique, with extraordinary detail," said Lewis, who added his favorite finds are combinations of plants and fish together in a single sample. "My favorite is a simple, long single-leaf reed plant with a small Dyplomystus. The leaf has been partially devoured by a leaf miner insect that is also preserved. A special bonus."

With plenty of free time in his future, Lewis also has backpacking trips planned in the Cascades of the Pacific Northwest and closer to home in the Rockies, including the 486-mile Colorado Trail. He knows he'll spend some of that free time in pursuit of fish that are livelier and tastier than his usual quarry fish.

"I enjoy fishing in remote locations and combine it with long backpacking trips, so I have the added benefit of not having to carry all my food," he said. "But the pressure is on to catch dinner." ❖

New Employee Bios

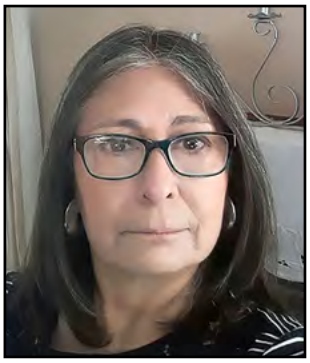
William Burns

William Burns joined the LM-23 Uranium Mine Team in late February. He grew up in east Tennessee and joined the U.S. Army after high school, where he was trained in tactical cellular communication technology, and received his EMT certification. After leaving the Army, he returned to east Tennessee, where he attended the University of Tennessee and graduated with a Bachelor of Science in geology. He began his career working on multiple federal contracts, conducting Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA) investigations on multiple military installations in the Southeast. In 2008, he moved to Denver and began working on Military Munitions Response Program contracts. In 2018, he moved to Fruita, Colorado, and began managing the Defense-Related Uranium Mines Program (DRUM) field teams as an LM contractor. Wil spends his off time trying to teach his 9-year-old daughter not to crash her mountain bike as much as he does.

Lisa Saurborn

Lisa has joined the Asset Management team in LM. With a degree in mechanical engineering, she started her professional career as a power-plant engineer for West Penn Power in Masontown, Pennsylvania. From the power plant, she moved on to West Virginia University (WVU) in Morgantown. At WVU, she spent more than 15 years in Facility Management, beginning as an engineer, then engineering manager, and finally as assistant director of maintenance. She was responsible for managing and maintaining more than 8 million square feet of mixed-use facilities. At WVU, she established and managed a multimillion-dollar energy performance contracting program and designed and implemented WVU's building automation system controls. She joined the LM Strategic Partners (LMSP) Asset Management team in June 2019, stationed at LM Business Center (LMBC) in Morgantown. While at LMSP, she was involved in several projects, including the installation of a backup power generator at LMBC, the purchase and installation of furniture for the new Weldon Spring Site Interpretive Center near St. Louis, and addressing facility COVID-cleaning supply inventories and issues over the past two years. During her time with LMSP, she had the privilege of working with outstanding LM and LMSP team members and is looking forward to her new role with LM.

Angela Sigala



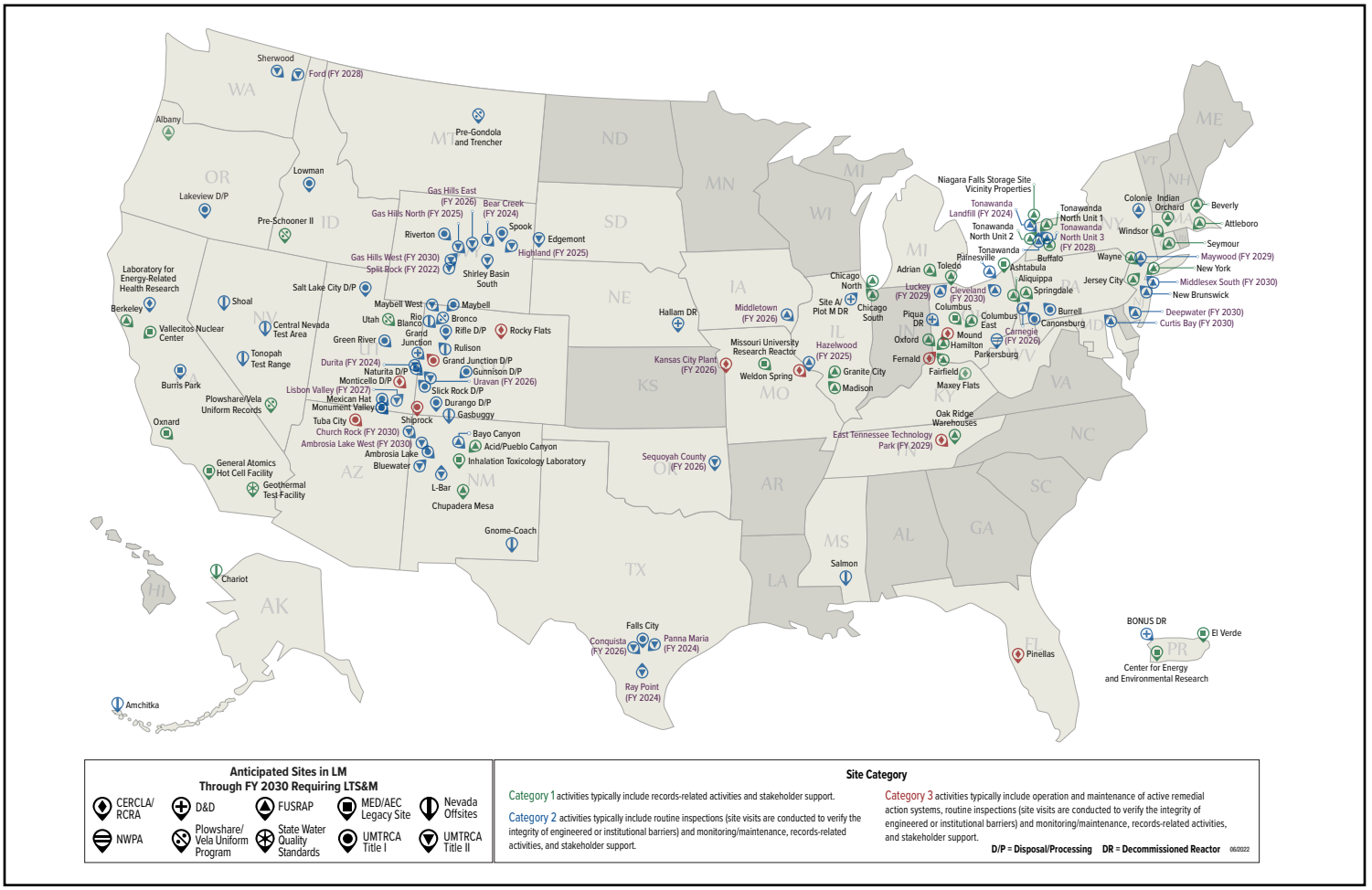
Angela Sigala joined the Financial Audits and Contract Services (FACS) team in November 2021 as a budget analyst. All her federal service has been in the DOE family, primarily as a budget analyst.

She came to LM from DOE's Western Area Power Administration (WAPA). Prior to WAPA, Angela worked at DOE's Energy Efficiency and Renewable Energy (EERE) Golden Field Office, which oversees the National Renewable Energy Lab (NREL).

She earned her master's degree in Technology Management from the University of Denver and attained her Bachelor of Science degree from the University of Colorado, with a focus on Information Systems Management and a minor in marketing.

Angela is a Colorado native and lives and works in Westminster. Most of her family lives in southern Colorado. She enjoys walking, water aerobics, concerts, foreign travel, and spending time with friends and family.

Anticipated LM Sites Through Fiscal Year 2030



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