

U.S. Department of Energy

PROGRAM UPDATE



October-December 2021



Rocky Flats, Las Colonias
Win EPA Awards

**A Look Back:
Growing STEM with LM**

Environmental Justice (EJ) Program
Paves the Way for Employment

Director's Corner



It's hard to imagine a school these days that does not have curricula that include STEM. The acronym that stands for Science, Technology, Engineering, and Mathematics is a fixture in today's educational environment and a focus area for educators everywhere.

But it wasn't always that way.

The origins of STEM becoming a permanent part of the educational lexicon date to 2001 when U.S. National Science Foundation biologist Judith Ramaley introduced the acronym. And it didn't come about by accident.

Reports began to surface around that time that included troubling findings about America's rank in the world when it came to science and technology education. The jobs of the future, of course, would center around those fields and the hard truth was that American students were behind.

STEM-based education became a priority and it is here to stay in the United States, and is prevalent in many countries around the world. STEM programs not only provide opportunities for students, but they help to ensure the U.S. can be competitive in an ever-changing global economy.

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) is doing its part to contribute to this national effort. The STEM with LM program has grown rapidly and many professionals from LM and its partners have engaged with students and made learning about STEM fun and exciting.

LM has been able to continue this programming and interactions with students through the COVID-19 pandemic. Our virtual programs have been well-received and our professionals continue to have a positive impact on the students we reach in a virtual capacity.

There is a lot of STEM-based interaction with students and the public through LM's Interpretive Centers. The Weldon Spring Site Interpretive Center in Missouri, the Fernald Preserve Site Visitors Center in Ohio, and the Atomic Legacy Cabin in Grand Junction, Colorado, all provide STEM-focused programming for audiences K-12 and beyond.

The Weldon Spring Site interpreters provide highly sought-after earth science-focused virtual programming to regional schools. The Fernald Preserve Site interpreters produce ecology-focused videos, sparking curiosity and awe about the natural world. The Atomic Legacy Cabin has created educational tools for teachers and students. LM's interpreters are often the connection between the curiosity of a student and the career expertise of hydrologists, geologists, chemists, and engineers, among other professionals.

LM's Navajo Nation team also engages in STEM education and has historically travelled throughout the Navajo Nation to offer this programming. Many of our LM professionals also maintain booths and are involved with regional and national STEM conferences and festivals.

In this edition of Program Update, we provide information on our STEM efforts and illustrate how we are building for the future with these types of interactions. Our hope is that this work opens minds and doors for young people, that these exchanges are about much more than a classroom experiment or a better understanding of the world around us.

Our hope is that this work also creates opportunities for young people and while doing so positions the United States to be a worldwide leader in preparing for the jobs and science challenges of the future.

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.

Inside this Update :

<i>Director's Corner</i>	2
LM Goals	3
A Look Back: Growing STEM with LM	4
Exhibits Installed at the New Weldon Spring Site Interpretive Center	6
Atomic Legacy Cabin Celebrates Nuclear Science Week with Local Fifth-Graders	7
An Added BONUS: Highlighting the Modesto Iriarte Technological Museum	8
Environmental Justice (EJ) Program Paves the Way for Employment	10
LM Makes Great Strides with Museum Collections Program	11
LM Attends AISES Virtual College and Career Fair	12
USACE Hosts LM Leadership at Iowa Army Ammunition Plant FUSRAP Site	13
Rocky Flats, Las Colonias Win EPA Awards for Excellence in Site Reuse	14
AS&T Collaborates with University of Arizona and National Ecological Observatory Network	16
Zooming Around and Zooming In: Aerial Capabilities at Mexican Hat	18
Anticipated LM Sites Through Fiscal Year 2030	19
Uncovering What Lies Beneath LM's Spookiest Sites	20
Environmental Justice Activities	22-25
NEJC, Training Program, and the NCHD Addressed Health Impacts	22
EJ Partners with SSU to Organize Savannah River TREAT Workshop	23
Allen University EJI Outreach Events Impact Many	25
Brian Stewart Honored as LM Employee of the Year	26
New Employee Bios	27

Cover: Interpretive specialist Launa Danielson instructs a student during an experiment at the Weldon Spring Site, Missouri, Interpretive Center in spring 2019. Director's Corner: LM Director Carmelo Melendez interacts with students during a class experiment at the Weldon Spring Site, Missouri, Interpretive Center in spring 2019.



Page 14



Page 20



Page 8



GOAL 6



A Look Back: Growing STEM with LM

Building, transforming, and educating future generations with clean energy programming

When the U.S. Department of Energy (DOE) Office of Legacy Management (LM) launched its STEM with LM program on Earth Day of 2020, success came quickly.

The program was established to support science, technology, engineering, and mathematics education in support of LM's mission. One of the important goals was to get LM staff involved in STEM programming, especially with the shift to virtual education during COVID-19. STEM's activities and initiatives are designed to bring to life the world-changing advancements of the nuclear age, not only in the fields of energy and medicine, but also cleanup, beneficial reuse, and ecological transformations. With the help of world-class educators and LM staff, STEM with LM continues to equip students across the United States with the skills and knowledge to provide future generations with cleaner energy and resolve security challenges.

The program is overseen by LM Public Participation Specialist Shawn Montgomery, who considers STEM with LM his most exciting and important project.

"STEM with LM has the potential to impact so many young people who will help change the world. Being able to be a part of this program has been rewarding in so many ways," Montgomery said.

Starting in the wake of the COVID-19 pandemic, program administrators have overcome the challenges of remote learning and have successfully implemented virtual-learning activities while continuing to search for new ways to reach a variety of students across the country.

One of the goals for STEM with LM has been to reach underserved and underprivileged communities, including people of color. To attain this, in June of 2021, STEM with LM supported a program hosted by LM Site Manager Darina Castillo for We Are

Continued on page 5

Continued from page 4

A Look Back: Growing STEM with LM

R.I.S.E. Inc., a group that focuses on the mentorship of young girls of color. To bring these students hands-on learning at home, LM shipped educational materials to South Los Angeles and used these materials to demonstrate an interactive chemistry course for students.

Prior to the STEM with LM program, LM had built a variety of other programs that provided the materials, resources, and training opportunities that supported STEM education for students of all ages and different backgrounds. Those included collaborating with Tribal partner agencies in the Navajo Nation and Hopi communities through events that connect students with experts working in STEM-related fields. The program reached thousands of students in these Tribal communities. The start of STEM with LM strengthened these programs and allowed them to grow even more.

“There are a lot of organizations working together to cultivate, inspire, and influence future and current STEM professionals,” Montgomery said. “My job is to help them communicate with students about the multiple opportunities available to them. It’s been so amazing to see how many students we’ve been able to reach.”

STEM with LM sets up students with internship and volunteer opportunities that enhance the diversity and development of the future workforce, including the Mentorship for Environmental

Scholars Program and the Minority Educational Institution Student Partnership Program. LM also participates in multiple conferences and events, such as the American Indian Science and Engineering Society (AISES) annual conference that includes a College and Career Fair. This event has become the premier event for Indigenous STEM professionals and students. In addition to those events and programs, LM is also a part of the DOE program STEM Rising Initiative, which gives students, teachers, and the energy workforce access to programs, resources, events, and job and internship opportunities.

“Supporting the future STEM workforce is very important,” Montgomery said. “In the future, we’ll need experts in energy, climate change, and alternative fuels. We will need people to fill those positions, and we want to get young people excited about STEM, without being intimidated with the idea of pursuing a STEM career.”

STEM with LM has achieved a lot in the almost two years since it was established. From helping build careers and connecting students to internships to helping educate underserved communities, STEM with LM continues to inspire and spark lifelong success in future STEM leaders and will continue to do so for years to come.

“Our hope is to reach more and more students and develop programs that support STEM education and careers,” Montgomery said. “We’ve come a long way, but we are just getting started.” ❖



Be Environmentally Conscious

LM is continually seeking opportunities to protect the environment and conserve natural resources. One simple step we can take toward improving environmental consciousness is to distribute the *Program Update* newsletter by email instead of sending a printed copy.

Please send your email address and your first and last names to LM-ProgramUpdate@lm.doe.gov so that we can update our database.

Thank you for your assistance.





Exhibits Installed at the New Weldon Spring Site Interpretive Center

A Legacy of Service Is Ready for Display

Behind the closed doors, exciting things are happening inside the U.S. Department of Energy (DOE) Office of Legacy Management's (LM) newly constructed Weldon Spring Site Interpretive Center and Office Complex in St. Charles County, Missouri.

Exactly five years to the day after the initial kickoff meeting to plan the new facility, the first truckload of exhibits arrived for installation. The 4,500-square foot exhibit hall with adjoining classrooms and auditorium will offer guests the opportunity to immerse themselves in the Weldon Spring Site's story. From World War II to the Cold War and beyond, the exhibit hall tells the story of service at the site through historical objects, photos and video, and interactive features.

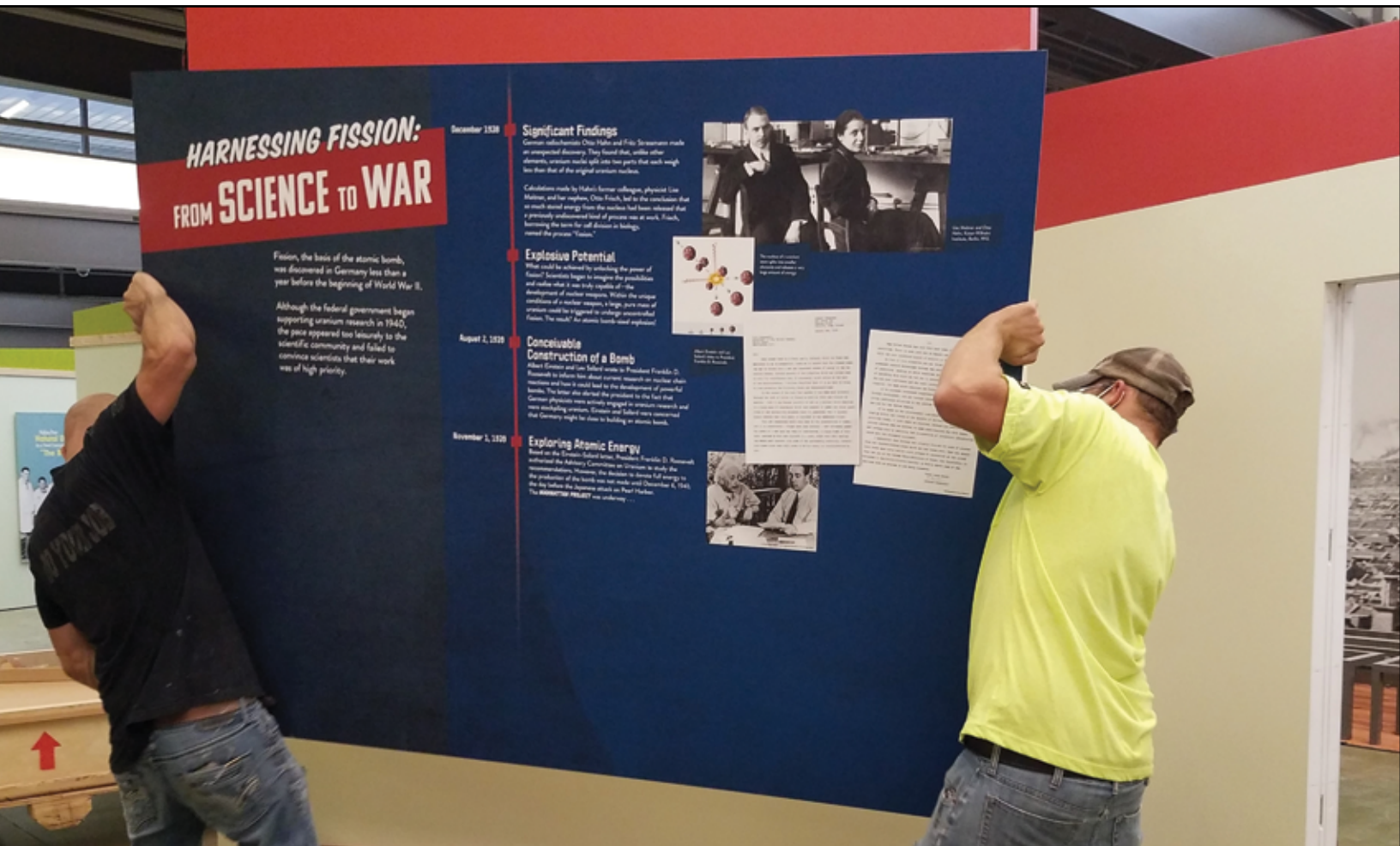
Most importantly, the exhibit hall will provide the local community with valuable information about the site's cleanup and its long-term stewardship under LM.

"Completion of the installation of the new exhibit hall is another step in the process of readying the new Weldon Spring Site Interpretive Center and Office Complex for eventual use by the community and visits from the public" said LM Site Manager Rebecca Roberts.

Construction of the Weldon Spring Site Interpretive Center and Office Complex began in May 2019 under the management of the U.S. Army Corps of Engineers (USACE) St. Louis District through an interagency agreement with LM. In addition to the new exhibit gallery, the facility features four classrooms, an auditorium, and an administrative office space for employees.

In keeping with LM's mission to protect human health and the environment, the opening of the Interpretive Center has been postponed because of COVID-19. In the meantime, the public is invited to take advantage of the Weldon Spring Site's outdoor spaces, trails, self-guided activities, and virtual programs. ❖

Contractors Ryan Culler, left, and Brandon Kidwell, right, install new panels.





Atomic Legacy Cabin Celebrates Nuclear Science Week with Local Fifth-Graders



For Nuclear Science Week, Atomic Legacy Cabin staff gave students educational packets and custom giveaway bags designed to educate students about radiation and nuclear science.

LM seeks to build on success of program by widening its reach

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) Atomic Legacy Cabin (ALC) in Grand Junction, Colorado, celebrated Nuclear Science Week, Oct. 18-22. Because ALC staffers have had great success reaching middle-school students in past years, they wanted to bring that same experience to fifth-grade students in 2021.

Nuclear Science Week focuses on the five pillars of nuclear science: carbon-free energy, global leadership, transformative healthcare, innovation and technology, and space exploration. Although the national celebration took place in Washington, D.C., local communities were encouraged to get involved by having their own events. The Grand Junction City Council issued a proclamation declaring Oct. 18-22 Nuclear Science Week in the city.

Although the interpretive center has been closed to in-person visits since 2020, it is open to the public via virtual programs. The ALC continues to support STEM curricula at all grade levels and is ready to connect students with experts in many fields.

This year, the ALC participated in Nuclear Science Week by encouraging students and educators to “Get to Know Nuclear” through a free online *Radiation – Energy in Motion* program. Designed for upper elementary school students, a video and free downloadable activity packet was intended to help students

learn about the types of radiation, where it comes from, and how LM protects human health and the environment through radiation control at its sites.

ALC staff also gave students educational packets and custom giveaway bags designed to educate students about radiation and nuclear science. The bags were offered to fifth-graders in Mesa County Valley School District 51.

LM Public Participation Specialist Shawn Montgomery said the yearly event has become an important part of the cabin’s STEM educational mission.

“Nuclear Science Week is something our team here at Legacy Management looks forward to every year,” he said.

Last year, LM celebrated the week in an online format with nearly 450 middle-school students in their science classrooms. ALC staffers’ goal was to reach even more students this year, as the public program was available to all through the [Atomic Legacy Cabin](#) website.

“Being able to support a great organization that continues to lead the way in STEM education, by promoting the awareness needed to excite our next generation of STEM professionals, is an honor for us,” Montgomery said. “Everyone in this industry is aware of the future needs this industry is facing and we take our responsibilities of promoting programs like NSW very seriously, while having a bunch of fun doing it.” ❖



An Added BONUS: Highlighting the Modesto Iriarte Technological Museum

Exhibit tells the story of Puerto Rico's role in nuclear legacy and educates visitors about the island's diverse history

Domes Beach in Rincón, Puerto Rico, widely known for having several international surfing competitions every year, is considered one of the most popular surfing beaches in the world. But beyond the waves, there's more than immediately meets the eye in this celebrated place.

Peeking out just above the shore's tree line is the namesake dome itself, a prototype nuclear power plant: the eighth constructed in the world, and the first in Latin America. Called the [Boiling Nuclear Superheater \(BONUS\) reactor](#), the dome is a U.S. Department of Energy (DOE) Office of Legacy Management (LM) site.

Although the nearby sunny beaches are synonymous with Puerto Rican culture and lifestyle, few people understand this area's important role in the territory's history. For Hispanic Heritage Month in September, LM helped to highlight the history of one of its most picturesque sites.

"Puerto Rico is known for its stunning geographical landscape and rich culture – the beaches and mountains, the food, the music, and the arts," said Cliff Carpenter, LM project director and site manager at BONUS. "But Puerto Rico has also played a vital part in American non-military history, and its involvement is sometimes overlooked. During Hispanic Heritage Month and beyond, we're hoping to celebrate these contributions and illuminate the diverse history of the island."

LM Director Carmelo Melendez added, "In the 1980s, living on the Island and subsequently attending the University of Puerto Rico's Engineering School at Mayaguez, I did not realize there was a decommissioned nuclear reactor just 45 minutes away from the school. I do remember that one of my best professors, Dr. Fernando Pla-Barby, was a mechanical engineer who had worked at BONUS with the Puerto Rico Electric Power Authority. I just thought it was concerning wave energy, not nuclear energy!"

Institutions like the National Archives and Presidential Libraries showcase historic documents, films and other exhibits that highlight Hispanic culture and achievements. At BONUS, this legacy is close to home – and displayed at the Modesto Iriarte Technological Museum.

The museum, named for Puerto Rican scientist and nuclear engineering pioneer Dr. Modesto Iriarte Beauchamp, is located inside the domed building. It tells the story of the BONUS as a combined effort of the U.S. Atomic Energy Commission and Puerto Rico Water Resources Authority.

The plant was in operation from 1965 to 1968 and became a training camp for hundreds of Latin American scientists. It played an important part in bridging the political and social projects outlined in President John F. Kennedy's Alliance for Progress, which bolstered economic activity and progress between the United States and Latin America. Today, the museum is listed on the National Register of Historic Places. LM supports Puerto Rico Electric Power Authority (PREPA) in maintaining the plant and its museum.

"Although in 2016, when I came to LM and talked to the site manager and fully understood how unique of a site this was, nothing prepared me for the first time opening the hatch and walking into the containment area," Melendez said. "PREPA and other stakeholders had done an outstanding job preserving the site from a surveillance and maintenance standpoint, as well as for educational and beneficial reuse purposes."

As explained to Melendez by the American Nuclear Society, he said "the nuclear plant design was somewhat unique in that not just the nuclear steam supply system was inside the containment; instead, the entire power plant, including the control room, was inside the 190-foot-diameter structure. So, unlike other decommissioned reactors where everything had been removed from the containment structure and support buildings, like in the Piqua decommissioned reactor in Ohio, BONUS looks like the reactor's operators just walked out for a break," he said. "It's like walking back in time."

Exhibits throughout the museum dig into the island's Spanish Colonial, American, and Hispanic history, aiming to deepen visitors' understanding and appreciation of Puerto Rico's history. Each sheds light on how testing and discoveries at BONUS pioneered the development of electric power and nuclear energy in the United States.

"The breadth of the museum exhibits speaks to the multifaceted history of the land and the people who have lived on it," Carpenter said. "There's something for everyone there, whether you're a history buff or curious to know more about the first Indigenous

Continued on page 9

Continued from page 8

An Added BONUS: Highlighting the Modesto Iriarte Technological Museum

people on the island. I think that's why local visitors feel such a connection to the museum."

The museum serves the local community in a variety of capacities, including ongoing outreach and education focused on the area's endangered species. The site is staffed with bilingual employees, features signage in English and Spanish, and receives visitors from six nearby public schools in Rincón. The museum also partners with institutions of higher education such as the University of Puerto Rico and the Ana G. Méndez University system to offer research materials and resources to students.

"At the museum, we're constantly seeking out new ways to engage the community and widen exposure to the education it provides,"

Carpenter said. "Hispanic Heritage Month calls attention to the work we do year-round to elevate Puerto Rico's storied past and highlight its many contributions to United States history."

Through the Modesto Iriarte Technological Museum, LM continues in its mission to preserve, protect, and make accessible legacy records and information that highlights the storied history of the territory of Puerto Rico – and the contributions of its people.

"DOE and PREPA collaborate well together in fulfilling our long-term stewardship responsibilities," Melendez said. "I look forward to the day we can contribute to enacting the vision of having the historical BONUS site open to the public on a regular basis." ❖

Below, Carmelo is shown in 2017 visiting the museum, which tells the story of the BONUS as a combined effort of the U.S. Atomic Energy Commission and Puerto Rico Water Resources Authority.





Environmental Justice (EJ) Program Paves the Way for Employment

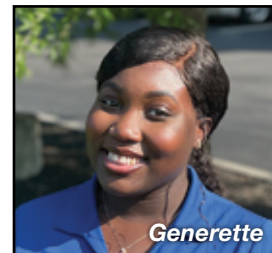
When the U.S. Department of Energy awarded the Mentorship for Environmental Scholars (MES) program to Pre-College University (PCU), DOE's goal was to increase the number of underrepresented individuals who pursued employment within the agency's laboratories and offices.

With this in mind, PCU administrators have consistently checked in with EJ Program Manager Dr. Melinda Downing to make sure they were recruiting the best and brightest individuals who would represent the agency and program well. All these efforts paid off in October when Sierra Generette, a two-year MES program participant, and recipient of the first ever MES academic year internship position, was hired by UCOR following her summer internship experience.

Working with Dr. Downing, PCU birthed the idea to take interns from summer Experience, to advanced agency Exposure, with the goal of industry Employment. During her academic year experience, Generette not only had the opportunity to meet with Dr. Downing monthly during regular calls, but she also had the opportunity to develop training courses that would eventually develop the Virtual Environmental Justice Academy.

After graduation, Generette was identified as a great candidate to introduce to UCOR for its summer internship position, which had a focus on waste management, a specialty that Generette picked up during her undergraduate studies at North Carolina A&T State University.

During her year-long tenure with the program, Generette had periodic career development sessions with Dave Wess, PCU's dean of students, to discuss her career aspirations, post-undergraduate employment projections, and the possibility of employment within the DOE. This newly instituted service is one that Wess is responsible for providing to all students who are near graduation and are ready to enter the workforce.



The goal of the calls was to prepare Generette for what eventually was a job offer from UCOR working as a full-time lead for environmental justice, an area that she explored extensively while working with PCU to develop the curriculum for online environmental justice trainings.

Though Generette points to an immediate impact that the MES program has on filling the pipeline with bright and capable individuals who are underrepresented, it is not its only success. Throughout Dr. Downing's management of the program, there have been several other students who have used the MES program to introduce them to the DOE and the work of being advocates and stewards for the environment.

In view of this most recent success, PCU is excited to support the work of the agency and to add to the number of new hires in DOE laboratories and offices within the coming years. ❖

facebook

Check our latest posts for updates and news at:
<https://www.facebook.com/OfficeofLegacyManagement>



Office of Legacy
Management





LM Makes Great Strides with Museum Collections Program

With three interpretive centers spread across the country, LM implements an enterprise-wide collections management program

This year, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) and its strategic partner (LMSP) have upped their museum collection management game.

“Given LM’s long-term stewardship responsibilities, it’s crucial to understand how we got to where we are today,” said LM Program Analyst Padraic Benson. “Our collections provide a valuable way for folks to tangibly connect with the past at our sites.”

LM maintains collections of historical objects at the Weldon Spring Site Interpretive Center in St. Charles, Missouri; the Fernald Preserve Visitors Center in Hamilton, Ohio; and the Atomic Legacy Cabin (ALC) in Grand Junction, Colorado. More than 1,000 objects have already been inventoried at the Fernald Preserve and the ALC alone.

The collections include items and materials that contributed to former Manhattan Project and Cold War-era production as well as objects related to cleanup and long-term stewardship. Many of them are on display in exhibit halls and used in educational programming.

“The majority of the collections consist of photographs and documents, Geiger counters, lab equipment, as well as geological samples,” said LMSP Museum Collections Specialist Taylour Whelan.

The new enterprise-wide program follows standards outlined by the American Alliance of Museums (AAM) Code of Ethics for Museums and includes a museum database for cataloguing the collection.

“Moving forward, we will conduct a comprehensive inventory of all objects at the three interpretive centers. This will create documentation standards for museum collections, provide storage guidelines, and give interpretive center staff standard processes to manage all site collections,” Whelan said. “Implementing this program allows LM sites to protect their museum collections from damage so they may be used to interpret the sites’ histories. In addition to protecting the physical integrity of the objects, each site will have a better understanding of the museum collections they have so they may be used for research or educational programming as well.”

Each site has a unique history it is sharing, and the museum collections are physical representations of that history.

“It’s important we protect these objects so this portion of our nation’s history will be preserved for many years to come,” Whelan added. ❖



Historical objects on display at the Fernald Preserve near Hamilton, Ohio.



LM Attends AISES Virtual College and Career Fair

AISES turns out more than 2,000 attendees at this year's conference

On Oct. 15, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) attended the American Indian Science and Engineering Society (AISES) Virtual College and Career Fair. In recent years, the AISES National Conference has been the leading event for Indigenous STEM professionals and students across the United States and Canada.

Prior to the conference, LMSP staff sent 400 pieces of DOE-branded promotional items to be distributed during the STEM Day event that took place on Sept. 22 in Phoenix. LMSP staff also reached out on the general chat room forum on the day of the AISES fair to invite attendees to visit the DOE booth.

LM Engineer and Hydrologist Bernadette Tsosie has been a part of the AISES fair since she was in college.

"The career fair is how I got my start at LM, so I enjoy being able to take part in it," Tsosie said.

Despite the challenges of the virtual setting, LM was able to engage with several prospective job and internship speakers.

"The virtual setting is definitely a lot different than doing it in person, and a little challenging to see who is engaged in the booth. However, we were able to help interested attendees and engage in discussion. I look forward to next year's conference," Tsosie said.



LM and LMSP staff are shown engaging with stakeholders during the 2019 AISES conference. The 2020 and 2021 conferences were conducted virtually. Used by permission from the American Indian Science and Engineering Society (AISES), © 2019.

Although LM had initially planned an in-person STEM Day event and Career Fair Booth Day, organizers made the decision to participate in the virtual Career Fair out of concern for the ongoing COVID-19 pandemic. However, STEM Day was not available as a virtual event. The virtual career fair booth was equipped with links to videos, downloadable brochures, and information on available internships. The LM team was able to video chat, call, and instant message with attendees during this year's fair. As this is LM's second year attending, organizers were familiar with the online platform and expected an even bigger turnout than the conference in 2020, which was all virtual.

From 9 a.m. to 4 p.m. Legacy Management Strategic Partners (LMSP) engaged with college and graduate students through a virtual chat forum regarding internship and job opportunities. LM representatives connected with college students who were looking at jobs with DOE and at internships at LM sites.



The AISES conference is one of the many important outreach programs in STEM with LM to connect Indigenous students with professionals in STEM-related fields. The conference turns out thousands of prospective students every year across North America. Next year's conference is scheduled to take place in Palm Springs, California, from Oct. 6-8. ❖



USACE Plays Host to LM Leadership at Iowa Army Ammunition Plant FUSRAP Site

Cleanup of contaminants taking place at former munitions-production facility

On Sept. 9, LM director Carmelo Melendez and staff, escorted by executive officer Maj. Nicholas Copeland and others from the U.S. Army Corps of Engineers (USACE), St. Louis District, visited the Formerly Utilized Sites Remedial Action Program (FUSRAP) site at Iowa Army Ammunition Plant (IAAAP) near Middletown, Iowa.

IAAAP's deputy commander, Gifford Haddock, provided Melendez and DOE LM's CERCLA/RCRA and FUSRAP team lead, Gwen Hooten, with information on current activities and IAAAP's mission.

IAAAP is located in Des Moines County in southeastern Iowa, near Middletown, approximately 10 miles west of the Mississippi River and the larger city of Burlington, Iowa. During its use as an Army facility, portions of IAAAP were occupied by the Atomic Energy Commission (AEC). Originally, IAAAP was known as the Iowa Ordnance Plant (IOP) where munitions were produced from 1941 until August 1945 for World War II and again from 1949 to present day.

In 1947, IOP was selected as the first production facility for the manufacturing of explosives components for weapons under the AEC, and, from 1947 to 1975, portions of the IAAAP facility were under AEC control for research, development, and production of materials and components as part of America's early atomic program. The AEC-operated portions of the plant were commonly known collectively as the Burlington Atomic Energy Commission Plant (BAECP).

Currently, the Army and USACE are performing cleanup simultaneously on IAAAP. The Army is remediating contaminants resulting from munitions production under the Defense Environmental Restoration Program (DERP) while USACE is remediating contaminants resulting from the nation's early atomic energy program under FUSRAP.

USACE's FUSRAP work at the site focuses on cleaning up soils and structures that were contaminated as a result of World War II munitions production and AEC operations. During LM's recent visit to the site, IAAAP project manager Mike Kessler had the opportunity to discuss the site history and ongoing remedial actions, and to explain USACE's soil-sorting process at the site under FUSRAP.

"It was great seeing the Middletown site at the Iowa Army Ammunition Plant firsthand," Melendez said. "There's no substitute for getting out into the field to understand a site.

Seeing the complexity of ongoing remediation efforts there has only increased my appreciation of USACE as a valued partner in protecting human health and the environment."

Ongoing collaboration between LM and USACE at IAAAP will continue until long-term stewardship responsibilities transfer to LM upon the completion of USACE's remediation of AEC legacy waste at the site. Although the Army will likely maintain ownership and operation of the property, LM will take on long-term stewardship responsibilities, such as conducting five-year reviews and annual inspections, as well as maintaining records after transfer from USACE, expected in 2026. ❖



Top: LM Director Carmelo Melendez visits IAAAP Thursday, Sept. 9, 2021. Bottom: IAAAP Project Manager Mike Kessler (third from left) explains soil-sorting, a large part of the remedial process at IAAAP, during LM's Sept. 9 visit.



Rocky Flats, Las Colonias win EPA awards for Excellence in Site Reuse

Deputy secretary of Department of Energy: Programs 'leave our planet better than we found it'

At virtual ceremonies on Sept. 21-22, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) Rocky Flats Site and Las Colonias Recreation Area in Colorado were recognized by the U.S. Environmental Protection Agency (EPA) as models for reuse of contaminated land.

The EPA recognized Rocky Flats in Denver and Las Colonias in Grand Junction with National Federal Facility Excellence in Site Reuse awards. The awards highlight the significant accomplishments of federal agencies, states, Tribes, local partners, and developers in restoring and reusing contaminated land at federal facilities.

LM's [Rocky Flats Site](#) won in the Superfund National Priorities List (NPL) category. This award also recognizes the transfer of lands from LM to the U.S. Fish and Wildlife Service, which became the [Rocky Flats National Wildlife Refuge](#). The refuge opened trails to the public in 2018.

Department of Energy Deputy Secretary David Turk said it was a "huge honor" to receive the award from the EPA.

"Here at the DOE, we make sure every one of our programs helps leave our planet better than we found it, and our Environmental Management and Legacy Management teams are at the heart of this," Turk said.

"Secretary (Jennifer) Granholm and I share the belief that these programs are morally the right thing to do in response to the legacy of radioactive and chemical contamination. But this work is so much more important than just restoring our land. It's about keeping our promises to the American people," he said.

Peter O'Konski, deputy director of Legacy Management, said success at the site was made possible by a partnership of many people.

"It was a hard lift," O'Konski said of the Rocky Flats cleanup. "It was a hard lift for OLM and it continues to be a hard lift for

the community to keep it relevant, to keep it focused, keep it moving forward.

"We look forward to Rocky Flats being part of the Denver community for years to come, and for it to move on to its next chapter of its mission to the nation," he said.

Deb Thomas, EPA Region 8 acting regional administrator, said Rocky Flats had earned its reputation as a world-class example of site reuse.

"Today the site is providing great benefits to Colorado's residents and visitors, as well as being a place of diversity for plants and animals that are clearly thriving there," she said. "It's so good to see. It's an absolute honor to announce these awardees."

The Rocky Flats Site was originally a nuclear weapons production facility during the Cold War. After nuclear weapons production ended, DOE completed a 10-year, \$7 billion cleanup of chemical and radiological contamination.

In 2001, Congress passed the Rocky Flats National Wildlife Refuge Act of 2001, creating the 5,200-acre federally protected Refuge. The Refuge now restores and preserves native ecosystems, while providing habitat for migratory and resident wildlife, and recreational opportunities for surrounding communities.

"We are proud of our work that created a safer environment and helped shape this valuable resource," said Andy Keim, LM's site manager for the Rocky Flats Site. "The daily commitment from our site team helps ensure area communities remain protected now and in the future."

Keim said areas disturbed during cleanup and closure activities have been reclaimed and revegetated, and the site provides critical habitat for the endangered Preble's meadow jumping mouse, as well as other wildlife.

"I do have to say that the elk herd that lives out there definitely makes good use of it, and they're frequent observers of our work," he said.

Continued on page 15

The post-cleanup Rocky Flats Site is seen in a photo taken June 11, 2007.

Continued from page 14

Rocky Flats, Las Colonias win EPA awards for Excellence in Site Reuse

Las Colonias Park is a former uranium processing facility and has been transformed into a city-owned park that includes a 15-acre business zone, 5,000-seat amphitheater, riverfront park, boat ramp, trails, and an arboretum. The park provides a destination for walking and biking along the Colorado River, and has become a catalyst for redevelopment in the surrounding area with retail and restaurant space under development.

The reuse and restoration efforts that were recognized by the EPA at the former processing site are located in the industrial area of Grand Junction, along the northern banks of the west-flowing Colorado River. The site began operations in 1899 as a sugar beet factory and in 1950, the Climax Uranium Company converted the site to operate as a uranium and vanadium mill until 1970. During the 19 years of site operation, the mill produced uranium oxide or “yellowcake” for sale to the U.S. Atomic Energy Commission for Cold War efforts. Production also created 2.2 million tons of radioactive tailings. In 1970 and 1971, after the mill closed, most of the buildings on site were demolished and the site was cleaned up.

As part of its obligations under Title I of UMTRCA, DOE began surface remediation of the processing site in the 1980s. Approximately 4.4 million cubic yards of contaminated process site materials were transported to an off-site licensed disposal facility, known as the Grand Junction Disposal Site.

Past milling activities also contaminated the alluvial aquifer beneath the site. This residual groundwater contamination from the processing site is addressed and monitored by LM and institutional controls are in place. At the time of site cleanup, extra effort was taken to ensure the riparian areas along the Colorado River were cleaned up to these standards and to ensure contamination did not spread into one of the West’s most vital rivers.

All surface and subsurface soils at the processing site were cleaned up to meet U.S. Environmental Protection Agency (EPA) and UMTRCA standards. The selected remedy, which relies on institutional controls and uses limitations, is appropriate for current recreational and industrial use scenarios and does not pose a risk to human health and the environment. After cleanup, the site was landscaped, and the property was transferred to the city of Grand Junction in March 1997.



Las Colonias River Park in Grand Junction, Colorado.

When the city of Grand Junction eventually began redeveloping the site, they named the project Las Colonias Park to honor the culturally close-knit Hispanic settlement known as La Colonia (The Colony) that populated the former sugar beet milling operations during the early 1900s.

“What has taken place here at Las Colonias Park was made possible because of great partnerships and efforts by folks from the Colorado Department of Public Health and Environment, the State of Colorado, the Grand Junction Economic Partnership, the City of Grand Junction, the Grand Junction Area Chamber of Commerce, Colorado Mesa University, and many others. The beauty that Las Colonias Park has to offer will allow multiple generations to make memories for years to come,” said Sara Woods, Grand Junction, Office of Legacy Management Site Lead.

The site was included in the city of Grand Junction’s South Downtown Neighborhood Plan, as well as the Downtown Development Authority’s Plan of Development. The Las Colonias Park Master Plan was revised three times before the current vision was ratified. The redevelopment occurred in multiple phases and as part of the master plan.

The Las Colonias master plan was financed and implemented through a variety of resources and grants. Implementation required creatively leveraging a variety of financial resources from a group of diverse stakeholders. The community raised \$2.1 million locally to match a \$1.6 million grant from the Department of Local Affairs. Fundraising support is thanks to the Downtown Development Authority, Riverfront Foundation, Grand Junction Area Chamber of Commerce, Grand Junction Economic Partnership, Colorado Mesa University, Great Outdoors Colorado, Goodwin Foundation, Bacon Family Foundation, Grand Junction Lions Club, El Pomar Foundation, Gates Family Foundation, LM Support contractor(s), and the city of Grand Junction. ❖



AS&T Collaborates with University of Arizona and National Ecological Observatory Network



Figure 5: A UAS collecting multispectral data.

Improve and Standardize Imagery Collected by Drones

From late August to early September 2021, Applied Studies & Technology (AS&T) and University of Arizona research scientists conducted a series of carefully designed multispectral data collection campaigns at the Santa Rita Experimental Range (SRER) in Arizona.

The collection campaigns using unmanned aerial systems (UAS) were conducted in coordination with the National Ecological Observatory Network's (NEON) Airborne Observation Platform (AOP) survey of the SRER (Figure 3).

To ensure the NEON AOP data are suitable for validation, the UAS and NEON flights were carefully coordinated to occur on the same day for a given location, and data were only collected under clear sky and ideal weather and sensor conditions. During the flights, a suite of imagery acquisition (e.g., flight altitudes and imagery angles) and calibration procedures (using calibration panels; Figure 4) were tested with the UAS (Figure 5), which will subsequently be compared to the validation-quality NEON AOP data to determine an optimal data acquisition and calibration procedure to be implemented at DOE LM sites. These calibrated data will be integral to monitoring and detecting change in surface features at LM sites.

UAS equipped with multispectral, thermal, and hyperspectral sensors provide unprecedented potential for high-resolution observation of the Earth's surface. Because this technology



Figure 2: The National Ecological Observation Network (NEON) Airborne Observation Platform (AOP) flying over the project site. The hyperspectral camera onboard the aircraft is indicated by the red circle.

is relatively new and rapidly evolving, the application of optical data (visible and near-infrared light) has largely been qualitative. However, increased demand for quantitative and temporal monitoring applications of optical data (e.g., vegetation, surface water, and soil classification and monitoring, among others) requires more rigorous data preprocessing and calibration techniques, similar to those that have been applied in spaceborne satellites for decades.

For meaningful quantitative studies, UAS sensors should be calibrated to allow for comparisons of these data through time. The calibration process primarily accounts for illumination differences caused by changing solar angles and normalizes the resulting multispectral images, which also minimizes atmospheric impact.

Calibrating multispectral data requires knowledge of the incoming solar illumination (irradiance) and the outgoing reflected energy (radiance) from the surface. The ideal parameter resulting from the calibration process is surface reflectance – the ratio between irradiance and radiance. AS&T is collaborating with researchers at the University of Arizona to develop an end-to-end radiometric calibration process for multispectral imagery captured by UAS.

The university is home to the Santa Rita Experimental Range (SRER; Figure 1), a 52,000-acre research area, which is also one of the NEON Terrestrial Core Sites. NEON has a nationwide network of field sites that are surveyed regularly by a fixed-wing aircraft (called the Airborne Observation Platform (AOP); Figure 2)

Continued on page 17

Continued from page 16

AS&T Collaborates with University of Arizona and National Ecological Observatory Network

using an integrated and standardized data collection routine that includes annual calibration and validation of their hyperspectral sensor (similar to multispectral but with more “slices” of visible and near-infrared light), resulting in a validation-quality reference dataset that we are using to match the multispectral wavelengths of UAS optical sensors. This validation dataset will allow AS&T and University of Arizona researchers to develop a consistent, repeatable, and traceable multispectral data collection and calibration procedure that will be implemented at LM. ❖



- ↑ Figure 4: A lab-calibrated multispectral panel used for calibrating UAS multispectral imagery.
- ← Figure 3: Truman Combs, University of Arizona Ph.D. student, prepares for a UAS flight.
- ↓ Figure 1: View from the project site within the Santa Rita Experimental Range (SRER), Arizona.





Zooming Around and Zooming In: Aerial Capabilities at Mexican Hat

From hundreds of feet in the desert air, the birds'-eye view of a drone can read the letters on a technician's T-shirt — and so can the scientists who sit thousands of miles away at the Department of Energy (DOE) Legacy Management Office's (LM) headquarters in Washington, D.C.

It's part of LM's Aviation Program, through which evolving aerial capabilities are helping monitor sites nationwide remotely. Along the San Juan River, at Mexican Hat, Utah, Disposal Site, drones use three-dimensional or "photogrammetric" imaging to examine a secure container called a disposal cell that stabilizes residual radioactive materials, which remain from Cold War-era nuclear testing. LM engineers direct the drone as it circles the cell, snapping images from every angle. The unmanned aircraft captures the site's topography, vegetation, and surface water characteristics.

"Using photogrammetry to measure even the slightest changes at a site is a game changer," said Deborah Steckley, Aviation Program Manager at LM. "This high level of 3D precision shapes the approach we take to stewarding our sites, in both the short and long term. The information we gather incrementally can help us make predictions for the care of the cell for centuries to come."

Steckley joined the DOE in 2011 as a general engineer at the Grand Junction, Colorado office.

"I studied architecture two decades ago, and aerial imagery back then was so cloudy," Steckley says. "Today, the Aviation Program technology plays an integral part in LM's detail-

oriented work, and upholds best-in-class safety practices that inform every step we take in monitoring our sites and stewarding local communities."

Steckley led LM's Aviation Program in conducting the baseline aerial survey project at Mexican Hat while collaborating across LM with site managers and other technical staff to effectively enhance long-term surveillance. She and her team designed aviation safety plans developed specifically for each drone deployment, using the data gathered from their survey. Over the past three years the Aviation Program's data gathering has established baseline conditions at Mexican Hat. Now, scientists can use the high-resolution photography and 3-D models, to inform decisions to send staff into the field for further monitoring.

In 2019, the team identified subtle levels of erosion and determined exactly where and to what extent the damage had occurred, saving time when it came to deploying personnel to the site to address it. In the decade Steckley has spent with the office as an engineer, scientist, site manager, and program manager, LM's aerial capabilities have improved drastically — alongside the safety measures and public outreach surrounding these endeavors.

Mexican Hat is located on the Navajo Nation, and Steckley said her team worked with local leaders and stakeholders to ensure all nearby communities were aware of drone usage and its applications. From hosting information sessions to distributing pamphlets door-to-door, LM personnel went the extra mile in furthering education and awareness around the technology. Steckley and her team continue to offer the community platforms for discussion and opportunities to discuss LM's work at Mexican Hat in detail.

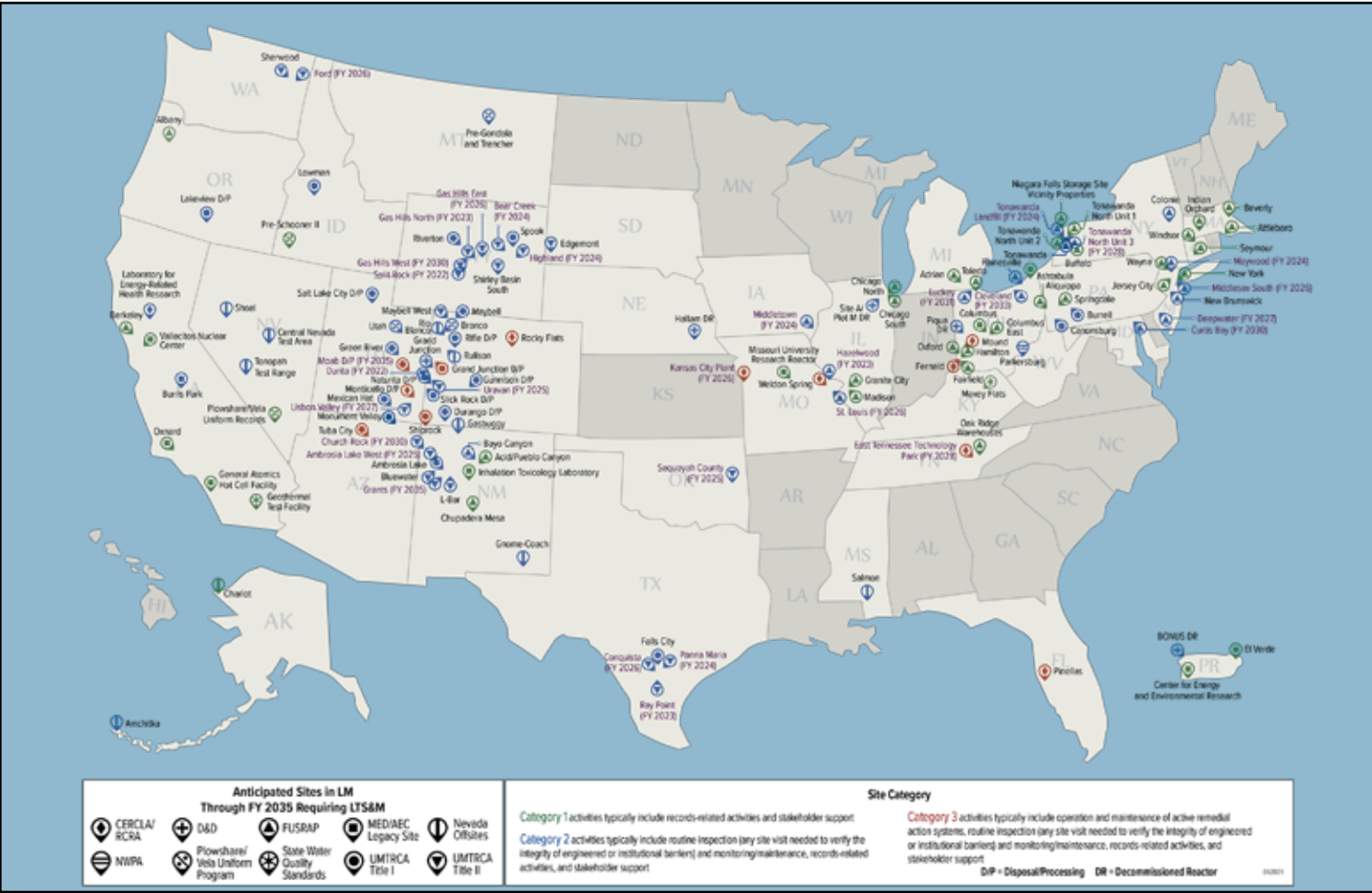
"From the very beginning of this program, we've engaged with the Navajo Nation and surrounding public to answer questions and shed light on our aerial capabilities and applications," Steckley says. "It's imperative that we continue to respect and build trust with these communities — that relationship is what sustains our work for generations."

Built on a foundation of top safety standards and trust, LM's Aviation Program is redefining effective and efficient long-term surveillance and maintenance. ♦



At Mexican Hat, LM teams prepare for a drone survey.

Anticipated LM Sites Through Fiscal Year 2030



Please help reduce mailing costs. To remove your name from the *Program Update* mailing list, send your request to the address or email specified below. Thank you.

Contact Information

Name _____

Organization _____

Position _____

Street Address _____

City, State, and Zip Code _____

Phone Number _____

Email Address _____

Email: LM-ProgramUpdate@lm.doe.gov
Website: www.energy.gov/lm

Mail: David Von Behren
U.S. Department of Energy
Office of Legacy Management
11035 Dover Street, Suite 600
Westminster, CO 80021



Uncovering What Lies Beneath LM's Spookiest Sites



← BCI's Director of Habitat Protection and Restoration Program, Jason Corbett, prepares to enter an abandoned uranium mine to search for signs of wildlife. Photo credit: Shawn Thomas, BCI.

↓ BCI Subterranean Specialist Ethan Sandoval navigates his way out of an abandoned uranium mine after completing an internal survey. Photo credit: Bill Hatcher.

Underground surveys shed light on animal populations living in the dark of abandoned mines

Moving from a bright, sunlit day, an intrepid duo descends into the dark, dry, and seemingly deserted workings of an abandoned mine. One leads the way, gingerly stepping on uncertain ground in the darkness with the other following closely behind. Donning masks to filter the air in the potentially toxic, enclosed space, the pair look and sound like twin Darth Vaders, as they survey the underground. The flutter of a wing or a brief glimpse of bright eyes peering from a crack in the rock would frighten the faint of heart, but it's exactly what the investigators are looking for.

Eerie as they may seem, these subterranean surveys at some of the Department of Energy (DOE) Office of Legacy Management (LM) [Defense-Related Uranium Mines](#) (DRUM) program sites are crucial in understanding local bat populations and how to protect them.

Individuals working in the DRUM program, as well as those in federal land-management agencies, state abandoned mine lands programs, and tribal governments, work with Bat Conservation



International (BCI) to conduct surveys of inactive, abandoned, or orphaned mines where uranium was extracted to support the nation's first nuclear program.

Founded in 1982, Bat Conservation International has grown into a globally recognized conservation organization dedicated to ending bat extinctions.

"Sealing off the old mines is an important milestone in LM's safeguarding efforts, but it can't be done without first taking the right steps to protect animals that may be inside," said Padraic Benson, a DOE program analyst. "Also, entering abandoned mines is dangerous and should never be attempted by the public."

Continued on page 21

Continued from page 20

Uncovering What Lies Beneath LM's Spookiest Sites

The three-person DRUM team works in tandem, each with specific duties. A portal attendant outside acts as a safety link to the surface and a point of contact should issues arise for the team underground. The safety lead is first into the mine, identifying rock and ground conditions, with a 360-degree awareness of their surroundings and hypervigilance for any safety concerns. Behind the safety lead is the biological lead who takes specific note of animals, micro-climate, micro-habitat, and signs of animal use, as well as hydrologic conditions and any evidence of historical cultural resources. Everything is recorded digitally.

Biologists enter the mines to identify which species of bats and other animals live there. Identifying bats can be challenging — the differences between species can be as minor as a flap of skin on a tail membrane or the difference in forearm length, details only visible when holding the bat inches away.

"I know going underground is creepy to some, but it is critical to understanding wildlife, in particular bat use of a site," said Jason Corbett, Director of Habitat Protection & Restoration at BCI. "You can't just make an assumption from the surface. Our teams rely on finding and identifying 'clues' that bats leave behind, such as roost stain, guano, insect parts, or tiny scratch marks where bats repeatedly grasp onto the rock."

Not only do these clues help distinguish between different types of bats, they can also indicate how many inhabit the area and what type of roost it is — day, night, maternity, or hibernaculum.


LM doesn't just conduct mine surveys for the thrill — collecting as much detail as possible about animal populations helps the organization protect their habitat and fulfill environmental compliance regulations.

"Changes in the environment are making these surveys more important than ever for maintaining the health of bat colonies the areas they inhabit, and thus the ecosystems we rely on as well," Corbett said.

Some mines might not show any signs of use or offer any viable habitat and can be closed off to allow for remediation of the sites. For mines that do house bat colonies, BCI provides recommendations to the land managers on safeguarding methods that will best suit the subterranean residents. Large colonies call for different types of gates than small colonies, and some species require different remedies than others.

Protecting bat species is a crucial part of LM's work in safeguarding the environment and promoting biodiversity. Though they may be the predators in our Halloween tales, bats face a number of threats in their ecosystems - from forest fires, to droughts, to diseases such as white-nose syndrome.

Though they require a journey into the dark, subterranean surveys at DRUM sites shed light on a critical aspect of the organization's mission. When it comes to long-term environmental stewardship, particularly within abandoned mines, LM knows there is more than meets the eye. ✦



A Townsend's big-eared bat (Corynorhinus townsendii) hibernates in an abandoned uranium mine. This species is one of the most commonly encountered in old uranium mines. Photo credit: Jason Corbett, BCI.



EJ Addresses Health Impacts on Minority and Low-Income Communities, American Indians and Alaska Natives

The 2021 National Environmental Justice Conference and Training Program (NEJC) was conducted virtually with the 13th National Conference on Health Disparities (NCHD) on Oct. 27-29, 2021. Leaders came together for this joint national gathering to engage communities as full partners in collaborative solutions to the many issues and challenges affecting the nation today. The relationship between health disparities (HD) and environmental justice (EJ) is increasingly more important as we continue to deal with the devastating effects of the COVID-19 pandemic, as well as Federal, state and local government actions related thereto, has had on our communities; those EJ communities, low-income communities, and American Indian and Alaska Natives communities that are the most vulnerable and have long been decimated by HD.

There were more than 500 registrants, including representatives from Federal, state, and local government agencies; public and private sector organizations; nonprofits; and academic institutions. The joint conference theme was “Addressing Health Disparities, Environmental Justice, and Shaping the Future of Healthcare,” recognizing the rapidly changing and diversifying landscape in which we live. The joint conference agenda was filled with three days of thought-provoking speakers and panels, and numerous opportunities to hear from young people, activists, governmental representatives, and others from all over the country who are engaged in and committed to the principles of EJ and eliminating HD.

Leaders from various sectors were engaged in three days of free exchange of ideas and approaches to EJ and particularly the impacts of COVID-19 on low-income communities that are the most vulnerable and have long been decimated by HD. Three themes running through the conference included: 1) Social Determinants; 2) Personal Responsibilities; and 3) Prevention.

The conference highlighted presentations from Federal and state agencies, local governments, tribes, community groups, business and industry, public interest groups, youth, academia, and other entities. This interactive forum gave conference participants the opportunity to network with a variety of interests from diverse quarters. All conference participants realized informative and productive resources that can support their individual program goals and objectives. Conference participants were exposed to examples of approaches that produce positive results through innovation and collaboration.

Seven panels presented over the three-day period. Topics included:

- Understanding the relationship between HD and EJ, especially during COVID-19;
- Addressing HD and EJ as part of the infrastructure rebuild
- The evolving crisis of disparities in the recognition of and access to treatment of mental health and substance abuse
- Climate change and climate justice
- Federal Title VI and EJ priorities
- The role of social justice in addressing HD and EJ
- Educate, motivate, innovate: Building the Next Generation of EJ Leader

Organizer Lloyd Moore said he was impressed by the high-profile presenters who addressed the conference attendees. “We are hopeful that this is now the time when the knowledge we have shared in 14 previous EJ and HD conference crosses the divide between words and action – between ‘lessons learned’ and meaningful, fully funded public policy initiatives.” Conference organizers said in a statement, “we must find the collective will to ensure health equity for all Americans.”

More than 20 years ago, EJ and HD were linked when House Majority Whip James E. Clyburn (D-SC) first identified the unique relationship between human health, environmental quality, economic development and EJ in healthy communities. This concept, and the ongoing national dialogue it facilitated, served as the basis for a series of annual national conferences intended to identify and address issues pertinent to one of America’s foremost public health issues - HD.

While addressing the conference attendees, Rep. Clyburn indicated that because of these disparities, “Communities of color are also systematically exposed to more air pollution than other communities.” He said, “This is EJ, and the clean energy transformation that we are all working toward can not only make these communities clean and safe for families, but it can also make our energy supply more reliable and more resilient at the same time.”

Continued on page 23

Conferences Address Health Impacts on Minority and Low-Income Communities, American Indians and Alaska Natives

In his remarks, David Turk, DOE deputy secretary, addressed the conceptualization of EJ and acknowledged the social disparities linked to energy production in the United States. Prior to the COVID-19 pandemic, Turk said, one in three U.S. households faced some form of energy insecurity. Financial hardship forced 20 percent of households to reduce or forgo necessities and caused 11 percent of households to keep their homes at unhealthy and unsafe temperatures to pay energy bills. Twenty-five percent of American families could not afford to pay their energy bills, and 10 percent had their utilities disconnected.

“These real-life, personal effects of environmental justice and energy burden are directly tied to how our energy system was designed,” he said. “The recalibration of our energy system requires a transformative commitment from all of us to target disadvantaged communities for clean energy investments, new jobs, new business opportunities.”

The conference highlighted the need to continue and expand the work that has already been done in addressing EJ and HD, Moore said. “The treatment for the COVID-19 pandemic, as well as the vaccination rollout, has shown us that the divide is widening,” he said. “We must double down and continue our efforts.” ❖

GOAL 6



Teaching Radiation, Energy and Technology (TREAT) Workshop Takes Place in South Carolina



Savannah River Site Environmental Justice Program Manager de’Lisa Carrico, the workshop coordinator, noted the high value placed on workshops with local teachers and community leaders.

About 30 middle and high school teachers, students, and community leaders in the Central Savannah River Area came together Nov. 3-5, 2021 at the University of South Carolina - Aiken for the Teaching Radiation, Energy and Technology (TREAT) Workshop. Such events have been held since 2001.

Through a U.S. Department of Energy environmental justice (EJ) grant, the department partners with Savannah State University (SSU) to develop and carry out these important workshops. The goal is to educate teachers, students, and local community

leaders about radiation, sources of radiation, radioactive waste management, effects of radiation on environmental health, and the negative impact of environmental radiation exposure to humans.

The workshops are designed to educate the attendees so they can in turn provide radiation knowledge and even encourage students to pursue careers in engineering and nuclear fields. Experts from DOE, Savannah River Site (SRS), the Environmental Protection Agency, and South Carolina Department of Health and Environmental Control come together to teach, answer questions, and discuss potential career opportunities.

Opening remarks were provided by Dr. Melinda Downing, DOE’s EJ Program Manager, and Dr. Kenneth Sajwan, project director. Additional remarks were provided by the following:

- Dr. Daniel Heimmermann, Chancellor, University of South Carolina – Aiken
- Thomas Johnson, deputy manager, Savannah River Operations Office (SR), Department of Energy (DOE)
- Honorable Rick Osbon, Mayor, City of Aiken, S.C.
- Honorable Lessie Price, Mayor Pro Tem, City of Aiken, S.C.
- Honorable Jordan Johnson, Commissioner, City of Augusta, Ga.

Continued on page 24

Continued from page 23

Teaching Radiation, Energy and Technology (TREAT) Workshop Takes Place in South Carolina

Dr. Kenneth Sajwan, project director, provided opening remarks and emphasized the importance of the workshop, during which participants heard about the history and missions of SRS, Radiation 101, Environmental Monitoring: Wildlife Surveillance Program, and Emergency Preparedness.

Edwin Deshong, chief engineer for DOE provided an overview of the SRS.

Rev. Brendolyn Jenkins Boseman, executive director of the Imani Group, Inc., a local community-based organization that provides leadership and diversity training, facilitated the workshop and shared her experience during her presentation, "Environmental Justice 101."

Mindy Mets, director of regional workforce programs for the Savannah River Site Community Reuse Organization, provided an overview of nuclear technology regionally and globally.

SRS Environmental Justice Program Manager de'Lisa Carrico, the workshop coordinator, noted the high value placed on this type of communication with local teachers and community leaders.

"For several years now, we've added a second workshop for faith-based and community leaders," Carrico said. "The participants have been highly engaged in productive discussion and have also expressed their appreciation for this special opportunity."

"Working closely with Dr. Kenneth Sajwan, the project director at SSU, and Rev. Boseman, we've conducted a series of activities promoting environmental justice in addition to the TREAT workshops," Carrico said. "For example, we hold environmental justice outreach meetings in different locations throughout the region where the public is invited. To best reach this audience, we usually meet in the evenings at churches where we offer fellowship and dinner along with site information. This approach has been quite successful as well."

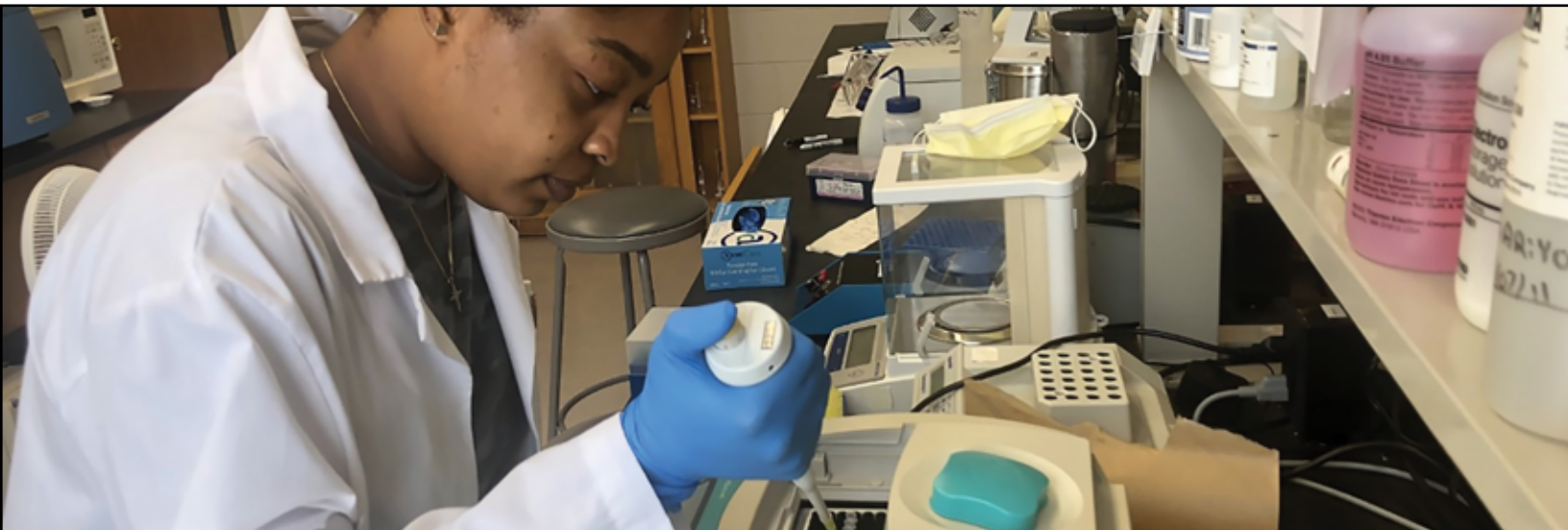
This collaboration strengthens meaningful public involvement in adversely impacted communities and is recognized as a model environmental justice program for communities around federal facilities. ❖



Top right: TREAT Project Manager Dr. Kenneth Sajwan provided opening remarks and emphasized the importance of the workshop. Bottom: High school teachers, students, and community came together at the University of South Carolina-Aiken for the Teaching Radiation, Energy and Technology (TREAT) Workshop Nov. 3-5.



Allen University EJI Outreach Events Impact Many



Allen University Equal Justice Initiative intern Rene Brown has performed research on biogenesis of microRNAs in corn under stressed conditions. On Oct. 8, Brown presented her research results to the Allen University Board of Trustees.

In late July, an outreach effort organized by Allen University's Equal Justice Initiative (EJI) was conducted in Marion, S.C. The call for this outreach began after a similar effort on mental health issues in the same community.

It was apparent that the majority of youths who participated were not aware of educational opportunities available after high school. This was largely due to a lack of effective broadband in the area. Another outreach titled "Pipeline into STEM: Reaching High School Students in Areas with Limited or Ineffective Broadband for College Admission" occurred in late July. Of note, six students committed to college admission during the outreach.

As a sequel to the above outreach, a manuscript is being prepared titled *Pragmatic approaches: Reaching students in areas with limited broadband to access a college education*.

Another EJI outreach took place in Trio, S.C., in late August. The theme was "Building a Healthy Community Together." COVID-19 testing and vaccinations were administered simultaneously in collaboration with the South Carolina Department of Health and Environmental Control (DHEC). The main event took place at Greater St. John AME Church in Andrews, S.C. COVID-19 testing was conducted on Friday, Aug. 27, 2021. COVID-19 vaccinations were provided on Saturday, Aug. 28, 2021.

The total number of individuals tested was 33 on Friday. On Saturday, at least 25 came for testing, and about 15 brought their children, who were underage and couldn't be vaccinated. Four individuals were vaccinated.

This event was conducted to serve the community and was advertised through church announcements, local media, funeral homes, store front postings, and a targeted call phone bank.

On Oct. 1-2, 2021, an EJI outreach to Andrews Town, S.C., was conducted. The theme centered on mental health issues in rural areas. Officials from the local mental health community spoke, as well as some clergymen. Members of 21 communities were in attendance, along with four EJI students from Allen University, on Friday, Oct. 1, 2021.

Among the recommendations from the panel discussion on Friday night was the need for churches in the community to encourage and create awareness on mental health issues, as well as how these issues can be identified within immediate families. Possible solutions and follow-up assistance were discussed on Saturday, Oct. 2, 2021. Sixteen community members attended.

A keynote presentation on "Life Stressors and Stress Management" was delivered by Dr. Oluwole Ariyo. The presentation was followed up with a question-and-answer period before panel discussion.

COVID testing and vaccinations in conjunction with DHEC were conducted on Saturday. 💎



Brian Stewart Honored as LM Employee of the Year

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) honored Safety and Health Program Manager Brian Stewart in October with the Philip C. Leahy Employee of the Year award for his hard work and dedication during the COVID-19 pandemic.

The award, which was established in 2017, recognizes LM employees who demonstrate qualities of an outstanding team player, as described by John C. Maxwell's "The 17 Essential Qualities of a Team Player." Maxwell defines a team player as someone who is dependable, enthusiastic, prepared, self-improving, and tenacious.

Philip C. Leahy set up what is now LM's Grand Junction office, and later served as the site's manager under the Atomic Energy Commission. Leahy personified the qualities of a team player by accomplishing his mission while working on the Manhattan Project and establishing LM's mission of success, which is still upheld today.

Nominations for the award come from peers and supervisors and are judged by the LM deputy director and two office deputies.

When he learned he had received the award, Stewart was surprised.

Safety and Health Manager Brian Stewart said he was humbled and grateful for the Philip C. Leahy Award.

Continued on page 27



Continued from page 26

Brian Stewart Honored as LM Employee of the Year

"I'm still stunned. It feels great to be honored this way," he said. "I definitely didn't see it coming."

After starting in May 2019, Stewart and his team were originally tasked with helping LM Strategic Partners (LMSP) meet the requirements for outstanding Safety and Health programs, as outlined by the DOE Voluntary Protection Program (VPP). After just six months, LMSP was awarded the VPP Star award, the highest level of recognition in the program.

Although Stewart is proud of this accomplishment, he is most proud of keeping people safe during the COVID-19 pandemic, which has been an ongoing challenge for the Safety and Health team.

"No one could have predicted COVID-19, so it really turned things upside down and took all our focus, and still is," he said.

While Stewart feels humbled and honored to receive the Philip C. Leahy award, he added, "I'm just the messenger, not the heavy lifter like the RSI Safety and Health team. They made sure people had all the proper protection equipment like masks, wipes, gloves ... I'm just the face on the profile."

As Stewart and his team continue to ensure worker safety throughout the pandemic, Stewart looks forward to the future and his next challenge.

"I think transitioning from COVID-19, once the pandemic ends, will bring a new set of challenges," he said. "However, I'm confident in the Safety and Health team. They have done an amazing job at keeping people as safe as possible. I have a very good team of people working with me, that are very good at what they do." ❖

GOAL 5



New Employee Bios

David Von Behren

David Von Behren became the LM supervisor for the Education, Communication, History, and Outreach team in October 2021. He previously served the hunger-fighting mission of the U.S. Department of Agriculture (USDA) Food and Nutrition Service (FNS) for more than 11 years. He was the Regional Public Affairs Director for the Denver office, leading communications and partnerships across an eight-state region.

He worked alongside senior leadership to demonstrate the impact of federal nutrition programs for schools, food banks, Native American tribes, and underserved communities. During his tenure at FNS, he led the school nutrition program as Branch Chief, managing the National School Lunch Program in the region.

Before joining USDA, Von Behren worked as a Trade Commissioner in the Canadian government, promoting life sciences research and business development between the U.S. and Canada. Prior to that, he was Director of Public Affairs for the University of Arizona College of Pharmacy and the Arizona Poison and Drug Information Center. He began his career as a producer for NBC News in Tucson, Arizona.



Von Behren holds a bachelor's degree in Journalism and a master's degree in Public Health Administration and Policy (MPH), both from the University of Arizona. He is a 2021 graduate of the first class of the Rocky Mountain Executive Leadership Academy and earned Accreditation in Public Relations (APR) from the Public Relations Society of America. ❖



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

1000 Independence Avenue, SW
Washington, DC 20585

