DOE/LM-1492

ANNUAL HISTORICAL SUMMARY

MANAGING TODAY'S CHANGE, PROTECTING TOMORROW'S FUTURE

U.S. DEPARTMENT OF ENERGY | Legacy Management

2020

www.energy.gov/lm

Cover/Inside Cover Photo

Cover: View of the railroad tracks near LM's Old Rifle site in Rifle, Colorado.
(© 2010-2019 The Regents of the University of California, Lawrence Berkeley National Laboratory.)

Inside cover: In January, LM Site Manager Tashina Jasso served as the keynote speaker for Career Day at Central High School in Grand Junction, Colorado.

TABLE OF CONTENTS

PURPOSE OF THIS DOCUMENT

This document records significant accomplishments achieved by the U.S. Department of Energy (DOE or Department) Office of Legacy Management (LM) during calendar year 2020. Any data reflected by the fiscal year (FY), as opposed to the calendar year, is noted throughout the document. Budget information, identified within the document, reflects Oct. 1, 2019, through Sept. 30, 2020.

Annual historical summaries highlight a selection of the many activities performed by LM during calendar years. They also offer information about recent work conducted by LM. Future historians and researchers can use the summaries to place the activities of LM into larger contexts, such as the history of DOE.

OVERVIEW

DOE has responsibilities associated with the legacy of contamination from World War II and the Cold War. At the end of calendar year 2020, LM managed 101 legacy sites in 29 states and Puerto Rico. (In 2020, LM added the Tonopah Test Range, Nevada, Site to its portfolio of long-term stewardship.) In 2020, Navarro Research and Engineering, Inc. (Navarro) was the primary support contractor, also referred to as the Legacy Management Strategic Partner (LMSP).

DOE established LM on Dec. 15, 2003, to fulfill the Department's post-closure responsibilities by providing long-term surveillance and maintenance (LTS&M), records management, benefits continuity, property management, and land use planning. In addition to stewardship responsibilities at legacy sites, LM maintains five radiometric calibration facilities and manages the Uranium Leasing Program (ULP) and the Defense-Related Uranium Mines (DRUM) Program. LM also incorporates improvements in scientific understanding and technology applications through the Applied Studies and Technology (AS&T) Program and manages the LM Business Center Records Storage Facility, which is a certified National Archives and Records Administration repository.

COVID-19

In response to the global COVID-19 pandemic, LM continued to ensure its sites remained protective of human health and the environment by adapting its overall emergency operations plan to the pandemic, maximizing telework, and coordinating with regulators and stakeholders.

For more information on LM's response, see "COVID-19 Response" under "Goal 5: Management Excellence."

LM MISSION AND VISION

Vision

- The Department's legacy workforce, communities, and the environment are well protected and served.
- Consistent and effective long-term surveillance and maintenance protects people and the environment.
- The public has easy access to relevant records and information.
- Because we work together, stakeholders, tribal nations, and state and local governments trust us.
- The Department safeguards former contractor workforce retirement benefits through prudent, timely funding.
- People are treated fairly and have meaningful involvement.

Mission Statement

Fulfill the Department of Energy's post-closure responsibilities and ensure the future protection of human health and the environment.

Washington, D.C., Forrestal Building.

LM GOALS AND OBJECTIVES

Goal 1

Protect Human Health and the Environment

- Comply with environmental laws and regulations related to radioactive and hazardous waste and materials.
- Improve cost effectiveness while reducing post-closure-related health risks.
- Improve the long-term sustainability of environmental remedies.
- Address the environmental legacy of defense-related uranium mining and milling sites.
- Transition new sites to LM in a safe, timely, and cost-effective manner.

Goal 2

Preserve, Protect, and Share Records and Information

- Protect and maintain legacy records and information.
- Make technology solutions more efficient, relevant, and accessible to the LM stakeholder and user communities.
- Preserve the Yucca Mountain Project science and information.

Goal 3

Safeguard Former Contractor Workers' Retirement Benefits

- Ensure prudent funding of former contractor workers' retirement benefits.
- Shelter former contractor workers' retirement benefits from risks.

Goal 4

Sustainably Manage and Optimize the Use of Land and Assets

- Enhance sustainable environmental performance for facilities and personal property and address severe weather events.
- Optimize the use of federal lands and properties.
- Transfer excess government real and personal property.

Goal 5

Sustain Management Excellence

- Ensure LM sites are safe and secure for federal and contractor personnel, regulators, and the general public.
- Develop and maintain high standards for planning, budgeting, acquisition, and program and project management.
- Sustain a talented, diverse, inclusive, and performance-driven workforce.
- Improve the quality, efficiency, and effectiveness of site management and business support actions.

Goal 6

Engage the Public, Governments, and Interested Parties

- Engage the public in our program, project, and site activities.
- Work effectively with local, state, and federal partners; nonprofit organizations; international organizations; and other countries.
- Consult, collaborate, and partner with tribal nations.
- Support development of the Manhattan Project National Historical Park.
- Implement Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, within LM.

Comprehensive Environmental Response, Compensation and Liability Act and Resource Conservation and Recovery Act (CERCLA/RCRA)

In August, LM completed the **Rocky Flats Site, Colorado, Original Landfill stabilization project**. LM installed 267 ground anchors and more than 4,400 feet of subsurface drains to alleviate downhill slumping of the steep slopes of the Original Landfill. This maintenance action was approved by the Colorado Department of Public Health and Environment in July 2019, and the project began in August. There was no risk of radiological exposure to the public during this project.

In November, LM completed the **Fernald Preserve, Ohio, backwash basin construction** under budget by $1.5 million. This construction extends the design life of the basin through completion of the groundwater pump and treat remedy estimated for 2038. The project team safely transported 30 truckloads of low-level radiological waste over 1,000 miles for disposal at Waste Control Specialists in Texas.

Fernald Preserve, Ohio, Site.

LM installed 267 ground anchors and more than 4,400 feet of subsurface drains to alleviate downhill slumping of the steep slopes of the Original Landfill at the Rocky Flats Site.

Rocky Flats Site, Colorado.

Formerly Utilized Sites Remedial Action Program

More than 30 attendees from the U.S. Army Corps of Engineers (USACE) and LM logged into WebEx on June 9-11 for **a virtual tour of USACE North Atlantic Division Formerly Utilized Sites Remedial Action Program (FUSRAP) sites**. USACE is responsible for remediating FUSRAP sites before transferring them to LM for long-term stewardship.

FUSRAP VIRTUAL TOUR
North Atlantic Division
2020

- Sites visited virtually included: Maywood, New Jersey; Middlesex North, New Jersey (Middlesex Municipal Landfill); Middlesex South, New Jersey (Middlesex Sampling Plant); Deepwater, New Jersey (DuPont Chambers Works); Hicksville, New York (Sylvania-Corning); and Curtis Bay, Maryland (W.R. Grace).
- LM FUSRAP site managers led discussions on the previous year's collaborations, site transition lessons learned, and life-cycle budget assumptions for each site.
- USACE project managers described conditions and status of ongoing remediation and completion schedules.

In July, LM conducted its first groundwater sampling event at the **Colonie, New York, Site**, which transferred to LM for long-term stewardship the previous fall. LM selected local subcontractors to conduct the groundwater sampling to reduce interstate travel in response to the COVID-19 pandemic and to support the local economy.

LM conducted its first groundwater sampling event at the Colonie, New York, Site.

LM staff worked closely with colleagues from the borough of Middlesex, U.S. Environmental Protection Agency (EPA), USACE and New Jersey Department of Environmental Protection to evaluate and approve using a Finding of Suitability to Transfer (FOST) to transfer the southern half of the **Middlesex South, New Jersey, Site**, to the borough. This accelerated transfer supports a significant redevelopment plan by the borough and its Department of Public Works (DPW).

- The use of FOST for a FUSRAP property that is also currently on the National Priorities List is unprecedented. However, as all remedial actions are complete on the southern portion of the site, the team recognized that the transfer could be accelerated.
- LM granted an easement to the borough in order to construct a public road across the property. This road supports the borough's Lincoln Boulevard Redevelopment Plan by providing access to a new DPW building, repurposing the old DPW site for affordable housing, and enhancing traffic safety in the area.

Uranium Mill Tailings Radiation Control Act

Shiprock, New Mexico, Disposal Site.

In January, LM held a **kickoff meeting with USACE, Albuquerque District, Albuquerque, New Mexico**. Under a nationwide Memorandum of Agreement (MOA), USACE will repair erosion issues at the L-Bar site, located 10 miles north of Laguna Pueblo, as well as surface depressions at the Bluewater site, located 12 miles northwest of the city of Grants. Access to USACE resources via a nationwide nine-year MOA is helping accelerate the pace of project execution at L-Bar and Bluewater. LM subsequently broadened the agreement with USACE for support in addressing cell depression at the Durango, Colorado, Site and repair of the cell cover at the Mexican Hat, Utah, Site.

On Dec. 27, 2020, President Donald J. Trump signed the Consolidated Appropriations Act, 2021, which included reauthorization of the **Grand Junction, Colorado, Disposal Site** until Sept. 30, 2031. LM will continue to operate the disposal cell and plan closure activities to meet the new extended timeline.

LM partnered with the National Laboratory Network to focus on risk reduction at the **Shiprock and Bluewater, New Mexico, and Tuba City, Arizona, Disposal Sites**. LM collaborates through the Savannah River National Laboratory — the lead national laboratory providing technical support to DOE's management of contaminated sites remediation — to identify long-term strategies to minimize site-specific risks, lower LM's liability, and increase stakeholder confidence.

LM coordinated with Argonne National Laboratory to complete an Environmental Risk Assessment Update for the **Riverton, Wyoming, Processing Site**. The goal of the update was to determine whether current site conditions are protective of human health, within the context of traditional Native American cultural uses of plants, livestock, and wildlife. The update concluded that conditions at the site are protective of human health and the environment.

At the **Mexican Hat, Utah, Disposal Site**, LM completed the Interim Cover Protection project, working closely with the Navajo Nation Abandoned Mine Lands (AML)/Uranium Mill Tailings Remedial Action (UMTRA) Program.

- During an annual inspection of the disposal cell in 2016, inspectors discovered several shallow depressions on the northeastern side slope of the cell. An investigation indicated that the cell's radon barrier, which prevents emission of radon gas, was being impacted by erosive forces associated with runoff.
- A team of experts collaborated to remove the cell's rock cover and bedding layers to repair areas where erosion had degraded the radon barrier, then replace the bedding and original rock cover.
- Extensive preparation and planning took place to ensure the work was executed safely.

At the Mexican Hat, Utah, Disposal Site, LM completed the Interim Cover Protection project, working closely with Navajo Nation AML/UMTRA.

Mexican Hat, Utah, Disposal Site.

Canonsburg, Pennsylvania, Disposal Site

LM performed a one-year assessment of the health of more than 500 new trees and shrubs along the embankment of Chartiers Creek, which meanders along the north side of the **Canonsburg, Pennsylvania, Disposal Site**. The assessment found an approximate 98% survival rate, a result of the attention given to correctly planting the trees and shrubs and favorable weather conditions that helped the plants thrive. The vegetation will provide an expanded riparian buffer area to reduce the impact of future flooding, as well as improve stream quality.

LM distributed **500 informational postcards** to stakeholders in the vicinity of 25 Uranium Mill Tailings Radiation Control Act (UMTRCA) sites. The UMTRCA postcard is intended for local emergency responders, law enforcement, and other community members near LM sites. The postcard features a photo of the yellow sign used by LM to mark UMTRCA sites, with contact information for reporting vandalism, range fires, and other concerns.

LM closed out monitoring requirements associated with the **Highway 160 site, just north of the Tuba City Arizona, Disposal Site** after sampling and analysis efforts demonstrated no contamination. The no further action decision at this site reduces our environmental liability and costs.

These curious wild burros were spotted in the vicinity of LM's Tuba City, Arizona, Disposal Site.

Plowshare/Vela Uniform Program

LM concluded the last well abandonment project included in the LM Plowshare/Vela Uniform closure project at the **Bronco, Colorado, Site**. The LM Plowshare/Vela Uniform Program was designed to evaluate alternative peaceful civilian uses of atomic devices, such as large-scale rock removal. Project Bronco was a planned but never executed project designed for the application of nuclear explosives to fracture underground oil shale deposits. With the Bronco well abandonment complete, only one LM Plowshare/Vela Uniform site remains to be analyzed and have debris removed, as appropriate.

Bronco, Colorado, Site roadway immediately following reclamation.

Bronco, Colorado, Site well pad immediately after reclamation.

Nevada Offsites

The LM director of site operations and the **Amchitka, Alaska, Site** manager, along with LMSP contractors, met with representatives of the Alaska Department of Environmental Conservation in Anchorage from Jan. 22-23 to resolve remaining issues on the risk assessment work to be performed for drilling mud disposal sites on Amchitka Island.

- The drilling muds were associated with the three underground nuclear tests performed at Amchitka between 1964 and 1971.
- The Amchitka team developed and secured approval of the chemical sampling plan and geotechnical work from the Alaska Department of Environmental Conservation.
- COVID-19-related restrictions required postponing planned work until 2021.

On Sept. 30, DOE Office of Environmental Management (EM) transferred 70 remediated sites on Nevada's historic **Tonopah Test Range** (TTR) to LM for long-term stewardship, making it the 101st site added to the LM portfolio.

- LM is responsible for LTS&M at 10 TTR Corrective Action Sites (CASs). The remaining 60 sites require maintaining records only.
- The TTR CASs are located on land owned by the U.S. Bureau of Land Management (BLM) and managed by the U.S. Air Force.
- The accomplishment was completed in less than half the time initially estimated and represents the first EM Nevada Program to LM site transfer in 12 years.

In November, the Nevada Department of Environmental Protection (NDEP) notified LM that they had approved the final Closure Report for the **Project Shoal Area site in Nevada**. With this approval, NDEP acknowledged that all corrective actions are completed and LM will continue long-term stewardship activities, including groundwater sampling. The Project Shoal site was where an underground nuclear test was conducted in October 1963.

The U.S. Atomic Energy Commission, predecessor to DOE, began testing weapon systems, research rockets, and artillery on the Tonopah Test Range in 1956.

Tonopah Test Range, Nevada, Site, circa 1956.

Applied Studies and Technology Program

Applied Studies and Technology (AS&T) staff extracted multiple core samples from the disposal cell at the **Grand Junction, Colorado, Disposal Site** from March 16-20 as part of a study on cell cover conversion from rock to evapotranspiration.

- Core samples were taken through the cell cover, through the bedding material, to the bottom of the radon barrier. The data from these core samples will provide baseline measurements on current cell cover properties, before vegetation is established.
- The purpose of this research is to determine if allowing or enhancing a vegetation cover at a large scale, in-service disposal cell will provide adequate water evaporation to reduce leakage into the cell.

Grand Junction, Colorado, Disposal Site.

As part of the ongoing **AS&T Persistent Secondary Contaminant Sources project**, LM collaborated with a former Los Alamos National Laboratory (LANL) postdoctoral fellow at the University of Wisconsin, Milwaukee and two of his graduate students on a geochemical tracer test at the Riverton, Wyoming, Processing Site.

- The test provides an evaluation of the best techniques for determining uranium release rates from residual contamination.
- LM will use the data in reactive transport models to simulate natural flushing rates versus enhanced remedial options.
- Results will inform future decision-making on site remedial strategy approaches at Riverton and other LM sites.

Defense-Related Uranium Mines

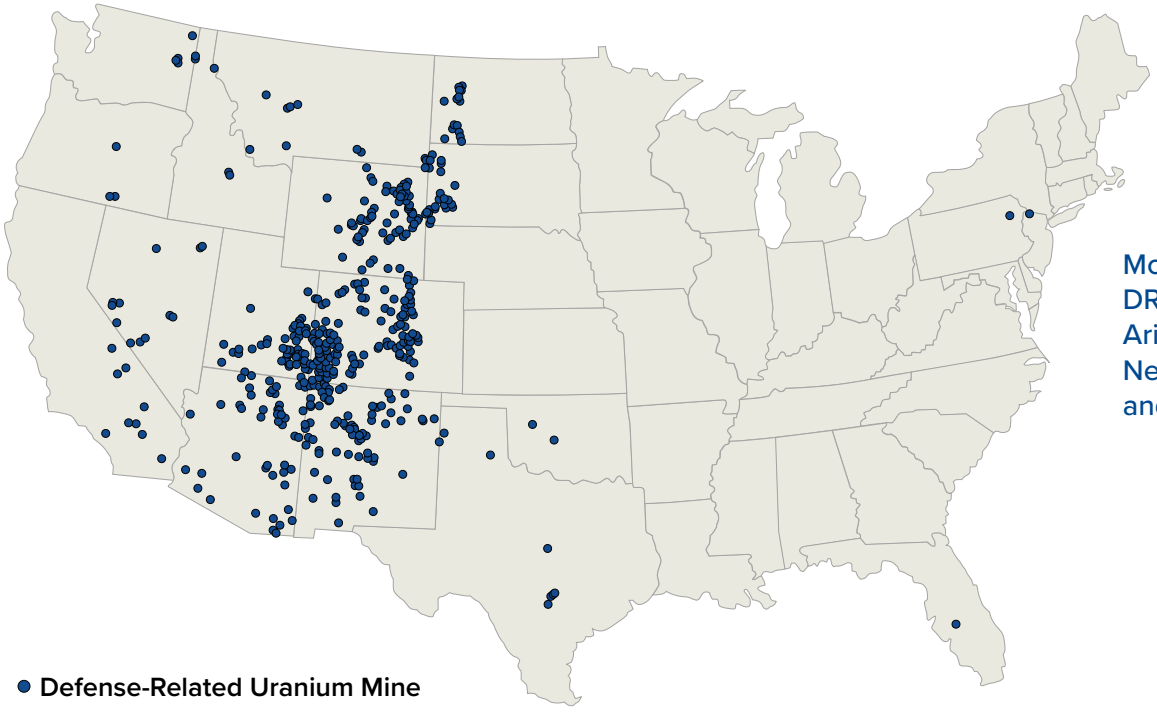
The DRUM Program passed a milestone in October with the acceptance of its **1,000 final verification and validation (V&V) report**. The reports, which contain data on abandoned mines that provided uranium ore to the federal government, provide LM's partner agencies with information to help them make decisions about how to address mines that pose a risk.

In October, LM established a cooperative agreement with **Bat Conservation International (BCI)**, a nonprofit based in Austin, Texas, to support the DRUM Program's safeguarding work at abandoned mines. Because abandoned mines are an important habitat for many bat species, BCI has developed expertise in addressing safety hazards at mines while preserving features for bats to use as roosting habitat. Under the agreement, BCI may conduct National Environmental Policy Act (NEPA) and cultural preservation reviews, as well as

design and install safeguard structures on LM's behalf if partner agencies are unable to do so.

Federal and state abandoned mine land agencies utilized DRUM V&V data collected over the past four years to identify and prioritize hazardous abandoned mines. **Physical safeguards**, such as bat gates at mine entrances that keep people out but allow bat access, were installed to mitigate risks posed by abandoned mines to the public.

- The first DRUM safeguarding project in Colorado was completed in October. Applying V&V data, the BLM Uncompahgre Field Office worked with the Colorado Division of Reclamation, Mining and Safety (DRMS) to safeguard 26 hazardous mine entries as part of the **Long Park pilot project**.
- In conjunction with DRMS and the BLM Tres Rios Field Office, the DRUM Team completed safeguarding of hazardous mine features for two other pilot projects located in southwest Colorado. The Klondike Basin project, with 24 hazardous features, and Bald Eagle project, with 12 features, were completed in fall 2020.
- In Utah, the DRUM Team worked closely with the Utah Abandoned Mine Reclamation Program (AMRP) and BLM Utah State office to improve public safety at abandoned uranium mines. Utah AMRP completed safeguard construction work in November at the **White Canyon and Deer Flat safeguarding project**; this project safeguarded 83 hazardous mine features in San Juan County. Utah AMRP also completed the Buckmaster Draw safeguard project in December, safeguarding 50 hazardous uranium mine entries in Emery County.



More than 90% of DRUM sites are in Arizona, Colorado, New Mexico, Utah, and Wyoming.

The DRUM Team joined a multiagency planning team to address uranium contamination on the Navajo Nation, as part of the **Navajo Nation 10-Year Plan**. The plan identifies the next steps for addressing health and environmental risks associated with the legacy of uranium mining and milling on the Navajo Nation.

- As part of the 10-Year Plan, the DRUM Team will work to verify, validate, and safeguard hazardous mine openings for approximately 293 abandoned uranium mine sites located on the Navajo Nation.
- DRUM will work closely with EPA, Navajo Nation EPA, and Navajo Nation AML/UMTRA department toward completing a new DRUM verification and validation work plan and risk-screening process based on risk scenarios and assumptions that are most appropriate for the Navajo Nation.

The DRUM Team hosted the **Abandoned Uranium Mines Working Group** (AUMWG) quarterly teleconferences and developed a presence for the group on the DRUM website.

- AUMWG is a consortium of federal agencies working together to address the human health, safety, and environmental challenges posed by the nation's approximate 4,225 abandoned mines resulting from legacy defense-related uranium mining.
- By marshaling and leveraging the resources of multiple federal agencies, the group works with states and tribes to identify and address high-priority mines in a coordinated manner.

Accomplishments and Achievements

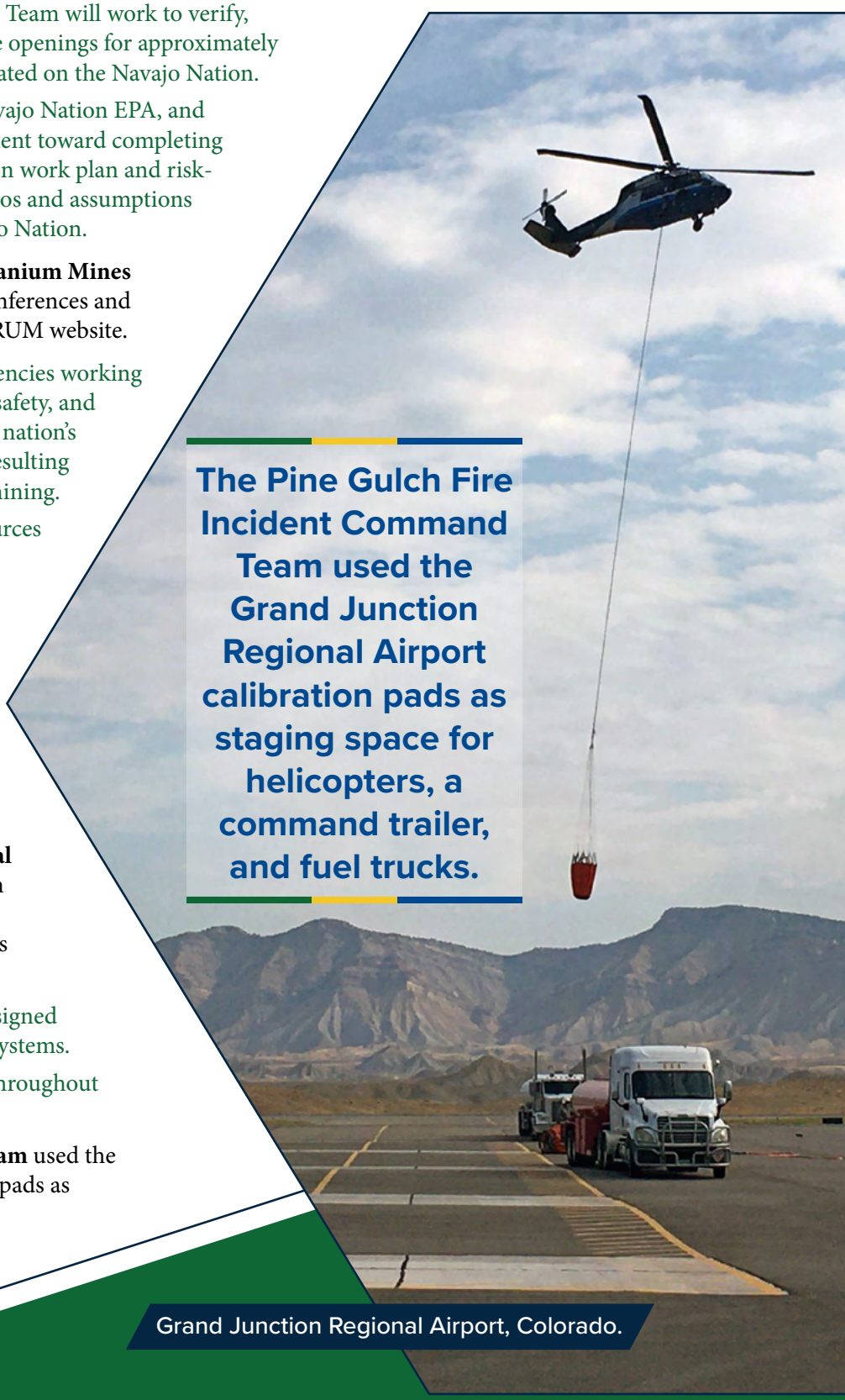
Calibration Pads

In June, the **National Nuclear Security Administration (NNSA) calibrated its Aerial Measuring System (AMS)** at LM's calibration pads at the Grand Junction Regional Airport. AMS is used to conduct radiation assessments via helicopter and airplane.

- The calibration pads are specifically designed for aircraft-mounted radiation sensor systems.
- LM manages five calibration facilities throughout the United States.

The **Pine Gulch Fire Incident Command Team** used the Grand Junction Regional Airport calibration pads as staging space for helicopters, a command trailer, and fuel trucks.

The Pine Gulch Fire Incident Command Team used the Grand Junction Regional Airport calibration pads as staging space for helicopters, a command trailer, and fuel trucks.



Grand Junction Regional Airport, Colorado.

RECORDS

In February, the LM Business Center in Morgantown, West Virginia, received the first collection of **records associated with TTR closed sites** from EM. More than 7,200 TTR documents and records were transferred to the LM records center for long-term stewardship. Records transfer was a key milestone in the TTR Site Transition Plan.

In February, LM and the DOE Office of the Chief Information Officer (OCIO) co-presented on the status of an **artificial intelligence proof of concept** to Deputy Secretary of Energy Mark W. Menezes. OCIO and LM are working collaboratively on the proof of concept, through the new DOE Innovation Community Center, to locate, identify, and assess the condition of departmental assets using photographs and to associate the resulting metadata with the photos. In June, LM's technical data manager briefed the National Academy of Sciences on a partnership between Google and the Department.

- This effort is facilitated by Google's Cloud Platform and its inherent artificial intelligence and machine learning tools.
- The automation of the manual tasks has the potential to increase departmental efficiency and quality of asset reporting.

The EM Nevada Program transferred more than 7,200 documents and records to LM for long-term stewardship of 70 sites on the Nevada Test and Training Range, including the Tonopah Test Range. This photo, taken earlier in 2020 prior to the COVID-19 pandemic, shows members of the EM Nevada Program and LMSP Team who shipped records to LM.

The Records and Information Team rolled out a new electronic content management system that changed LM's approach to records management. Called **Content Manager**, the new system allows all LM personnel to search across the system and add and retrieve records directly.

- The previous system, Documentum, was a closed repository maintained by information management staff, who would retrieve records information on request.
- LM is using tools to scan shared drives and integrate with SharePoint to identify important records and move them to Content Manager as appropriate.

LM completed 1,330 records requests in FY 2020.

LM Business Center in Morgantown, West Virginia.

BENEFITS

The **Legacy Management Post-Closure Benefits Program** includes the development, implementation, and oversight of the Department's policy concerning the continuation of contractor pension and medical benefits after the closure of applicable DOE sites and facilities. This includes oversight of the administration and management of legacy contractor benefits in a fiscally responsible and effective manner. The primary program objective is to ensure a seamless transition of benefits administration after closure. This program is handled by the Office of Business Operations within LM.

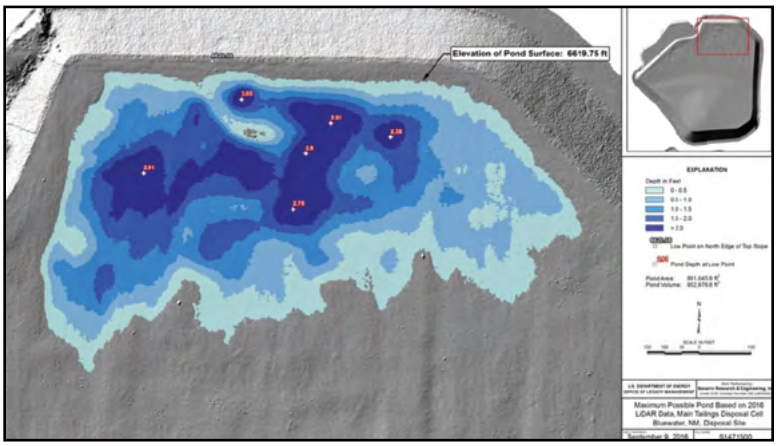
The primary program objective is to ensure a seamless transition of benefits administration after closure.

Accomplishments

In July, LM rolled out a new **Enterprise Asset Management System** program called ARCHIBUS. The system replaced LM's older personal property management system with a computerized maintenance management system for facility management, personal property management, and fleet management. It integrates all asset management data together in one place, eliminating the need for multiple databases and maximizing efficiency.

In August, LM signed and approved the final real estate transaction to acquire approximately 1.45 acres of easement rights in **Pinellas, Florida**, from the Southbrook Corporate Center. This was a major milestone at the Pinellas site toward achieving closure from the state regulators.

In August, LM submitted the final excess report for the **Colonie, New York, Site** to the U.S. General Service Administration's Region 1 (New England Region) Real Property Disposal office. This action moves the 11-acre site out of federal ownership and enables appropriate beneficial reuse.



This figure shows annual elevation changes determined from lidar data collected at LM's Bluewater, New Mexico, Disposal Site. Understanding the rate of these changes can inform LM's long-term surveillance and monitoring decisions.

The LM Asset Management Team established LM's **Aviation Management Program**. This program ensures that LM follows all federal orders on aviation management and helps LM safely manage multiple flights annually. The program ensures safety is incorporated into planning and execution efforts for manned flights and unmanned aircraft system (UAS, or drone) flights conducted at LM sites.

River Park at Las Colonias in Grand Junction, Colorado.

Beneficial Reuse

In March, the Beneficial Reuse Program issued an **Expression of Interest to construct or install cellular telecommunications equipment** at 27 potential sites. The posting will be used to gauge interest from telecommunications companies and support nationwide initiatives to expand cellular services in rural communities.

In April, LM released a **programmatic environmental assessment (PEA) (DOE/EA-2113),** ***Grazing Activities at Office of Legacy Management Sites***, to 1) evaluate the potential impacts from grazing activities at identified LM sites, and 2) establish grazing at other existing LM-owned sites under a programmatic planning framework. LM subsequently issued a Finding of No Significant Impact for a proposal to allow grazing reuse at seven of its sites — Ambrosia Lake, New Mexico; Bluewater, New Mexico; Burrell, Pennsylvania; Canonsburg, Pennsylvania; Falls City, Texas; Monticello, Utah; and Parkersburg, West Virginia — for purposes of traditional and nontraditional livestock grazing and to continue to allow traditional grazing at U.S. government-owned sites with current grazing agreements in place.

Two brothers ride a wave at the newly opened River Park at Las Colonias in Grand Junction, Colorado, adjacent to LM's former Grand Junction uranium-processing site. Following remediation, the state of Colorado transferred property ownership to the city of Grand Junction through a quitclaim deed in March 1997. The city of Grand Junction has since developed the area to include public parks and trails, an amphitheater, and now a river park on the Colorado River, featuring a lazy river, wave water features, and a beach with wading areas. (Photo by Bob Clarke.)

Uranium Leasing Program (ULP)

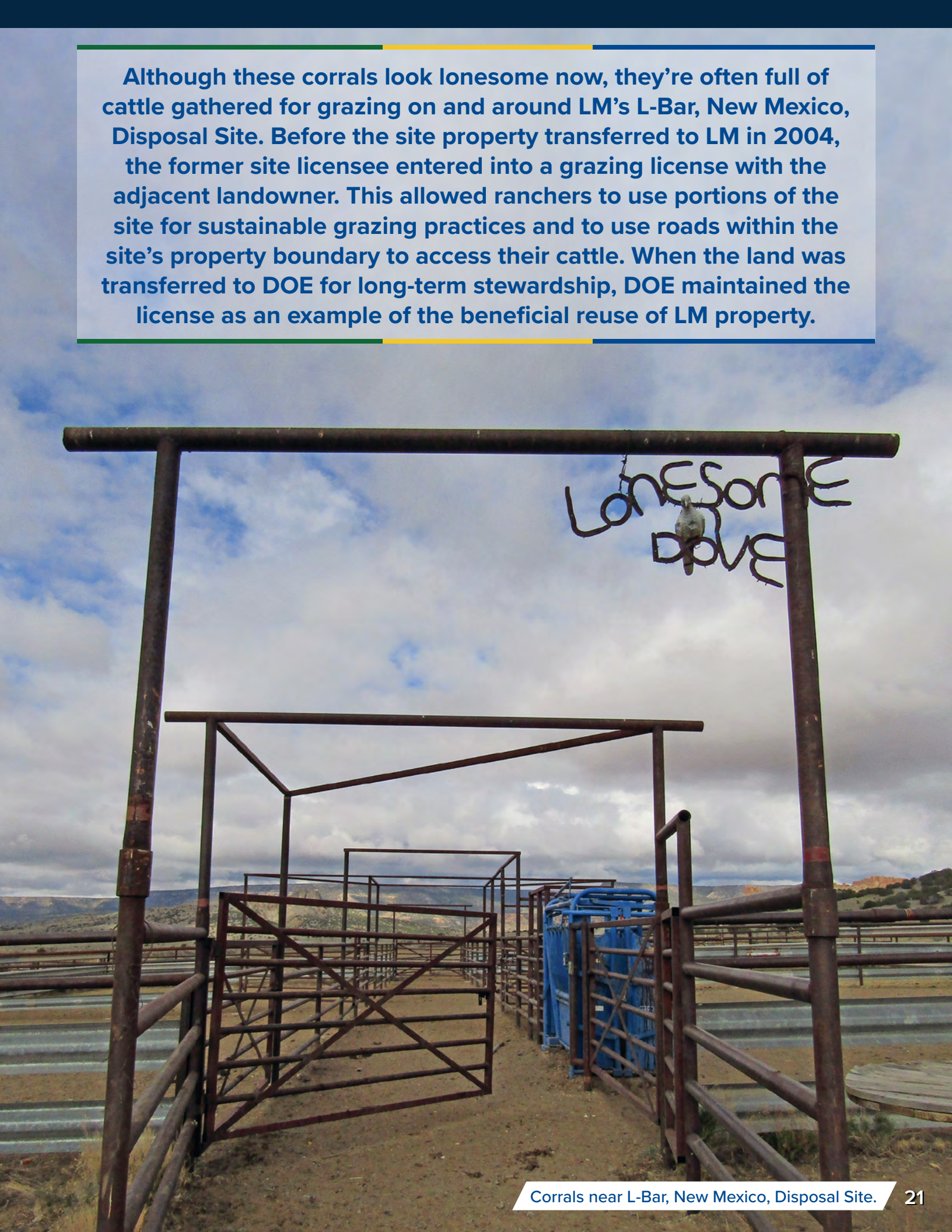
In July, **lessees signed agreements for the remaining active ULP tracts** (29 in total), opening the door to the exploration, development, and extraction of uranium and associated minerals in the Uravan Mineral Belt of southwest Colorado. The previous leases expired during a 2011-2018 injunction that froze lease activities until an evaluation of the DOE Programmatic Environmental Impact Statement (PEIS) was completed.

- The new leases contain all provisions detailed in the PEIS, including requirements for lessees to conduct evaluations, in accordance with the NEPA, prior to exploration and mining.
- Mining on the tracts will not resume immediately due to the current depressed market value of uranium and associated minerals.
- The new agreements provide the opportunity for the lessees to prepare exploration and mining plans, including site-specific environmental impact evaluations and mitigation plans, all of which DOE must approve before any mining can begin.

In August, LM **issued a draft Environmental Assessment (EA)**, with a 30-day public comment period, in accordance with the NEPA for proposed reclamation activities at the Burro Mines Complex located in the Slick Rock area of southwestern San Miguel County, Colorado. The BLM Tres Rios Field Office and DRMS were cooperating agencies for this EA.

Photos left to right:
Jack O' Lantern Mine Site ore bin,
New Ellison Mine, and
Wild Steer Mine ore bin.

Although these corrals look lonesome now, they're often full of cattle gathered for grazing on and around LM's L-Bar, New Mexico, Disposal Site. Before the site property transferred to LM in 2004, the former site licensee entered into a grazing license with the adjacent landowner. This allowed ranchers to use portions of the site for sustainable grazing practices and to use roads within the site's property boundary to access their cattle. When the land was transferred to DOE for long-term stewardship, DOE maintained the license as an example of the beneficial reuse of LM property.



Corrals near L-Bar, New Mexico, Disposal Site.

COVID-19 Response

On March 16, LM directed LMSP to **maximize telework flexibility** for the LMSP workforce due to the COVID-19 pandemic. By March 20, all field work at unoccupied LM sites, DRUM Program sites, and ULP lease tracts was halted, except for activities determined to meet the requirements for minimum safety (MINSAF) operations and activities. MINSAF refers to operations and activities deemed necessary for protection of human health and the environment and for facility security. By March 26, all LM-occupied sites were in MINSAF status. LM subsequently developed the *LM and Legacy Management Support Recovery Plan* to allow resumption of on-site activities, while also protecting its workforce and recognizing and adhering to the various federal, state, tribal, and local orders regarding COVID-19. These orders varied over time and by location.

The Asset Management Team **worked to keep LM's office environments safe** for a return to work, including procuring necessary supplies and equipment, contracting for additional sanitization of sites, increasing LM's fleet to accommodate fewer occupants in each vehicle, and working with the integrated project team to address workplace pandemic issues.

In July, the **Mesa County Health Department** visited the LM Grand Junction, Colorado, office site for a random inspection and questioning on COVID-19-related preparation and response. The inspection resulted in a 100% compliance rating.

Strategic Planning

In February, LM released the ***2020-2025 Strategic Plan***, which charts LM's path forward over the next five years. While the plan is similar in format to prior versions, LM's site management responsibilities have grown, and the office has adapted and improved performance. Read the *2020-2025 Strategic Plan*: www.energy.gov/lm/articles/lm-s-2020-2025-strategic-plan-released.

In October, LM released a new ***High Performing Organization (HPO) Plan***, which summarized the office's performance alongside HPO goals for fiscal years 2017-2020 and covered goals and milestones that LM will pursue as an HPO for fiscal years 2021-2025. Read the HPO: www.energy.gov/lm/articles/lm-intends-maintain-status-high-performing-organization.

Program Awards and Recognition

The Green Electronics Council awarded the **Electronic Product Environmental Assessment Tool (EPEAT) Purchaser Award** to LM. The award recognizes organizations for excellence in sustainable procurement of electronic equipment. LM successfully implemented a policy for environmentally preferable procurement.

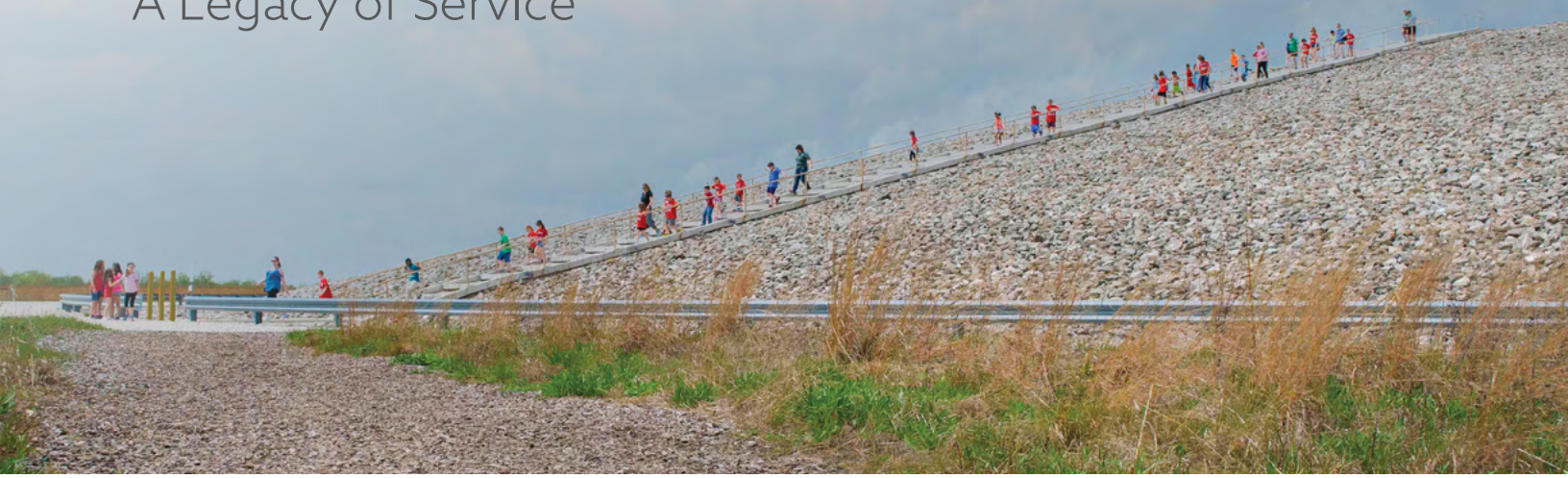
- LM earned a four-star rating.
- This marks six consecutive years of LM receiving the EPEAT award.

EPA awarded the **2020 National Federal Facility Excellence in Site Reuse** for National Priority List sites to the Weldon Spring Site in Missouri. The award recognizes the innovative thinking and cooperation among federal agencies, states, tribes, local partners, and developers that have led to noteworthy restoration and reuse of federal facility sites.

- The 228-acre Weldon Spring Site, located about 25 miles west of St. Louis, was revitalized for beneficial reuse as a community educational center and recreational site.
- The Weldon Spring Site Interpretive Center features exhibits designed to inform and educate the public about long-term stewardship and the site's historical legacy.

WELDON SPRING SITE

A Legacy of Service



LMSP was formally recognized with a **Star award within the DOE Voluntary Protection Program (VPP)**.

- The Star award is the highest level of VPP recognition.
- LMSP coordinated closely with LM to carry out extensive efforts in the areas of management leadership, employee involvement, work site analysis, hazard prevention and control, and safety and health training.

Collaborative Efforts

In August, LM signed updated terms and conditions for its **Memorandum of Understanding with USACE**.

- The memorandum was originally signed in 2018.
- Access to USACE resources via this memorandum helps accelerate the pace of project execution at LM sites.

In September, LM executed an interagency agreement with USACE Omaha District to provide planning and programming for Rapid Response Support to LM to respond to environmental emergencies at LM unoccupied or remote sites.

In October, LM and contractor staff met with staff from the **EM Moab Project Office** for a tour of the Grand Junction, Colorado, Disposal Site. LM and EM have a Memorandum of Agreement that fosters collaboration for the design of a vegetative cover for the Crescent Junction, Utah, Disposal Site.

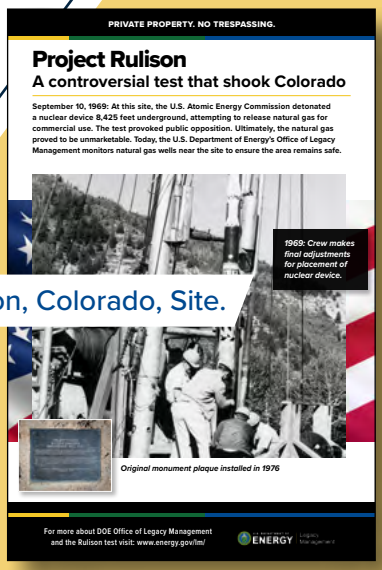
LM collaborated with **Gunnison County, Colorado**, to connect domestic residences with private water wells within the groundwater contamination boundary at the former Gunnison uranium mill site to a municipal water supply.

- A handful of homeowners with domestic wells in use before the site's cleanup continued to use those wells for drinking water.
- LM has monitored these wells annually to verify that mill-related contaminants have remained below EPA maximum concentration limits for the groundwater.
- LM worked closely with Gunnison County Public Works to provide funds to connect the residents to the water supply; excavation work began in November and will continue in spring 2021.

LM collaborated with Los Alamos County, LANL, the National Park Service, and local stakeholders to develop **wayside signage for the Point Weather Trail in Los Alamos**, overlooking the Bayo Canyon, New Mexico, Site.

LM collaborated with the private landowner to develop and install an **interpretive sign and site monument at the Rulison, Colorado, Site**.

Point Weather Trail wayside sign overlooking the Bayo Canyon, New Mexico, Site.



Interpretive sign at the Rulison, Colorado, Site.

Grand Junction, Colorado, Disposal Site.

LM Director's Travel

Due to the COVID-19 pandemic, Director Carmelo Melendez's travels were limited in 2020.

- January: Salmon, Mississippi, Site.
- February: Energy Solutions' Clive Disposal Facility in Clive, Utah.
- October: Oak Ridge, Tennessee — Oak Ridge EM's East Tennessee Technology Park Vision 2020 Event.

Philip C. Leahy Award Winners

The Philip C. Leahy Award recognizes employees who are outstanding team players. Leahy set up what is now LM's Grand Junction office, originally as part of the Manhattan Project. Leahy later served as the site's first manager under the U.S. Atomic Energy Commission.

Philip C. Leahy.

In 2020, seven staff members received the award out of 20 nominations. The recipients included **Jonathan Damiano**, **Bill Frazier**, **Jeanie Gueretta**, **Tashina Jasso, Josh Linard**, **Richard Rogers**, and **Sue Smiley**. After a thorough review, the award committee determined that both Rogers and Gueretta earned the **Employee of the Year Award**.

- Rogers and Gueretta were recognized for their hard work and dedication during a virtual town hall that was held in place of the annual All-Hands Awards Banquet, due to the response to the COVID-19 pandemic.
- Rogers, a member of the Financial Audits and Contracts Services (FACS) Team, led LM through an audit by the Government Accountability Office (GAO) and prepared LM's budget briefings for Congress.
- Gueretta is also a member of the FACS Team. Serving as the contracting officer's representative, Gueretta coordinated with all members of the LM organization to manage LM's multimillion-dollar support services contract.

Leadership Development

Communications Liaison Denise Freeman graduated with the first cohort of the DOE Leadership Development Program. The program was conducted by the Center for Leadership and Innovation at the University of Maryland, Baltimore from September 2019 to April 2020. Freeman was one of 40 DOE employees selected for the program designed to create a common language and consistent focus on strategic alignment across DOE leadership.

New Employees

Eric Boyle, DOE historian, transferred to LM from the Office of the Executive Secretariat. Boyle holds a Ph.D. in history and completed a postdoctoral fellowship at the National Institutes of Health, based on his background in the history of science, technology, and medicine. He worked at the National Museum of Health and Medicine as an archivist prior to joining DOE. He also teaches at the University of Maryland.

Giancarlo Deguia joined LM's Archives and Information Management Team. A veteran with 17 years of service, Deguia enlisted in the U.S. Army from his hometown of San Diego, California. He started his federal employment with the U.S. Department of Defense in January 2016 as a finance technician in the Pennsylvania Air National Guard.

Chuck Denton joined the DRUM Team. Denton has 25 years of federal service, including the U.S. Navy. He previously worked for BLM, U.S. Forest Service, and the National Park Service (NPS). He has project and program management experience, as well as supervision and management experience. He most recently served as the program manager for the NPS Pacific Region Abandoned Mine Lands Program.

Greg Kuntz joined LM in January after serving 32 years in the U.S. Navy (retiring as a lieutenant commander in 2011) and numerous positions in civilian government service. Kuntz is the new public affairs specialist assigned to the Grand Junction, Colorado, office. He will work with the Nevada Offsites Team and will be LM's crisis communications lead.

Nicole Olin joined the LM Asset Management Team and will be supporting environmental planning and NEPA document management activities. Olin has over 15 years of environmental site characterization, remediation, waste management, and compliance experience as a DOE contractor supporting the Nevada National Security Site and LM.

Mike Rozycki joined the LM Archives and Information Management Team. Rozycki's federal career started with his position as the cybersecurity program manager and supervisor at the DOE National Energy Technology Laboratory (NETL). Rozycki's prior experience includes time as a contractor for both NETL and LM, as well as more than a decade in telecommunications working as a project and program manager.

Ian Shafer joined LM's Uranium Mine Team. After graduation from Colorado Mesa University, he interned with LMSP and was hired as a DRUM Program field geologist, executing V&V procedures while also assisting with a variety of program directives.

Kate Whysner joined LM as a site manager. She came to LM from LMSP, where she supported the Shiprock, New Mexico, Disposal Site. Her prior experience is in remediation and civil construction sites, including former industrial and mining sites, coal ash pond closures, and municipal projects.

Sara Woods joined LM as a site manager. She began her career as an LMSP intern and earned a position in environmental compliance after graduation from Mesa State College (now Colorado Mesa University). Her experience is in environmental regulations, sustainability, waste management, and project management.

Mary Young joined LM as a physical scientist with the Uranium Mine Team in the DRUM Program. The assignment is her first federal position. Previously, Young served as a field team ecologist for LMSP supporting the DRUM Program.

Separations

This year, five employees separated from LM. LM appreciates the contributions and years of dedication by all those who have served the organization.

LM Interns and Fellows

LM hosted two summer interns through the **Mentorship for Environmental Scholars Program**, a collaborative effort between Pre-College University and DOE to increase minority awareness and participation in the environmental science disciplines.

Dejah Demetrice Carlock.

University of Arkansas at Pine Bluff student Dejah Demetrice Carlock completed a virtual internship focused on science, technology, engineering, and math (STEM) outreach.

Sierra Generette.

North Carolina Agricultural and Technical State University student Sierra Generette completed a virtual internship focused on the Nevada Offsites program.

Members of the **DOE Fellows Program from Florida International University** visited Colorado in October to learn more about LM's long-term stewardship activities.

- **Olivia Bustillo**, an environmental engineering student, is studying the reliability of apatite, a naturally occurring mineral in soils, to sequester uranium in groundwater.
- **Eduardo Rojas**, a mechanical engineering student, is studying how different remote sensing technologies can benefit long-term surveillance and monitoring at LM sites.
- The students visited four sites in Colorado, where they got a firsthand look at LM's operations and maintenance activities; they also received a comprehensive overview of LM's safety program, along with more detailed site safety briefings.

Members of the DOE Fellows Program from Florida International University visited Colorado in October to learn more about LM's long-term stewardship activities.

OLD LM ORGANIZATIONAL CHART

As of Jan. 1, 2020

LM 1

C. Melendez, Director

LM 2

P. O'Konski, Deputy Director
T. Atkins, Program Manager
M. Downing, Environmental Justice Program Manager

Executive Operations Team - LM 4

P. Poole-Shirriel, Supervisor
C. Johnson-Freeman, Program Analyst
R. King, Correspondence Specialist
E. Jackson, Staff Assistant
E. Valencia, Staff Assistant
Q. Clyburn, Program Analyst

Communication, Education, and Outreach Team - LM 3

K. Holmes, Supervisor
K. Edson, Public Participation Specialist
P. Benson, Program Analyst
D. Freeman, Communications Liaison
S. Montgomery, Public Participation Specialist

Office of Business Operations - LM 10

T. Smith-Taylor, Director
T. Collins, Business Operations Specialist

Archives and Information Management Team - LM 11

E. Parks, Supervisor
T. Kichi, IT Specialist
R. Walker, IT Specialist
M. Garrett, Program Analyst
J. Linard, Program Analyst
K. Brown, IT Specialist

Financial, Audits, and Contracts Services Team - LM 12

I. Colbert, Supervisor
J. Chinkhota, Financial Analyst
R. Rogers, Budget Analyst
L. Martin, Budget Analyst
J. Austin, Project Controls Analyst
T. Johnson, Financial Analyst
N. Pino, Financial Analyst
J. Gueretta, Management Analyst
C. Haggard, Financial Analyst

Asset Management Team - LM 13

B. Sokolovich, Supervisor
E. Holland, Property Management Specialist
J. Chavez, Physical Scientist
P. Robinson, Realty Specialist
G. Cummings, Facilities Manager
D. McNeil, Realty Specialist
O. Akers, Industrial Property Management Specialist
D. Steckley, Physical Scientist

Office of Site Operations - LM 20

D. Shafer, Director
D. Tan, EPS Site Operations

ESHQ Group

J. Damiano, Quality Assurance Specialist
T. Ribeiro, Environmental Protections Specialist
B. Stewart, Industrial Hygienist

UMTRCA/NVOS Team - LM 21

P. Kerl, Supervisor
A. Kleinrath, General Engineer
M. Kautsky, Hydrologist
J. Dayvault, General Engineer
J. Nguyen, Physical Scientist
A. Denny, Physical Scientist
W. Frazier, General Engineer
B Tsosie, General Engineer
K. Kreie, Physical Scientist
T. Jasso, Physical Scientist

RCRA/CERCLA/FUSRAP Team - LM 22

G. Hooten, Supervisor
S. Surovchak, Physical Scientist
C. Carpenter, General Engineer
K. Starr, General Engineer
D. Castillo, General Engineer
S. Smiley, Physical Scientist
J. Murl, Physical Scientist
A. Keim, Physical Scientist
B. Zimmerman, Physical Scientist

Uranium Mine Team - LM 23

J. Glascock, Supervisor
D. Barr, Physical Scientist
B. Lewis, Physical Scientist
C. Gauthier, Physical Scientist

CURRENT LM ORGANIZATIONAL CHART

As of Dec. 31, 2020

LM 1

C. Melendez, Director

LM 2

P. O'Konski, Deputy Director
T. Atkins, Program Manager
M. Downing, Environmental Justice Program Manager
P. Poole-Shirriel, Management Analyst

Executive Operations Team - LM 4

C. Johnson-Freeman, Program Analyst
Q. Clyburn, Program Analyst

Communication, Education, and Outreach Team - LM 3

K. Holmes, Supervisor
P. Benson, Program Analyst
D. Freeman, Communications Liaison
S. Montgomery, Public Participation Specialist
G. Kuntz, Public Participation Specialist
E. Boyle, Historian

Office of Business Operations - LM 10

T. Smith-Taylor, Director
T. Collins, Business Operations Specialist

Archives and Information Management Team - LM 11

E. Parks, Supervisor

R. Walker, IT Specialist
R. King, Correspondence Specialist
M. Garrett, Program Analyst
J. Linard, Program Analyst
K. Brown, IT Specialist
C. Rozycki, IT Specialist
G. Deguia, Records/Information Management Specialist

Financial, Audits, and Contracts Services Team - LM 12

I. Colbert, Supervisor

J. Chinkhota, Financial Analyst
R. Rogers, Budget Analyst
L. Martin, Budget Analyst
J. Gueretta, Management Analyst
E. Jackson, Staff Assistant
J. Murl, Project Contractor
J. Austin, Project Contractor

Asset Management Team - LM 13

B. Sokolovich, Supervisor

E. Holland, Property Management Specialist
J. Chavez, Physical Scientist
P. Robinson, Realty Specialist
G. Cummings, Facilities Manager
D. McNeil, Realty Specialist
O. Akers, Industrial Property Management Specialist
D. Steckley, Physical Scientist
N. Olin, Physical Scientist Event Planner

Office of Site Operations - LM 20

D. Shafer, Director
D. Tan, EPS Site Operations

ESHQ Group

J. Damiano, Quality Assurance Specialist
T. Ribeiro, Environmental Protections Specialist
B. Stewart, Industrial Hygienist

UMTRCA/NVOS Team - LM 21

P. Kerl, Supervisor

A. Kleinrath, General Engineer
M. Kautsky, Hydrologist
J. Dayvault, Hydrologist
J. Nguyen, Physical Scientist
A. Denny, Physical Scientist
W. Frazier, General Engineer
B Tsosie, General Engineer
K. Kreie, Physical Scientist
T. Jasso, Physical Scientist
S. Woods, Physical Scientist

RCRA/CERCLA/FUSRAP Team - LM 22

G. Hooten, Supervisor

C. Carpenter, General Engineer
K. Starr, General Engineer
D. Castillo, General Engineer
A. Keim, Physical Scientist
B. Zimmerman, Physical Scientist
K. Whysner, Physical Scientist

Uranium Mine Team - LM 23

J. Glascock, Supervisor

D. Barr, Physical Scientist
B. Lewis, Physical Scientist
C. Denton, Physical Scientist
M. Young, Physical Scientist
I. Shafer, Physical Scientist

2020 Program Budget

TOTAL LEGACY MANAGEMENT BUDGET - $162,029,000

$60,976,000

GOAL 1

Protect Human Health and the Environment.

$50,300,000

GOAL 3

Safeguard Former Contractor Workers' Retirement Benefits.

$19,262,000

GOAL 5

Sustain Management Excellence.

$17,737,000

GOAL 2

Preserve, Protect, and Share Records and Information.

$9,824,000

GOAL 4

Sustainably Manage and Optimize the Use of Land and Assets.

$3,930,000

GOAL 6

Engage the Public, Governments, and Interested Parties (includes Environmental Justice).

Fiscal Year 2021 LM Budget Request

On Feb. 10, DOE rolled out its FY 2021 budget request, which includes approximately $317 million for LM. More information available at: www.energy.gov/lm/articles/office-legacy-management-fiscal-year-2021-budget-request.

DEPARTMENTAL PROGRAMS

LM hosts three key Department-wide programs: the DOE History Program, the Environmental Justice Program, and the Manhattan Project National Historical Park.

DOE History Program

The Department transferred the DOE History Program to LM from the Office of the Executive Secretariat. The History Program provides historical information and services, supports the DOE Federal Preservation Officer, and offers subject matter expertise for DOE's historical records and reference material.

Environmental Justice

The DOE Environmental Justice (EJ) Program is committed to ensuring that all DOE programs, policies, and activities apply fair treatment and meaningful involvement to all people, regardless of race, color, national origin, or income.

DOE co-sponsored the **Community Leaders Institute (CLI)** in Jedberg, South Carolina, in January. DOE's EJ program manager provided introductory remarks. CLI included over 150 registered participants, including representatives from EPA Region 4, South Carolina Department of Environmental Conservation, Medical University of South Carolina, and Allen University.

Congressman James Clyburn (South Carolina, 6th District) provides remarks at the Jedburg CLI.

In August, the LM staff joined representatives from EPA and the Federal Highway Administration as panelists on a webinar, **"Meaningful Engagement for Environmental Justice Without Public Meetings."**

- The panel provided an update on EJ and explored promising practices for reaching traditionally underrepresented communities and bridging the digital divide.
- More than 600 participants registered to participate.

LM's EJ program manager served as a virtual speaker at the **25th anniversary of the Teaching Radiation, Energy and Technology (TREAT)** workshop in Aiken, South Carolina, in August.

- The goal of TREAT is to educate kindergarten through 12th grade teachers, students, and members of the community who reside near the DOE Savannah River Site about radiation.
- The TREAT workshop was capped at 20 teacher participants due to restrictions related to the COVID-19 pandemic.

The goal of TREAT is to educate kindergarten through 12th grade teachers, students, and members of the community who reside near the DOE Savannah River Site about radiation.

TREAT workshop participants.

LM staff joined EPA and U.S. Department of Transportation in a **virtual EJ town hall** in August to discuss emerging guidance from the Council on Environmental Quality on the application of NEPA.

- The event attracted nearly 2,000 participants and fostered an exchange of ideas and information.

In October, the EJ program manager and communications liaison participated in the virtual **2020 National Environmental Justice Conference and Training Program**.

- DOE co-sponsored this annual event.
- This year's conference theme was "Enhancing Communities Through Capacity Building and Technical Assistance, Addressing Environmental Justice in Uncertain Times."

Manhattan Project National Historical Park

The Manhattan Project National Historical Park (MAPR) is managed through a collaborative partnership between NPS and DOE to preserve, interpret, and facilitate access to key historical resources associated with the Manhattan Project. The park incorporates three of the most significant Manhattan Project sites: Oak Ridge, Tennessee; Los Alamos, New Mexico; and Hanford, Washington. The various interpretive centers and facilities associated with the park are managed by several different organizations.

As the Department's principal representative for MAPR, LM is responsible for coordinating with NPS and among DOE program offices spread across the three main locations.

At **Los Alamos**, significant preservation work by LANL was accomplished at V-Site, Gun Site, and the Slotin Building. NPS preservation expertise was leveraged, as appropriate. Due to the COVID-19 pandemic, public site tours were put on hold.

At **Hanford**, seasonal preservation and maintenance activities on B Reactor continued, including tackling some significant asbestos removal and re-roofing a small "add on" section of the facility that now provides an office space for facility staff. Due to the COVID-19 pandemic, DOE public tours of B Reactor and the Pre-Manhattan Project sites were put on hold.

Nuclear reactors line the riverbank at the Hanford site along the Columbia River in January 1960. The historic B Reactor, the world's first plutonium production reactor, is visible in the distance.

At **Oak Ridge**, in February, DOE celebrated the grand opening of the K-25 History Center, which complements the MAPR K-25 Site. Due to the COVID-19 pandemic DOE, public bus tours were put on hold and the K-25 History Center closed to the public in March.

- Building 9731 upgrades, with consultation from NPS and the Tennessee SHPO, were implemented by NNSA, which will support its new mission as a training facility. Renovations to the second floor restrooms at the X-10 Graphite Reactor were completed with approval by Tennessee SHPO and in compliance with the Americans with Disabilities Act of 1990.

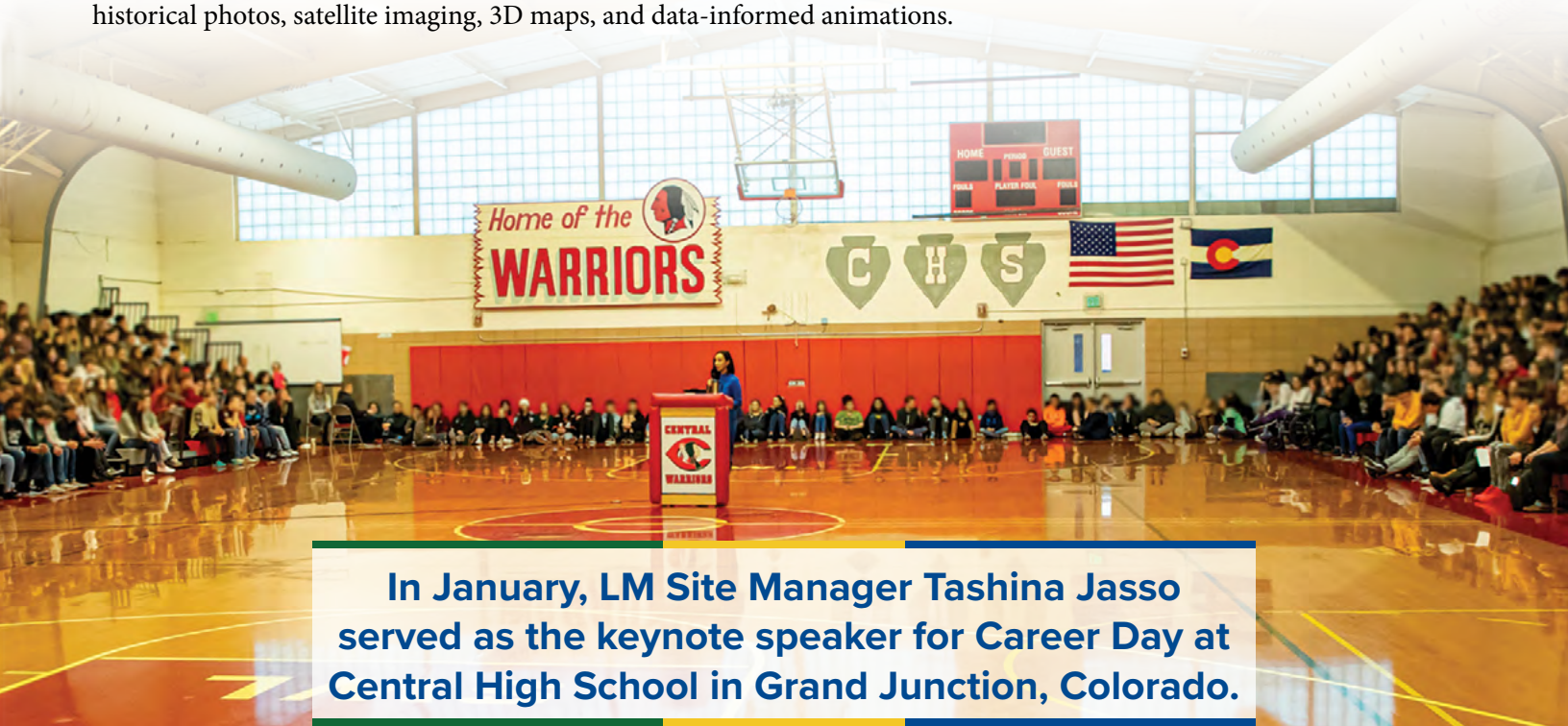
Visitors to the K-25 History Center can learn about the site's past.

Selected Engagements and Outreach Events

In January, LM Site Manager Tashina Jasso served as the keynote speaker for **Career Day at Central High School in Grand Junction, Colorado**. She encouraged the audience of nearly 900 students to start exploring their interests and career options early, stressing the importance of keeping options open, considering different paths of postsecondary education (including the military and trade/vocational schools), and securing internships.

In February, LM and LMSP contractors operated a booth and delivered a presentation at the **22nd annual Alaska Forum on the Environment (AFE)** at the Dena'ina Center in Anchorage, Alaska. AFE is an annual gathering of environmental professionals, representatives from government agencies, nonprofit and for-profit business leaders, Alaska youth, conservationists, biologists, and community elders.

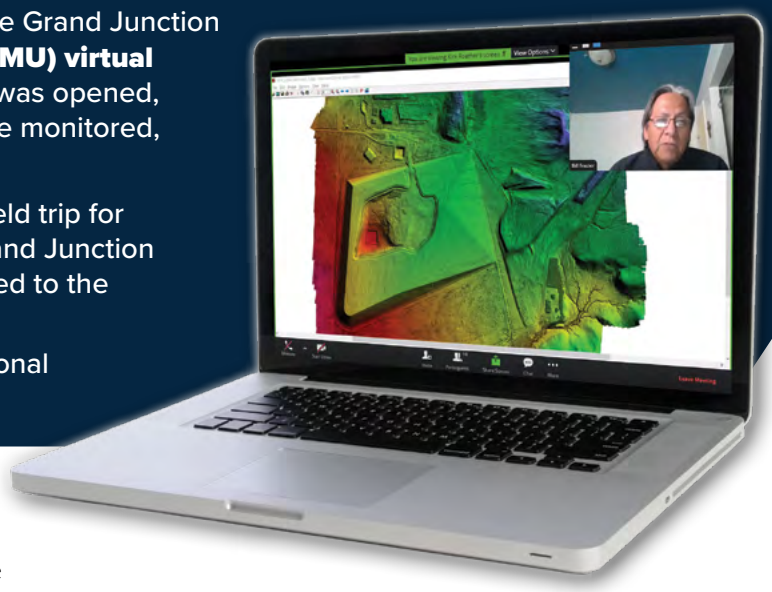
In March, the Geospatial Team in the LM Environmental and Spatial Data Management (ESDM) Program produced a **story map of the Colonie, New York, Site**. Story maps are interactive geospatial tools that combine maps with text, images, and multimedia content to convey a story about a topic, such as the history of an LM site or project. The story of environmental remediation and beneficial reuse at Colonie comes to life in the story map through a combination of historical photos, satellite imaging, 3D maps, and data-informed animations.



In January, LM Site Manager Tashina Jasso served as the keynote speaker for Career Day at Central High School in Grand Junction, Colorado.

In April, the LM site manager and LMSP site lead for the Grand Junction disposal cell joined two **Colorado Mesa University (CMU) virtual classes** to field questions about why the disposal site was opened, how much waste it has received, how contaminants are monitored, and what precautions site personnel take.

- The sessions were arranged after a scheduled field trip for CMU environmental sciences students to the Grand Junction disposal site was called off, due to closures related to the COVID-19 pandemic.
- This was the first time LM participated in educational outreach in an online format.



In July, LM provided a virtual booth at the **Los Alamos ScienceFest week**. Due to the COVID-19 pandemic, the event was virtual. This marked LM's first participation in the annual ScienceFest.

In September, LM staff members served as panelists for a webinar, **"The 'New NEPA' and the Future of Public Involvement,"** along with representatives of the Ohio Department of Transportation and EPA. The event attracted 500 participants and fostered an exchange of ideas and information from federal and state government officials, academia, and other stakeholders on methods to improve community outreach and involvement when assessing environmental impact.

In October, LM participated in the **EPA National Federal Facility Excellence in Site Reuse Award Virtual Ceremony** for LM's Weldon Spring Site.

LM presented at a virtual **Nevada Site Specific Advisory Board (NSSAB)** meeting in May.

- NSSAB is a part of the EM Site-Specific Advisory Board, a stakeholder board that provides the Assistant Secretary for Environmental Management and designees with independent advice, information, and recommendations on issues affecting the EM program at various sites.
- LM provided the group an update on the status of the TTR sites transition from EM to LM, in addition to an overview of the broader LM mission.

Selected Tribal Engagement

In January, LM presented to the **Diné Uranium Remediation Advisory Commission (DURAC)** and the local community on the status of the Shiprock, New Mexico, Disposal Site Environmental Assessment (EA) and the path forward for the groundwater treatment evaporation pond to members of the community.

- The presentation at the Shiprock Chapter House focused on the comments received as part of the EA-scoping process that concluded in December.
- LM addressed incorporating Traditional Ecological Knowledge in relation to the cultural use of plants in the floodplain that may overlie an area of contaminated groundwater and how it could affect traditional plant gathering in the community.

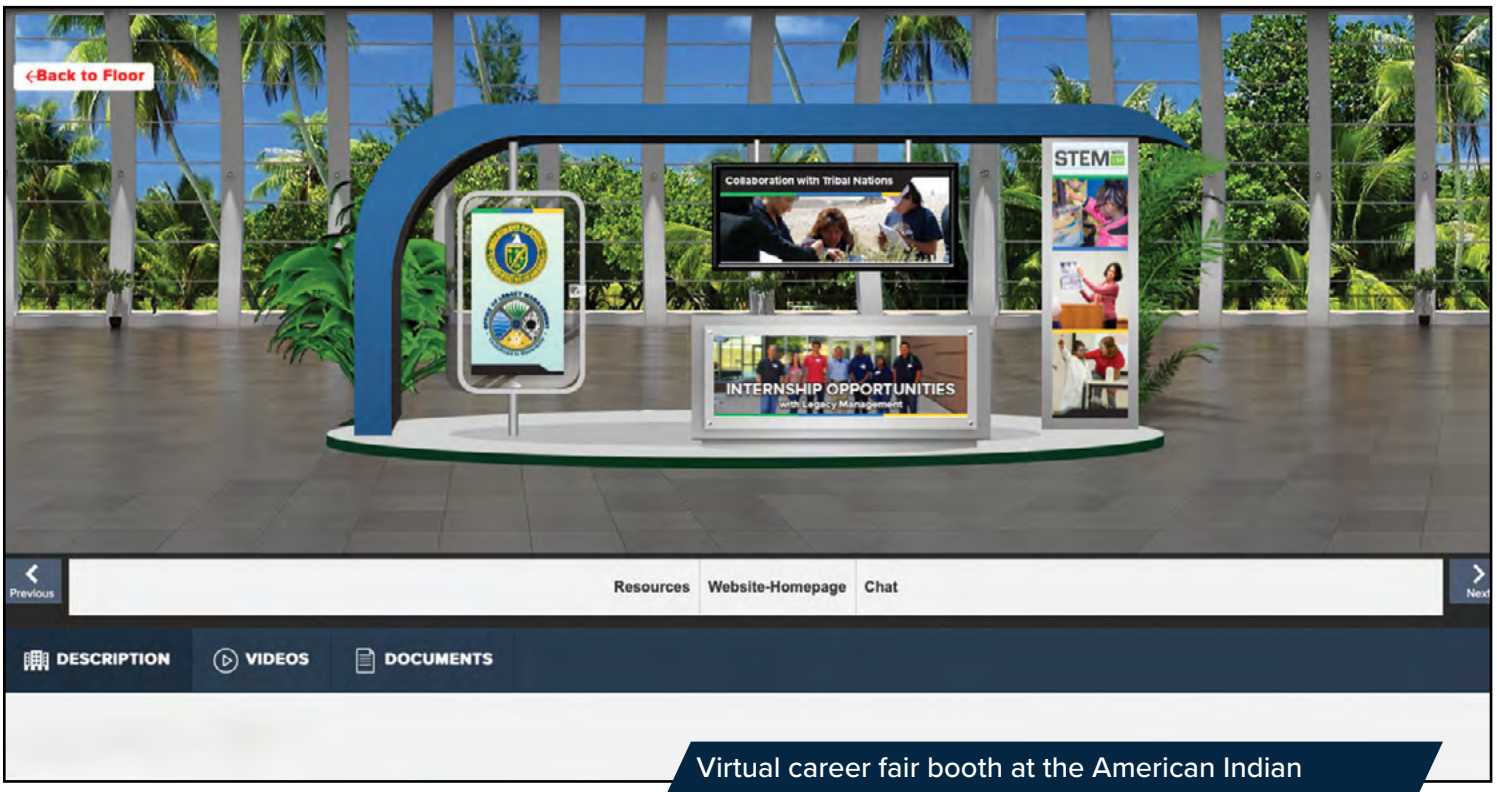
DURAC presentation in Shiprock, New Mexico.

In February, an LM site manager participated in **Career Day at Bloomfield High School**, in Bloomfield, New Mexico, near the Navajo Nation.

- The manager joined a booth hosted by her alma mater, New Mexico Tech, and demonstrated how contamination flows into an aquifer system.

In August, LM participated in a virtual consultation meeting for the ***Ten-Year Plan to Address Uranium Contamination on Navajo Lands*** with members of the Navajo Nation Council and multiple federal agencies, including the U.S. Department of the Interior, EPA, and NRC, to continue developing the comprehensive plan. LM manages four sites on the Navajo Nation: Monument Valley and Tuba City, Arizona; Mexican Hat, Utah; and Shiprock, New Mexico.

In October, LM operated a virtual career fair booth at the **American Indian Science and Engineering Society (AISES) National Conference**. The AISES National Conference, which attracts attendees from the United States and Canada, is the premier event for Indigenous STEM professionals and students, focusing on educational, professional, and workforce development.



Virtual career fair booth at the American Indian Science and Engineering Society National Conference.

Selected Governmental Engagement

In March, Director Melendez joined a virtual meeting involving **representatives of Los Alamos County, New Mexico, and NNSA** to learn about the county's priorities for FY 2021 and how they relate to the federal government.

In April, LM **met virtually with the San Miguel County Board of County Commissioners** to address questions regarding ULP, DRUM, and a planned reclamation project for the Burro Mines Complex in relation to San Miguel County, Colorado.

In August, LM completed the **Report to Congress, *Monticello Mill Tailings Site and Monticello Vicinity Properties: Remediation and Public Health Summary Status, Monticello, San Juan County, Utah***. The report was in response to a request in the House Appropriations Committee report accompanying the Energy and Water Development and Related Agencies Appropriations Act for FY 2020, H.R. Rep No. 116-83, at 108 (2019).

On Oct. 20, the Nevada Offsites program manager joined the Under Secretary for Science to attend an event in Nevada **commemorating the transition of 70 TTR sites** from EM to LM. The event was hosted by the NNSA/Nevada Field Office and EM Nevada.

- Participants included senior officials from the Under Secretary's office and officials from both NNSA and EM field offices.
- The visit included a site tour of the Nevada National Security Site, several driving briefings, and a TTR transfer presentation.

In December, LM's **Archives and Information Management (AIM) Team** met with members of the United Kingdom's Nuclear Decommissioning Authority on the management, digitization, and preservation of atomic and nuclear legacy files.

- The main topic of discussion was a self-assessment tool developed and deployed by the Digital Preservation Coalition, known as the Rapid Assessment Model. The model has been utilized by members of the International Atomic Energy Agency (IAEA) to support preservation and optimization of atomic legacies into the future.
- This collaborative effort on management, digitization, and preservation of atomic and nuclear legacy files is the first of its kind between the United States, United Kingdom, and IAEA.

In December, LM staff participated in an IAEA Technical Information Exchange Meeting on in situ demolition. This virtual meeting focused on international best practices for in situ decommissioning, disposal, and disposition of reactors. Staff presented on the Hallam, Nebraska; Piqua, Ohio; and BONUS, Puerto Rico, decommissioned reactor sites.

LM and researchers from the Lawrence Berkeley National Laboratory (LBNL) Environmental Remediation and Water Resources Program met with the **Garfield County** Board of County Commissioners to discuss previous and ongoing research projects at the Rifle, Colorado, Disposal/Processing Site.

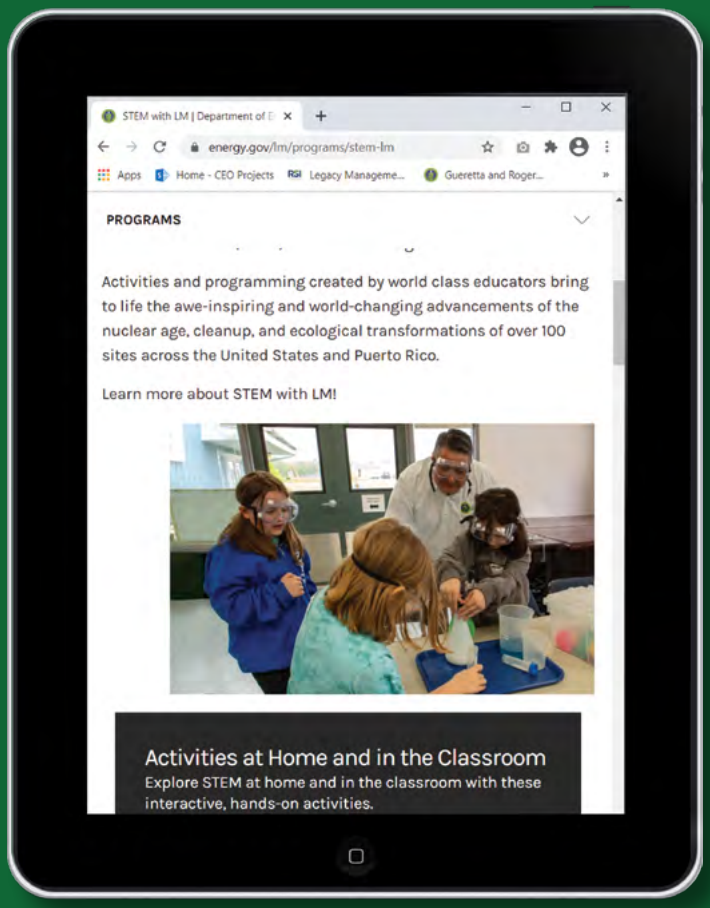
STEM with LM

LM participated in the **Research and Technology Investment Committee (RTIC)** meeting on STEM education in February. RTIC was established in 2019 to bring together the key elements of DOE that support research and development activities, coordinate their strategic research priorities, and identify potential crosscutting opportunities in both basic and applied science and technology.

- During the one-day workshop, each DOE program highlighted its major STEM programs, efforts, and objectives.
- LM provided an overview of LM STEM outreach and education activities, including internships, work- and course-based training, curriculum development, AS&T fellowships, STEM competitions, and hiring programs.
- LM staff serve on the new **DOE RTIC STEM Working Group**.

LM **published the STEM with LM webpage** (**www.energy.gov/lm/stem-lm**) on Earth Day's 50th anniversary, April 20, to showcase its robust STEM program.

- The webpage is a resource for students, educators, and parents to use at home and in the classroom. It provides interactive, hands-on activities, links to educational resources, and downloadable materials.
- The webpage also links visitors to information on LM's public interpretive centers and career and internship opportunities.
- Part of STEM with LM's digital outreach includes regular social media posts to direct followers.



LM led and supported numerous activities and initiatives as part of its STEM with LM program, both virtually and in person.

- On the Navajo Nation, LM staff participated in **three STEM-sation events**, presenting groundwater activities and mentoring students on STEM careers.
- In **Grand Junction**, LM participated in **numerous local STEM events** during the year, including science demonstrations and school career days, after-school programs, mobile learning labs, geology presentations at the Atomic Legacy Cabin, events at Colorado Mesa University, and more.
- At Weldon Spring, LM staff partnered with the **St. Louis Community College's Science Club** "STEM Night" to present hands-on opportunities for more than 100 children and families. LM participated in five other local school STEM events early this year as well.

In January, students at Central High School in Grand Junction, Colorado, learned about careers in hydrology, ecology, soil science, and radiation control.

Interpretive Centers

LM's three interpretive centers — the Fernald Preserve Visitors Center (Ohio); the Weldon Spring Site Interpretive Center (Missouri); and the Atomic Legacy Cabin (Grand Junction, Colorado) — closed to the public beginning in March 2020, in response to the COVID-19 pandemic. The temporary closure meant that many of LM's annual public events and activities, such as Earth Day celebrations and Monarch Madness, were canceled. The interpretive centers remained closed to public engagement through 2020 while shifting efforts to focus on virtual programs and activities.

- At **Fernald Preserve**, LM presented programs to stakeholders on urban coyote behavior, the elusive residential southern flying squirrel, a winter super moon, American woodcock courtship flights, and late-winter amphibian activity prior to shutdown of Interpretive Services in March. Fernald Preserve also hosted Beaver Week via social media and a Pages to the Past Call-In Book Club that featured books related to America's historic atomic weapons production program.
- At **Weldon Spring**, the Girl Scouts of Eastern Missouri held a virtual troop roundup in October. In addition, construction continued on a new, state-of-the-art interpretive center, featuring an exhibit hall, expanded meeting room space, and office space, anticipated to open in 2021.

At Weldon Spring, construction continued on a new, state-of-the-art interpretive center scheduled to open in 2021.

- At the **Atomic Legacy Cabin**, LM reached out to Grand Junction-area middle school science teachers as part of Nuclear Science Week (NSW), celebrated Oct. 19-23, to take part in LM's online program, "Radiation — Energy in Motion." Included in the program was a video about radiation safety from one of LMSP's radiation control experts, as well as an educational packet with activities and other information on NSW. LM also offered giveaway bags to the first 400 students who participated.

Cultural Resources Management

National Historic Preservation Act of 1966 (NHPA) Compliance

Section 106 of NHPA requires federal agencies to consider the effects of their work on historic properties. Agencies must grant the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. If the responsible federal agency determines its work could potentially affect historic properties, it must consult with the appropriate State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO).

LM initiated Section 106 consultation for eight locations in 2020. LM completed most of these consultations in 2020. LM continued Section 106 consultation that was initiated in 2019 for the potential adverse effects of the proposed demolition at the Piqua, Ohio, Decommission Reactor Site. A draft Memorandum of Agreement was prepared for the Piqua site, to which ACHP was invited to participate and declined. LM initiated consultation with the Navajo Nation on streamlining consultation for four LM locations within the Navajo Nation (Shiprock, Tuba City, Monument Valley, and Mexican Hat).

LM Site	Consulted Historic Preservation Officers and Tribes	# of 106 Consultations Initiated	# of 106 Consultations Completed
Tuba City, Arizona Shiprock, New Mexico Monument Valley, New Mexico Mexican Hat, Utah	Navajo Nation Heritage & Historic Preservation Department (Navajo Nation THPO)	1	0
Naturita, Colorado	Colorado SHPO	1	1
Project Bronco, Colorado	Colorado SHPO	1	1
Burro Mine, Colorado	Colorado SHPO	1	0
Rulison, Colorado	Colorado SHPO	1	1
Bluewater, New Mexico	New Mexico SHPO	0	1

Section 110 of NHPA asks all federal agencies to establish historic preservation programs for the identification, evaluation, and protection of historic properties.

- A historic property survey of the Rulison, Colorado, Site was submitted to the Colorado SHPO for review and comment.
- A historic property survey was prepared for the Burro Mine reclamation project in southwestern Colorado and submitted to the Colorado SHPO for review and comment. The Colorado SHPO concurred with LM that Burro Mine is historic.

When necessary, LM conducts **archaeological surveys** to identify if there are any prehistoric and historic archaeological resources that could be affected by an undertaking.

- LM completed a 100-acre archaeological survey at the Monument Valley, Arizona, Processing Site in support of ongoing groundwater sampling well development. The survey results were shared with the Navajo Nation THPO.
- LM collaborated with the U.S. Bureau of Land Management (BLM) on an archaeological field inventory of 93 acres at the Burro Mines Complex in Burro Canyon, San Miguel County, Colorado, in support of the Burro Mine Reclamation Project.

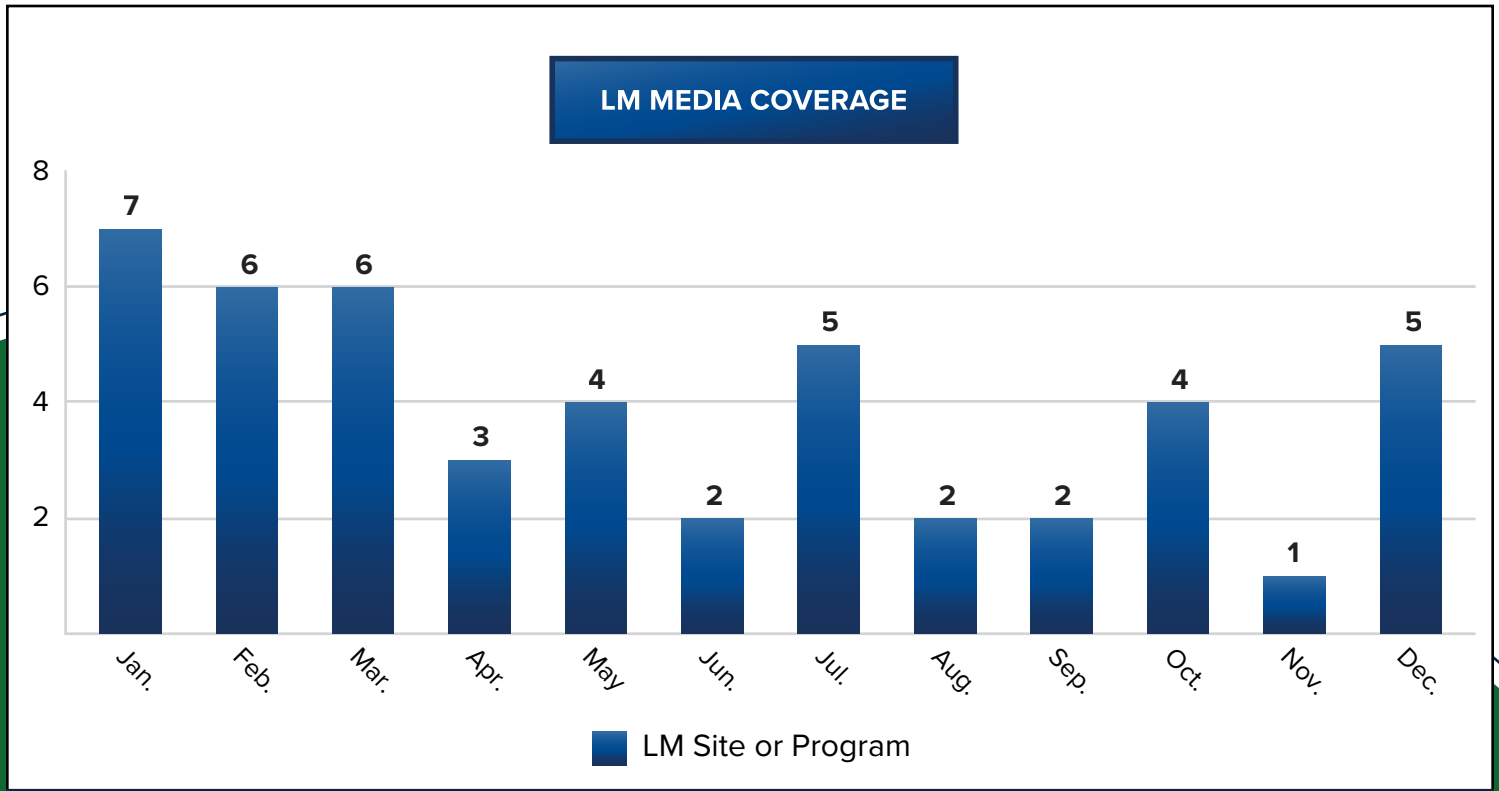
A historic property survey of the Rulison, Colorado, Site was submitted to the Colorado SHPO for review and comment.

On Jan. 6, the LMSP ecological restoration team lead met with Ohio Historical Connection (OHC) in Columbus to inspect the **Fernald site artifact collection** that EM turned over to OHC for curation in 2006. The team inspected a sample of Fernald artifacts and searched the OHC database to confirm that the items were easily retrievable and appropriately documented.

Traditional Media

LM strengthened its traditional news monitoring and analysis for 2020 with Meltwater, a media intelligence platform, procured at the end of 2019.

- Throughout the year, LM had a total of 47 news articles pertaining to LM, its sites, or programs; this is an average of about 4 articles per month. This includes articles about East Tennessee Technology Park.
- Roughly 65% of all 2020 coverage was classified as "neutral" by Meltwater, with the remaining coverage split about evenly between "negative" and "positive."
- ExchangeMonitor Publications & Forums provided the most media coverage of LM.
- Plans for the construction of Jefferson Parkway near the Rocky Flats Site, Colorado, continued to receive media attention. In July, the Colorado Department of Public Health and Environment released a review of the soil samples, which were collected in 2019, and stated that "remaining Rocky Flats plutonium in the Jefferson Parkway transportation corridor and offsite poses a small risk, well within regulatory limits for radiation. This conclusion is consistent with previous findings and the cleanup process." Read more about the report: www.energy.gov/lm/articles/soil-sample-plutonium-results-near-rocky-flats-site-summarized-state-regulators.
- FUSRAP received significant media coverage in 2020, with high-level stories covering FUSRAP's budget request, as well as site-specific stories about active FUSRAP sites under USACE cleanup, including Tonawanda, New York, Landfill Site; Niagara Falls Storage Site, New York; Luckey, Ohio; and Parks Township Shallow Land Disposal Area, Pennsylvania.
- LM and LMSP fielded seven media interviews in 2020: Atomic Legacy Cabin (1); ULP - Burro Mine (1); FUSRAP - Niagara Falls Storage Site, New York (1); GAO report (1); Grand Junction, Colorado, Disposal Site (3).

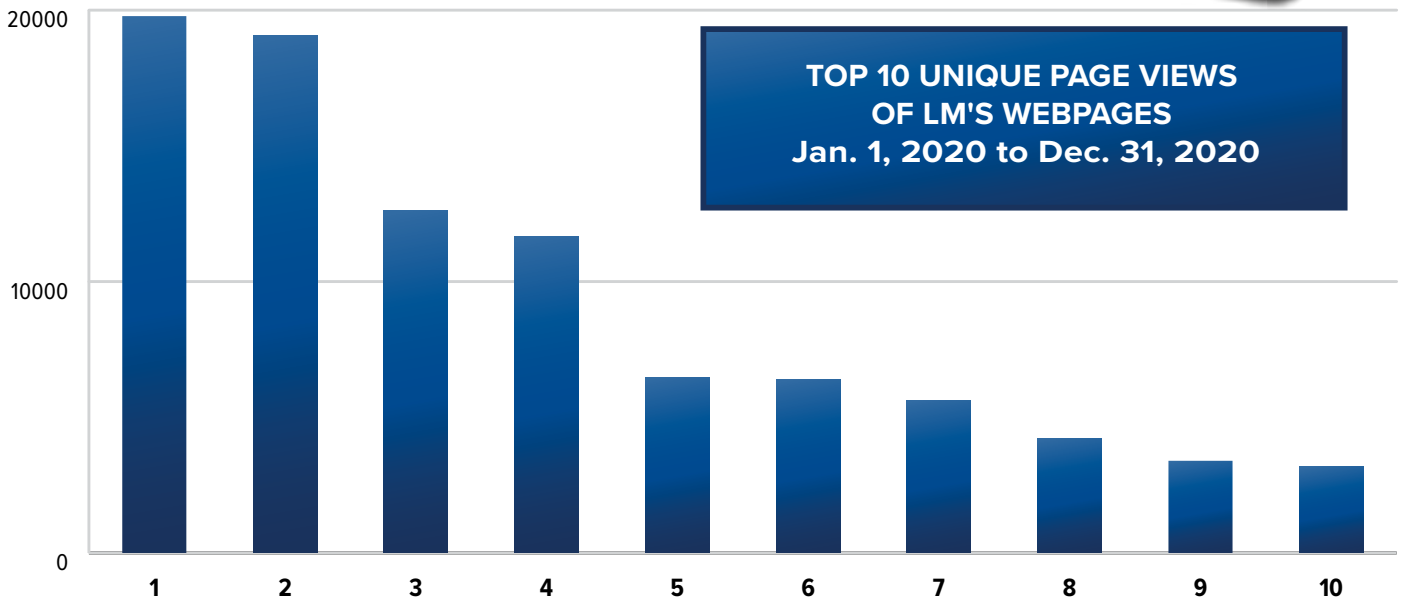


LM had a total of 47 news articles pertaining to LM, its sites, or programs in 2020.

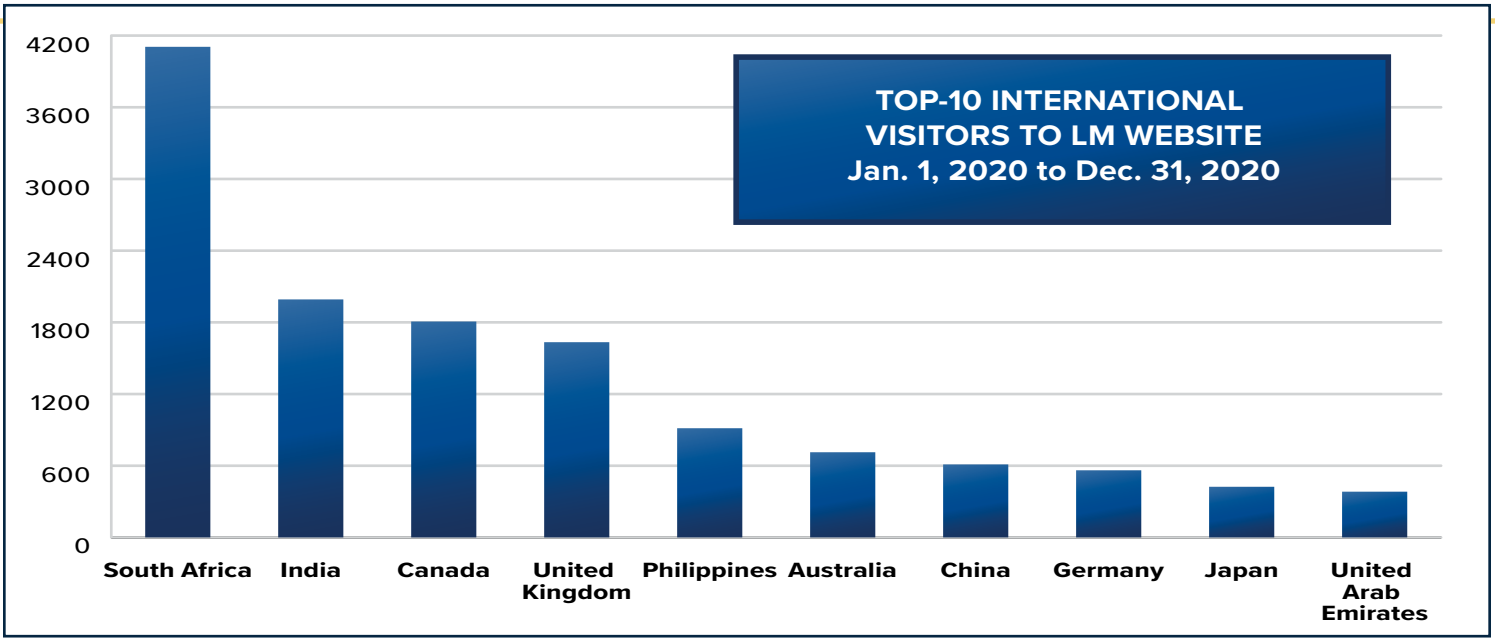
Digital Media

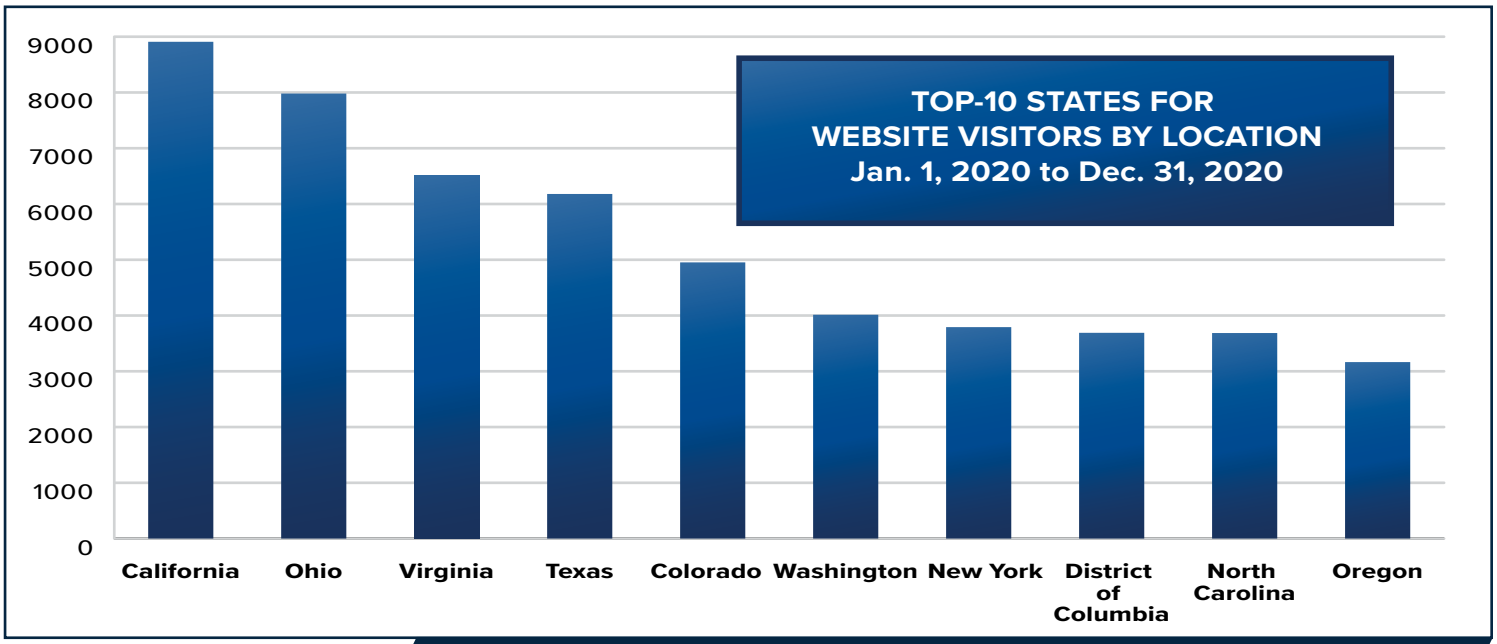
LM significantly increased its digital media for 2020, especially in response to the COVID-19 pandemic. The following platforms, tools, and strategies were added:

- An LM Facebook account.
- LM Playlist on the DOE YouTube channel.
- *Elements* monthly e-newsletter.
- GovDelivery, an email distribution tool used to distribute LM's monthly e-newsletter *Elements* and interpretive center and LM site emails.
- Weekly pitching of LM social media content to DOE Public Affairs for amplification on DOE's digital channels (Facebook, Instagram, and Twitter).



PAGE RANK	UNIQUE PAGE VIEWS	PAGE NAME
1	**19,780**	What Is Environmental Justice?
2	**19,069**	Office of Legacy Management Homepage
3	**12,615**	Trinity Site - World's First Nuclear Explosion
4	**11,661**	Environmental Justice History
5	**6,467**	DOE History
6	**6,375**	LM Sites
7	**5,629**	Fernald Preserve, Ohio, Site
8	**4,232**	A Brief History of the Department of Energy
9	**3,397**	Secretaries of Energy
10	**3,170**	Timeline of Events: 2005

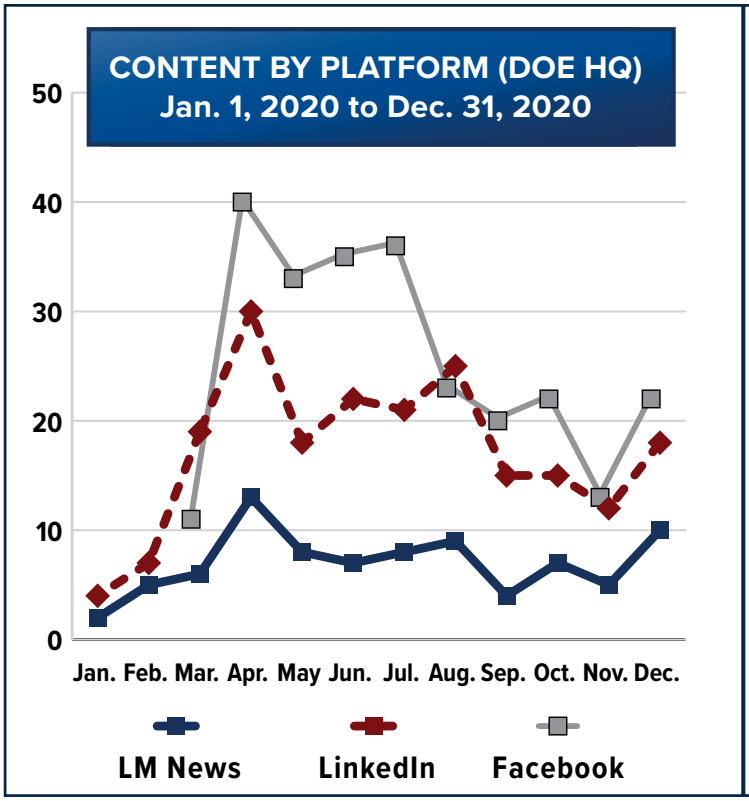


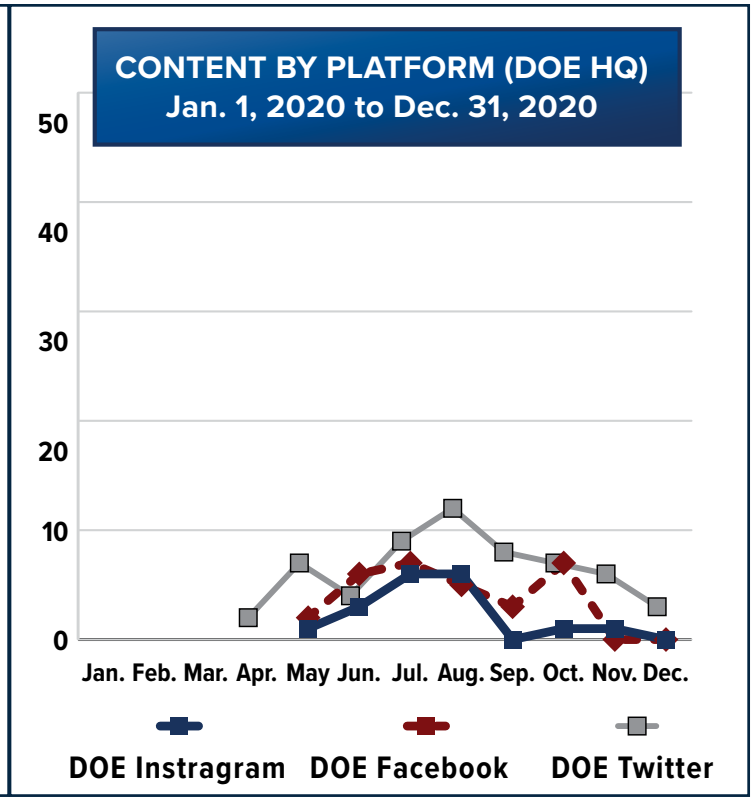


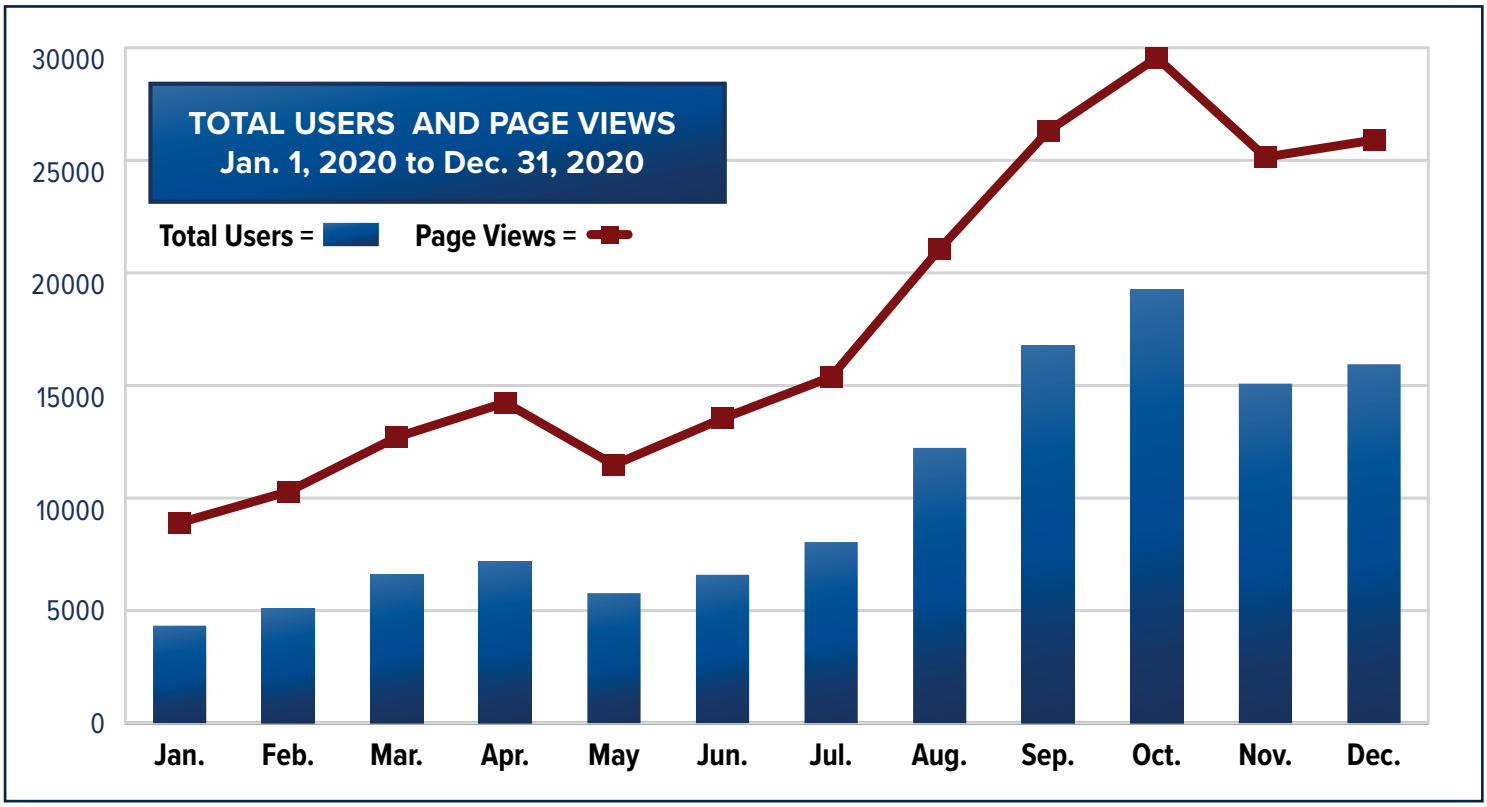
Visitors from the United States accounted for 97,482 visitors to the LM website.

Most Downloaded Documents from LM Website - Jan. 1, 2020 to Dec. 31, 2020

DOCUMENT	DOWNLOADS	CONTENT
1	**343**	DOE O 430.1C, Real Property Asset Management
2	**301**	Site Management Guide
3	**218**	People of Color and Disenfranchised Communities Environmental Health Network (the Coalition)
4	**156**	Executive Order 13693 — Planning for Federal Sustainability in the Next Decade
5	**138**	Hewlett and Duncan, Nuclear Navy, 1946-1962
6	**107**	UMTRCA Sites Fact Sheet
7	**98**	CLI Climate Change Press Release (Feb. 2016)
8	**95**	LM Organization Chart
9	**93**	2020 Fernald Preserve Community Meeting
10	**85**	Defense-Related Uranium Mines Report to Congress (Aug. 2014)





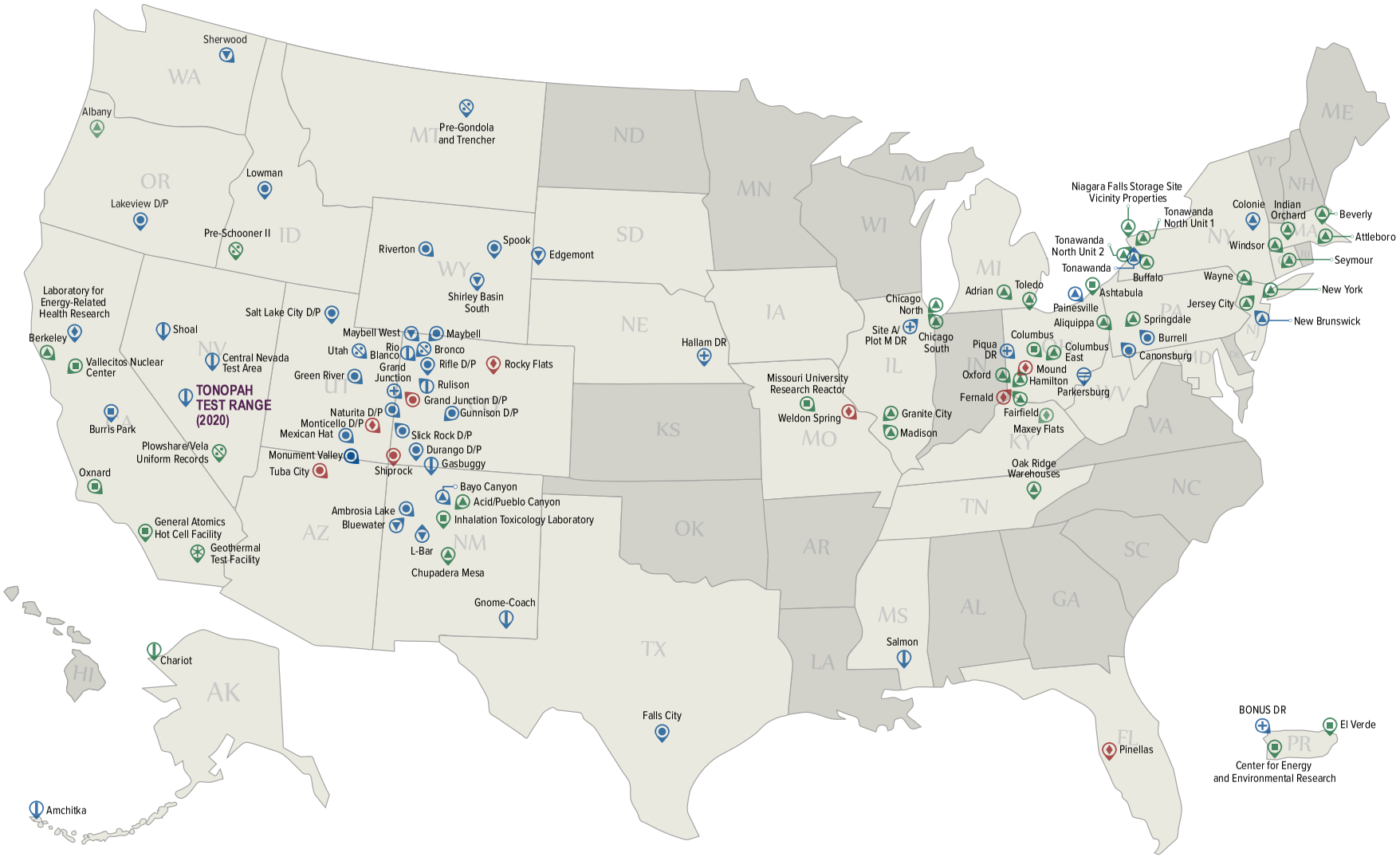


Videos documenting all LM sites were uploaded to the LM Facebook page in March and to the LM playlist on the DOE YouTube channel, beginning April 20 and ending Aug. 28. To date, they have received 2,860 views on Facebook and 28,182 views on YouTube.

As of Dec. 31, 11,469 people subscribed to the *Elements* newsletter, with an average 21% open rate and 5% click rate.

- Open rate is the percentage of email subscribers who received this bulletin and opened it at least once.
- Click rate is the percentage of recipients who clicked at least one link in the bulletin.

2020 SITE MAP



Sites in LM Requiring LTS&M (as of November 30, 2020)

- CERCLA/ RCRA
- D&D
- FUSRAP
- MED/AEC Legacy Site
- Nevada Offsites
- NWPA
- Plowshare/ Vela Uniform Program
- State Water Quality Standards
- UMTRCA Title I
- UMTRCA Title II

Site Category

Category 1 activities typically include records-related activities and stakeholder support

Category 2 activities typically include routine inspection (any site visit needed to verify the integrity of engineered or institutional barriers) and monitoring/maintenance, records-related activities, and stakeholder support

Category 3 activities typically include operation and maintenance of active remedial action systems, routine inspection (any site visit needed to verify the integrity of engineered or institutional barriers) and monitoring/maintenance, records-related activities, and stakeholder support

D/P = Disposal/Processing **DR = Decommissioned** 11/2020

PROGRAM UPDATE ARTICLES BY ISSUE

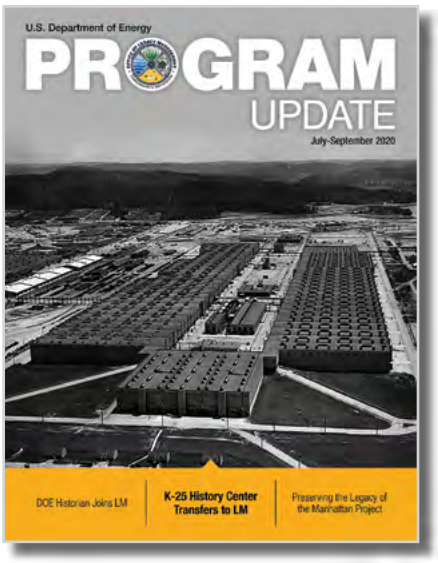
Quarter 1

- Bioremediation Expert: An Interview with Ken Williams
- LM Hits the Gym
- Fernald Preserve Completes Overhaul of Wastewater Treatment
- High-Tech Storytelling: Story Mapping the Colonie Site
- Information Sharing Is Integral to the Success of LM's Work on the Navajo Nation
- Linda Kaiser Leaves a Legacy of Innovation and Inclusion at Rocky Flats
- Fernald Preserve Showcased at Brownfields Conference
- African Americans and the Manhattan Project
- LM Rolls Out New Strategic Plan and Annual Historical Summary
- After 22 Years of Service, Roxana Burrows Plans New Adventures
- LM Engages Alaskans at Forum on the Environment
- Kickoff With the Corps in New Mexico
- LM Program Manager Explores Different Facets of Leadership
- DOE Convenes Resource and Technology Investment Committee

Quarter 2

- The Rise of the Environmental Justice Movement
- Downing Leads DOE Environmental Justice Program to Prominence
- Timeline of Environmental Justice at DOE
- Former LM Intern Pursues Career in Environmental Justice
- DOE Leads Collaborative Effort to Integrate Environmental Justice Into the NEPA Process
- Weldon Spring Site Wins EPA Site Reuse Award
- LM Remains Flexible and Adaptive in Pandemic Response
- Legacy Management Support Achieves Highest Level of Recognition for Safety Program
- Proud to Present: STEM with LM
- LM Advances Beneficial Reuse and Pollinator Initiative at Edgemont Site
- LM Celebrates Earth Day
- New Weldon Spring Interpretive Center Boasts "Green" Features
- DOE Leadership Development Program Graduates First Class
- LM Safety and Health Manager Makes Employee Protection a Top Priority
- LM Participates in 46th Annual Waste Management Symposia
- Navajo Nation STEM-sation Events Postponed Due to COVID-19 Outbreak
- Legacy Management Benefits from National Lab Network Collaboration
- Middlesex Borough Plans to Put New Jersey FUSRAP Site to Good Use

Quarter 3



- K-25 History Center Transfers to LM
- Preserving the Lasting Legacies of the Manhattan Project
- DOE Historian Joins LM
- DOE History Resources
- LM Recognizes National Navajo Code Talkers Day
- Riding the Rails to Abandoned Uranium Mines
- DRUM Verification and Validation
- Duck and Cover Dayton! 75 Years into the Nuclear Age
- Preserving the Historical Legacy
- Collaboration Through Calibration: NNSA and LM Team Up for National Security
- Colonie Story Map Spotlighted at Federal GIS Conference
- LM Receives EPEAT Purchaser Award for Advancement of Sustainability
- Former DOE Intern Presents at Arizona/NASA Space Grant Symposium
- Math and Stats Drive Surveys of Abandoned Uranium Mine Risk
- LM Employs Lasers and Drones to Track Change
- Collective Expertise, Enduring Partnership Continue to Advance FUSRAP
- FUSRAP Adapts: Annual Tour Goes Virtual
- LM Conducts First Groundwater Sampling at Colonie Site
- Report Highlights Conservation in Paddys Run Watershed Near Fernald Preserve

Quarter 4

- Resiliency and Adaptability in 2020
- LM Investigates Cell Cover Conversion from Rock to Vegetation
- Collaboration with Colorado County Ensures Safe Water Supply
- LM Marks Closure of the Shoal Site
- Launching a Career: DOE Scientist Shares Her Journey
- An Unmistakable Calling: DOE Employee Reflects on His Heritage
- Your Zip Code Should Not Mean Your Destiny
- DRUM Program Hits Two Major Milestones Toward Safeguarding Mines
- Gueretta and Rogers Share Employee of the Year Recognition
- LM Celebrates Site Manager Scott Surovchak's Contributions to DOE
- Defense-Related Uranium Mines Program Is Key Addition to Navajo Nation 10-Year Plan
- Atomic Legacy Cabin Celebrates Nuclear Science Week Virtually
- DOE, NNSA Celebrate Transfer of Nevada Sites for Long-Term Stewardship
- Marie Curie: The Pioneering Physicist's Connection to LM
- LM Fellows from Florida International University Visit Colorado
- Intern Profiles
- LM Prepares to Shutter Last Government-run Disposal Site for Cold War Nuclear Material
- The Other 1%: How Bernadette Tsosie Amplifies Critical Voices at LM

ADDITIONAL RESOURCES

DOE COVID-19 Hub

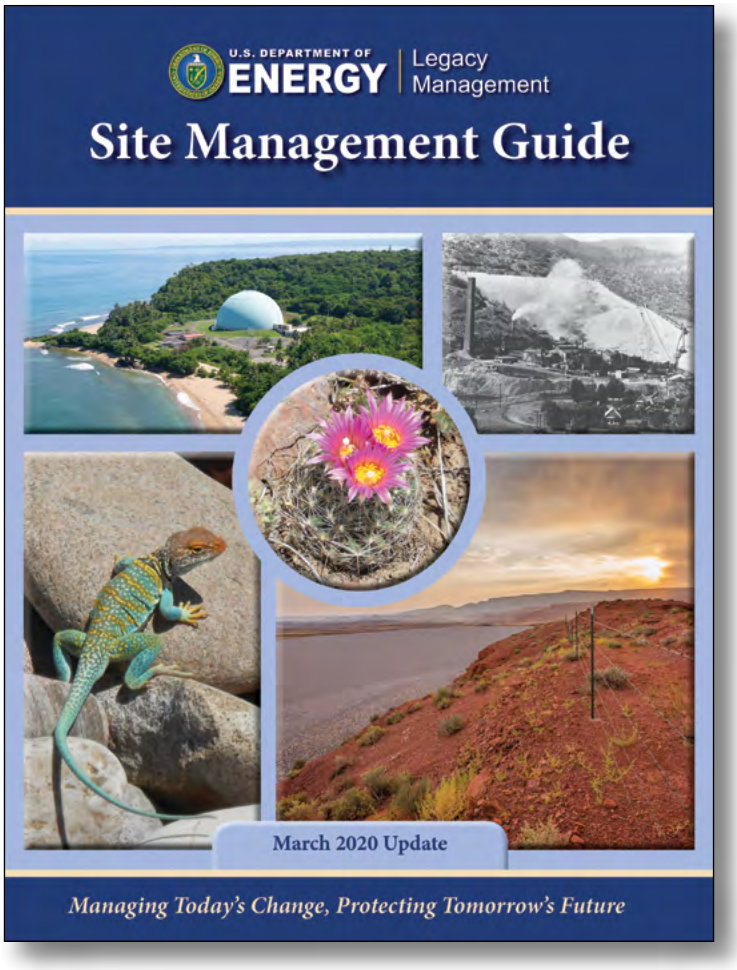
An online resource providing information on the Department's COVID-19 response, including links to the *DOE Headquarters COVID-19 Return to the Federal Workplace Plan* and the *DOE COVID-19 Return to Work Framework*. Available at: www.energy.gov/covid-19-hub.

LM Site Management Guide

An annually updated guide that provides:

- Site name and location (state).
- Pre-LM name.
- Transferring organization.
- Actual transfer date (FY).
- Planned transfer date (FY).
- Regulatory drivers and programmatic framework.
- Site category.

See the most recent version of the Site Management Guide: www.energy.gov/lm/downloads/site-management-guide.



Annual Site Sustainability Plan

The annual Site Sustainability Plan (SSP) outlines LM's sustainability plans and summarizes LM's progress in meeting sustainability goals. The FY 2021 SSP describes how LM was faced with many new challenges due to the COVID-19 pandemic. SSPs are available at: www.energy.gov/lm/services/joint-environmental-management-system-ems/ems-goalsprogressplansreports.

Annual Site Environmental Reports

In September, LM released the Annual Site Environmental Report (ASER), which provides another valuable overview of LM activities from the previous year. ASER, which documents site environmental conditions and reporting requirements, is submitted to the DOE Office of Environmental Protection and Environment, Safety, and Health Reporting and is available to the public at: www.energy.gov/lm/services/joint-environmental-management-system-ems/ems-goalsprogressplansreports.

Site-Specific Information and Annual Reports

See site-specific webpages, accessible at: www.energy.gov/lm/sites/lm-sites.

DRUM and AUMWG

The latest annual reports for the DRUM Program and the Abandoned Uranium Mines Working Group (AUMWG) are available at: www.energy.gov/lm/defense-related-uranium-mines-program.

NEPA Documents

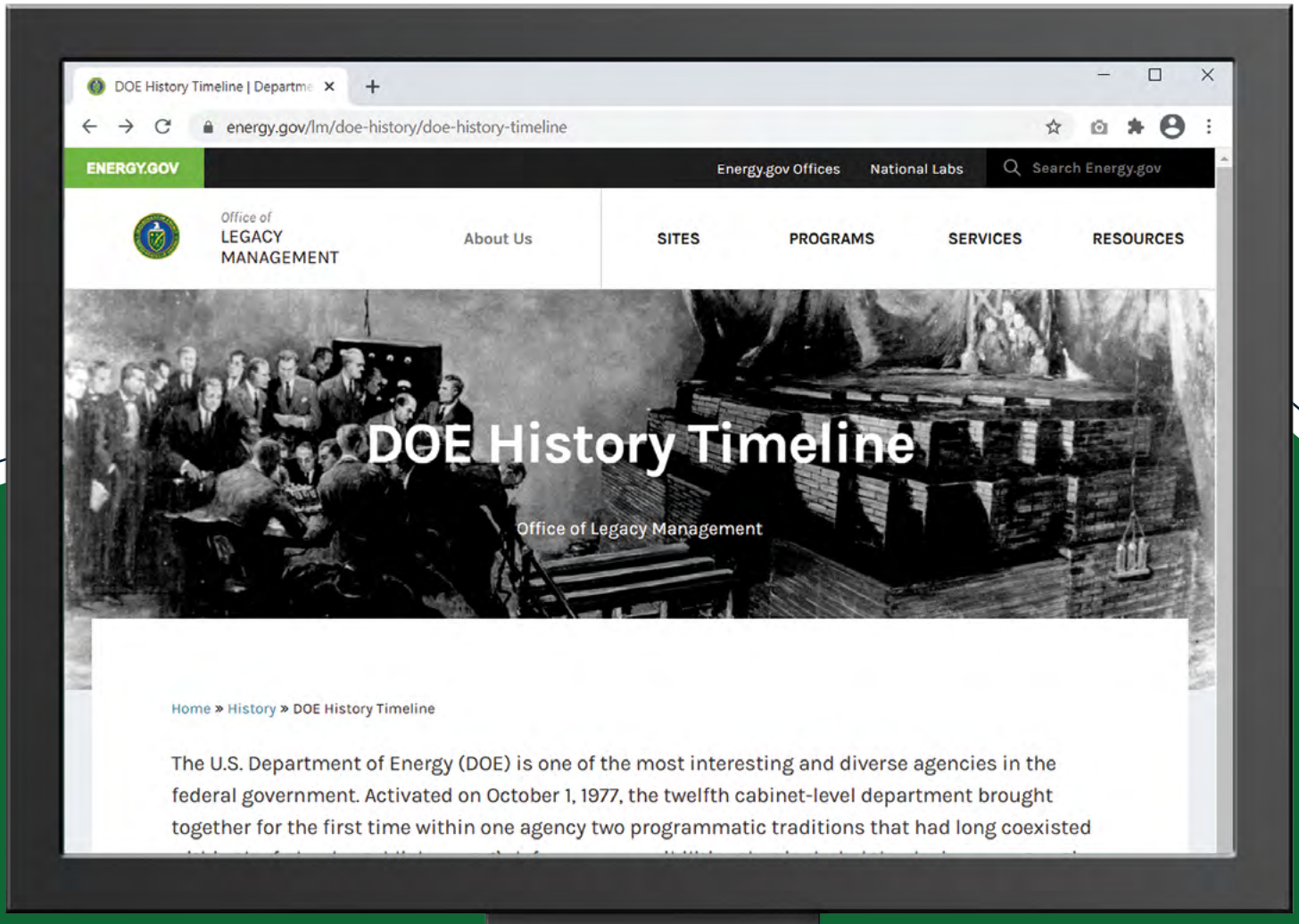
NEPA documents for DOE, including LM, are available on the DOE Office of NEPA Policy and Compliance website at: www.energy.gov/nepa/about-nepa-office.

DOE History Timeline

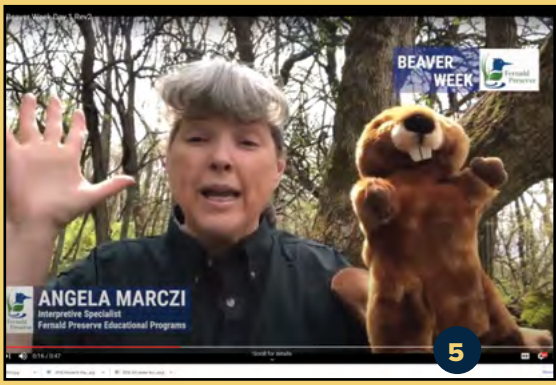
An online resource to provide the public with easy access to accurate information about the history of DOE and its predecessor agencies. The timeline includes links to reports, speeches, press releases, and other documentation. Available at: www.energy.gov/lm/doe-history/doe-history-timeline.

Government Accountability Office Report

In May, GAO issued a report on the challenges faced by LM at some sites. Such challenges include erosion and environmental conditions. GAO recommended that LM develop procedures and plans for handling new cleanup work beyond the scope of its mission, capabilities, and resources, as well as for assessing the effects of environmental events on its sites. LM subsequently engaged the Savannah River National Laboratory, LM's lead laboratory, to receive national laboratory assistance in developing a response to the GAO report. Read the GAO report: www.energy.gov/lm/articles/lm-prepare-increased-environmental-liabilities-advised-gao-report.



2020: A YEAR IN PICTURES



1. DOE and NNSA officials commemorate the successful transfer of 70 remediated sites on and around Nevada's historic TTR from EM to LM for long-term stewardship.
2. NNSA staff pose beside aircraft outfitted with radiation sensor systems at the Grand Junction Regional Airport in Colorado.
3. A geobotanist presses sunflower seeds, found near LM's Shiprock, New Mexico, Disposal Site, between his fingers.
4. In January, DOE and USACE discuss roles and responsibilities on two New Mexico projects.
5. Fernald Preserve hosted Beaver Week via social media.
6. In January, LM and LMSP staff members discuss the new 3D-printed topographic map.
7. At the Original Landfill stabilization project at the Rocky Flats Site in Colorado, LM subcontractors drill into bedrock through the center of a concrete block placed on the landfill's west side, preparing to install a stabilization anchor.
8. An LMSP hyrdogeochemist discusses Shiprock, New Mexico, Disposal Site groundwater as part of a video that LM prepared for a STEM-sation event on Dec. 7.

LM BY THE NUMBERS

18,237
acres of land with long-term surveillance and monitoring (not including Uranium Leasing Program property).

46
LM properties available for reuse with more than 95% of LM sites in beneficial reuse.

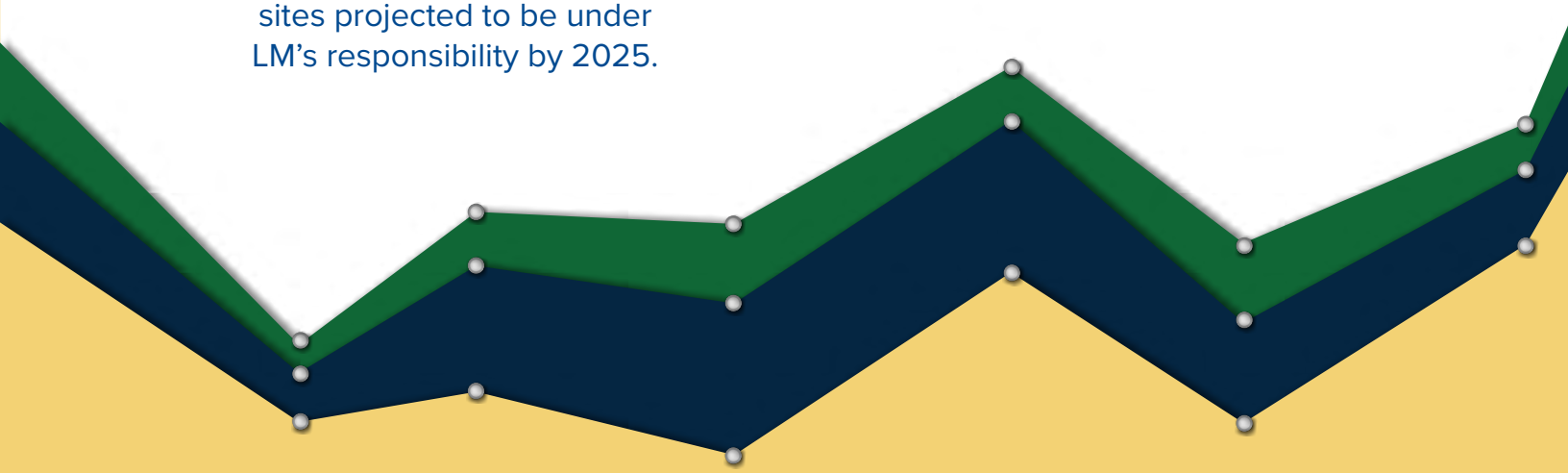
580+
total employees: roughly 80 federal employees and about 500 support services contractor personnel.

12,000+
retired contractor workers' commitments managed by LM.

101
LM sites in 30 states and territories, including Puerto Rico, creating a national program with a wide set of responsibilities.

114,547
cubic feet of non-classified physical records related to the Cold War nuclear legacy managed by LM.

115
sites projected to be under LM's responsibility by 2025.



U.S. DEPARTMENT OF ENERGY | Legacy Management

www.energy.gov/lm

www.linkedin.com/company/legacy-management

www.facebook.com/OfficeofLegacyManagement