



e m n r d

2021

ANNUAL REPORT



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Message from Cabinet Secretary

Sarah Cottrell Propst



Calendar year 2021 brought a new set of challenges and achievements to the Energy, Minerals and Natural Resources Department. For the first half of the year, we remained working from home as the vaccination rollout against COVID-19 began. Even during this time, we were able to accomplish significant milestones, namely passing the Prescribed Burning Act and the Mining Act Forfeiture Fund in the 2021 legislative session and finalizing our nation-leading natural gas waste rules in March.

By the summer, EMNRD staff were returning to offices, learning the new way we would be set up to work. Despite some time to adjust our work never stopped – State Parks staff welcomed visitors for a busy and safe summer season, mine reclamation projects were completed, and work protecting rare plants continued.

It's amazing to realize that after only three years, we have finished almost all of the directives laid out in the Governor's Executive Order (EO) on Addressing Climate Change and Energy Waste Prevention (EO 2019-003). After more than two years of public outreach, stakeholder meetings, and hearings and reviews the Oil Conservation Division finalized robust rules that are part of a statewide regulatory framework to reduce oil and gas sector methane emissions and to prevent waste from new and existing sources. The rule requires 98% gas capture by 2026, new reporting requirements so we can have more complete and accurate data, and includes mid-stream and upstream requirements.

All of our hard work was recognized on the world stage in November 2021. I was honored to represent New Mexico alongside the Governor and my counterparts in the Environment and Economic Development Departments at the UN Climate Conference – COP26 in Scotland. New Mexico's climate work showed that local action can have a global impact and our leadership in passing the Energy Transition Act and finalizing our natural gas waste rules was highlighted by nations around the world and White House leaders.

We are entering a crucial decade for climate action, I'm proud of the work we've accomplished so far and humbled by the work left to do. I hope everyone is inspired by the work EMNRD has accomplished over the past calendar year presented in this Annual Report.

A handwritten signature in blue ink that reads "Sarah Cottrell Propst". The signature is fluid and cursive.

Cabinet Secretary
Sarah Cottrell Propst

Office of the Secretary

The Office of the Secretary (OFS) oversees all divisions within the Department, and includes the Office of Information Technology, the Public Information Office, and the Office of General Counsel. OFS provides overall policy direction, strategic direction, and measures program performance for the Department. OFS is also the main liaison between the Department and the Governor, other state agencies, and legislators.

Public Information Office

The Public Information Office fields media requests, creates and approves of all marketing materials, and works closely with all Divisions to promote programs. This office writes speeches for public events, distributes press releases, and promotes the work of the Department through the website, publications, and events. The Public Information Office also provides guidance to Divisions on overall communications messaging.

Information and Technology Office

The Information and Technology Office (ITO) is the central information technology and information systems provider for the Department's employees across the state. It employs 21 technical positions that are responsible for maintaining and supporting the Department's computer systems, network telecommunications infrastructure, and application development needs. They have played an especially crucial part in our work this year as most of the Department transitioned to telework.

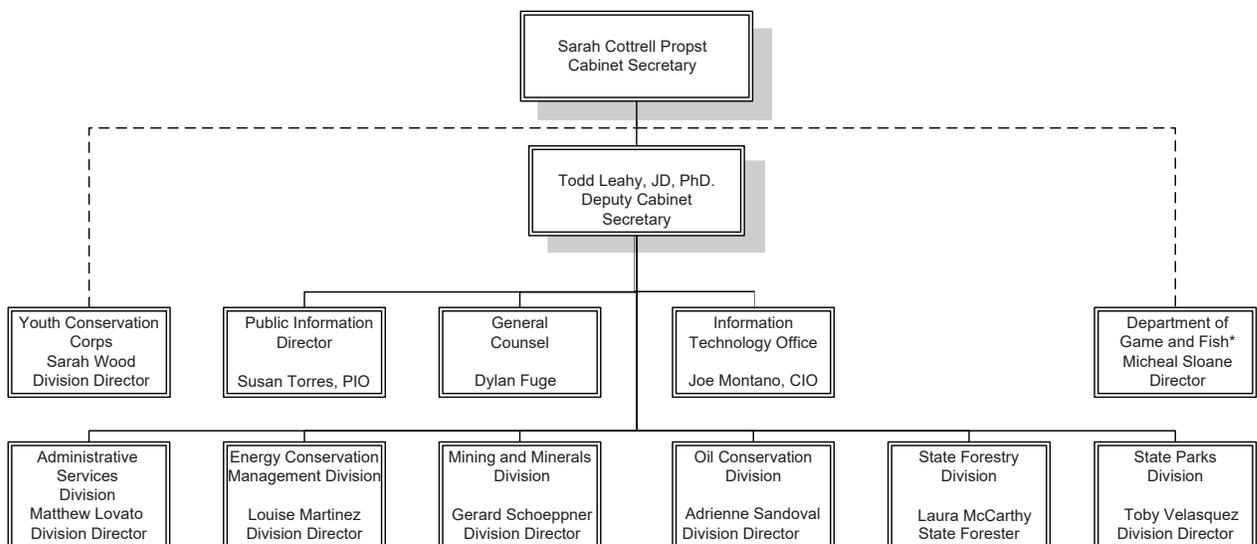
Office of General Counsel

The Office of General Counsel manages the legal affairs for the entire Department. This office reviews contracts, represents the Department in administrative and judicial proceedings, drafts and analyzes proposed legislation and rules, and assists with other legal matters as necessary.

Administrative Services

The Administrative Services Division (ASD) supports the day to day functions of the Department. Responsible for EMNRD's finances and property, the Division manages the budget, procurement, accounting, grant reporting, and processes payment vouchers, travel documents, purchase orders, and more. Crucially, ASD coordinates the annual financial audit and prepares the annual financial statement. ASD also manages the HR Department and is the primary liaison between EMNRD and the State Personnel Office.

Energy, Minerals and Natural Resources Department



* Administratively attached with no direct budget support from EMNRD.



Energy Conservation
and
Management Division



Energy Conservation and Management Division

The Energy Conservation and Management Division (ECMD) is leading the state's charge toward clean energy adoption. ECMD is committed to developing and deploying solutions that will maximize New Mexico's renewable energy resources and improve energy efficiency and transportation standards. Through effective policies and innovative programs, ECMD has positioned New Mexico as a leader in clean energy innovation, which will generate quality jobs, attract investment opportunities, and accelerate economic growth.

ECMD supported activities that contributed to the adoption of new and updated energy policy, activities that resulted in quantifiable impacts for New Mexico, in addition to contributing to the adoption of updated emergency and resiliency activities that contributed to enhanced preparedness.

Key Accomplishments

In accordance with the Grid Modernization Roadmap and Grant Program Act (2020), ECMD established the Grid Modernization Advisory Group (GMAG) to develop technical white papers and vet concepts to implement the Act. ECMD also set up the Grid Modernization Grant Program pursuant to the Act.

ECMD awarded the first Grid Modernization Program Demonstration Project with the City of Albuquerque's Energy and Sustainability Management Division (ESMD) Energy Command Center (ECC) to build the Balanced Resource Acquisition and Information Network (BRAIN). BRAIN is a data center and computer platform will give the City real-time visibility into its existing and future energy storage, renewable generation and building controls resources. With the BRAIN innovation, the City envisions achieving interoperability with the electric grid, combined with behind the meter flexibility, to enhance resiliency. The project demonstrates how to make the grid more energy efficiency and responsive.

Bringing back the Solar Market Development Tax Credit (SMDTC) after it expired in 2016 was a priority for Governor Michelle Lujan Grisham and the state legislature. Now into its second year, the SMDTC is as popular as ever. The tax credit has spurred job creation and solar investment in all parts of the state, supporting jobs up and down the supply chain – from manufacturers to distributors to installers.

To more effectively field inquiries and increase transparency, ECMD developed a GIS-based SMDTC Dashboard. The public-facing SMDTC Dashboard showcases a map of projects by county as well as statistical indicators including total projects, total installed capacity, estimated taxpayer energy savings and estimated jobs created.

This year, ECMD also launched the Climate Risk Map, a new tool to provide New Mexicans with information about how climate change may impact their communities. Created in collaboration with the University of New Mexico's Earth Data Analysis Center (EDAC), the free online map tells a robust story of how natural hazards exacerbated by climate change and socioeconomic factors can contribute to communities' overall climate risk.

ECMD was awarded \$750,000 from the U.S. Department of Energy (DOE) for a new opportunity to train New Mexicans on energy efficiency and energy management. In cooperation with four higher education institutions, ECMD will facilitate continuing education, training, and technical assistance to support industry professional as they adapt to advanced energy technologies. The Sustainable Education for Advanced Buildings (SEAB) project aims to improve and expand education on energy efficiency codes, practices, and products to better inform current industry professionals and prepare new works for the construction trades field.

Looking ahead, my vision for ECMD emphasizes regional collaboration to implement strategies to achieve our decarbonization and electrification goals. It is essential to position ECMD as a leader implementing the ambitious federal and state climate agendas , legislative initiatives and regulatory proposals to transform our energy landscape.

A handwritten signature in cursive script that reads "Louise Martinez".

Louise Martinez, ECMD Division Director



Energy Conservation and Management Division

DIVISION OVERVIEW

MISSION: Energy Conservation and Management Division (ECMD) develops and implements effective clean energy programs — renewable energy, energy efficiency, alternative fuels, and safe transportation of radioactive waste — to promote economic growth, environmental sustainability, and wise stewardship of our natural resources while protecting public health and safety for New Mexico and its citizens.

STAFFING

20 staff positions

- 4 professional engineering staff for technical support and technology evaluation
- 9 program management staff in energy efficiency, renewable energy, alternative fuels
- 2 WIPP staff for safe transportation of transuranic waste
- 5 administration and public services

STATUTORY RESPONSIBILITIES

- **Renewable Energy:** Solar, wind, geothermal, biomass, and energy storage technology applications in all sectors; distributed energy technologies such as residential solar and co-generation (combined heat and power) systems.
- **Energy Efficiency:** Technology applications such as energy control systems and efficient lighting, motors and appliances, as well as behavioral practices, that reduce energy use and costs in buildings and the transportation sector; residential and commercial building energy codes and standards.
- **Alternative Transportation and Clean Fuels:** ridesharing and carpooling; park-and-ride programs; vehicles and infrastructure for electric vehicles, clean-burning fuels such as compressed natural gas (CNG), propane, and biodiesel.
- **Waste Isolation Pilot Plant (WIPP) Transportation:** safe and uneventful transportation of transuranic (TRU) waste in New Mexico.

STRATEGIC PRIORITIES

- Grid Modernization & Electrification
- Climate Change Action
- Transportation Decarbonization
- Energy Efficiency
- Energy Diversification
- Sustainability & Resiliency

LEGISLATION

In the 2021 Legislative Session, the New Mexico state legislature amended the Sustainable Building Tax Credit (SBTC) to more accurately reflect the state's intention to incentivize cutting-edge sustainable building practices. The 2021 SBTC goes into effect on January 1, 2021 for existing building energy conserving retrofits, April 1, 2023 for the construction of new buildings, and sunsets on January 1, 2030. (Until April 1, 2023, projects may qualify under the old Sustainable Building Tax Credit schema, if they are completed before that date and the credit is claimed by December 31, 2024.)

The 2021 Sustainable Building Tax Credit requires a higher level of LEED (Leadership in Energy and Environmental Design) certification to qualify a project. In addition, the 2021 credit provides bonuses for a fully electric house, and/or for meeting net-zero carbon certification, zero energy certification, zero waste certification or zero water certification. The 2021 credit also scales up for low-income households and affordable housing projects.

A new part of the 2021 tax credit is the provision for the installation of energy-conserving products in existing commercial and residential buildings – helping to improve extant building stock in New Mexico. This part of the 2021 tax credit goes into effect on January 1, 2022. To support adoption of electric

vehicle usage in New Mexico, a tax incentive is now available for electric vehicle (EV) ready buildings. Starting on January 1, 2022, New Mexico will provide a tax incentive for EV charging in residential and commercial buildings through the 2021 SBTC for both existing and new construction of buildings that are EV ready.

NEW MEXICO ENERGY ASSURANCE PLAN

Under the U.S. Department of Energy (DOE) State Energy Program (SEP), New Mexico is provided funds to enhance energy security and assist in energy emergency preparedness. ECMD leads in the preparation of state energy emergency (or energy assurance) plans as required for SEP compliance, and works with the private sector, DOE, emergency management agencies, and other stakeholders in preparing for and responding to energy emergencies.

In 2021, ECMD began efforts to update the New Mexico Energy Assurance Plan. The plan is designed to be an actionable document to help state energy officials communicate and coordinate with energy stakeholders – including industry, local and federal entities, and the general public – in the event of an energy emergency. The plan contains a description of energy resources, defines the roles and responsibilities of various state agencies and other impacted organizations, presents a communications plan, and identifies potential threats to the state's energy system.

The plan was last fully updated in 2013. Since that time, the energy landscape in New Mexico has changed significantly. New renewable electricity generation, fossil fuel plant closures, rooftop solar, electric vehicle infrastructure, new gas pipelines, and the oil and gas industry boom in the Permian have changed the state's energy infrastructure. Threats, too, have shifted: cyberattacks and catastrophic wildfires are significant hazards to energy reliability. ECMD is receiving technical assistance from the National Association of State Energy Official Association and their Energy Security Committee. The final report will be released in June 2022.

GRID MODERNIZATION DEMONSTRATION PROJECT

The 2020 Grid Modernization Roadmap and Grant Program Act [NMSA 1978, § 71-11-1 and § 71-11-2] instructed ECMD to establish a grant program to support pilot projects that align with the state's goals for electric grid modernization.

Starting in early 2021, ECMD drafted a request for applications (RFA) and began soliciting proposals from government entities, including municipal governments, public schools, public universities, and tribal governments. A committee began reviewing project proposals on July 1, 2021. ECMD continues to review applications under this RFA on a rolling basis. Applications that meet all criteria are approved, and once approved, projects are placed in a queue for funding, pending available resources.

In August 2021, ECMD approved an application from the City of Albuquerque Municipal Development Department, Energy and Sustainability Management Division (ESMD). This innovative inaugural project establishes a data repository and computer-based analytics platform to help the city meet its renewable energy goals, while effectively and safely interacting with the grid in Public Service Company of New Mexico's service territory. ECMD is leveraging a 2021 New Mexico state legislature allocation of \$51,000 and Federal DOE State Energy Program funding (\$250,000) to fund a portion of this project. The project is expected to be completed by June 2022. ECMD and the City of Albuquerque will be communicating widely about the broader implications of the project, and it will serve as an educational resource for the state.

CLIMATE POLICY ACTION

In January 2019, Governor Lujan Grisham issued Executive Order 2019-003 on Climate Change and Waste Prevention, which created the state Interagency Climate Change Task Force (the Task Force) and included directives for agencies to incorporate climate adaptation practices into their policies and operations. ECMD supports the Task Force through coordination, technical assistance, planning, and policy development and supports interagency work to reduce greenhouse gas emissions from electricity generation, transportation, industry, the built environment, and



natural and working lands. Reducing these emissions contributes to climate change mitigation. ECMD also coordinates interagency efforts to integrate adaptation and resilience practices to (a) ensure the long-term sustainability and resilience of New Mexico and its infrastructure and resources; (b) prepare the state for climate change; (c) reduce the vulnerability of natural and built systems, economic sectors, natural resources and communities to risks; (d) promote long-term water and energy resource security; and (e) support state economic development and diversification.

ECMD continues to coordinate nine Climate Action Teams (CATs) within the Task Force. Five teams - Clean and Efficient Electricity and Buildings; Transportation Decarbonization; Industry and Oil & Gas; Natural and Working Lands; and State Leadership - primarily focus on reducing emissions. The other four focus primarily on resilience and adaptation. These teams are Economic Transition; Sustainable Infrastructure and Planning; Emergency Management, Health, and Resilience; and Cultural Heritage. Each team has two agency co-leads and maintains an internal working Climate Action Plan to document ongoing work and new initiatives as they arise.

In 2021, ECMD launched significant outreach efforts to inform development of five-year action plans to reduce greenhouse gas emissions in line with the target of at least 45% below 2005 levels by 2030 set in E.O. 2019-003. These efforts include:

- ECMD hired a facilitator and convened a Climate Equity Working Group of community advocates and environmental justice experts from across New Mexico to draft a set of Climate Equity Guiding Principles to guide the Task Force in developing just and inclusive climate policies. The Program has coordinated extensive state agency and leadership review of these principles and anticipates they will be finalized and released in early 2022.
- ECMD conducted a public outreach survey to solicit public input on climate strategies. Over 1,800 people responded to the survey, which was offered in both English and Spanish.
- ECMD, with support from the US Climate Alliance, received technical assistance from RMI, a data-focused research organization, to analyze climate policy options using the Energy Policy Simulator tool and hold a series of planning workshops with the CATs

to develop draft 5-year goals and preliminary internal plans for achieving goals that advance New Mexico towards its greenhouse gas emissions reduction goals. The Energy Policy Simulator will be publicly available and will support ongoing discussions with the CCTF Advisory Group convening spring 2022.

- ECMD also undertook a major effort in 2021 to conduct a Climate Resilience Gap Assessment. ECMD worked with the National Governor's Association (NGA) to customize a version of their State Resilience Assessment and Planning (SRAP) questionnaire and distributed it to over 30 state agencies within and outside the executive branch. Nearly all agencies responded and the Program worked with NGA to develop a summary of findings presented to the Task Force in August 2021. ECMD is now working with the Emergency Management, Health, and Resilience CAT to analyze the findings and determine next steps.

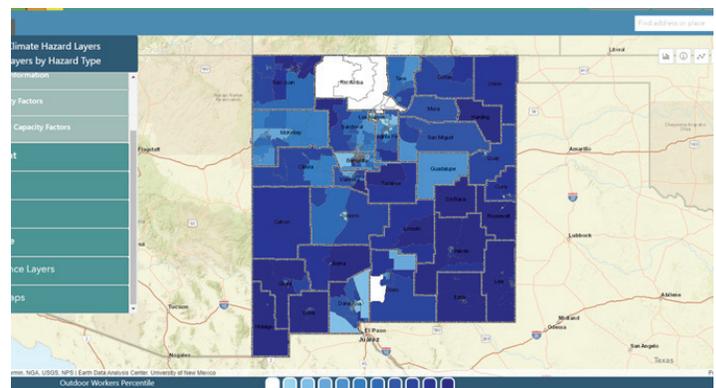
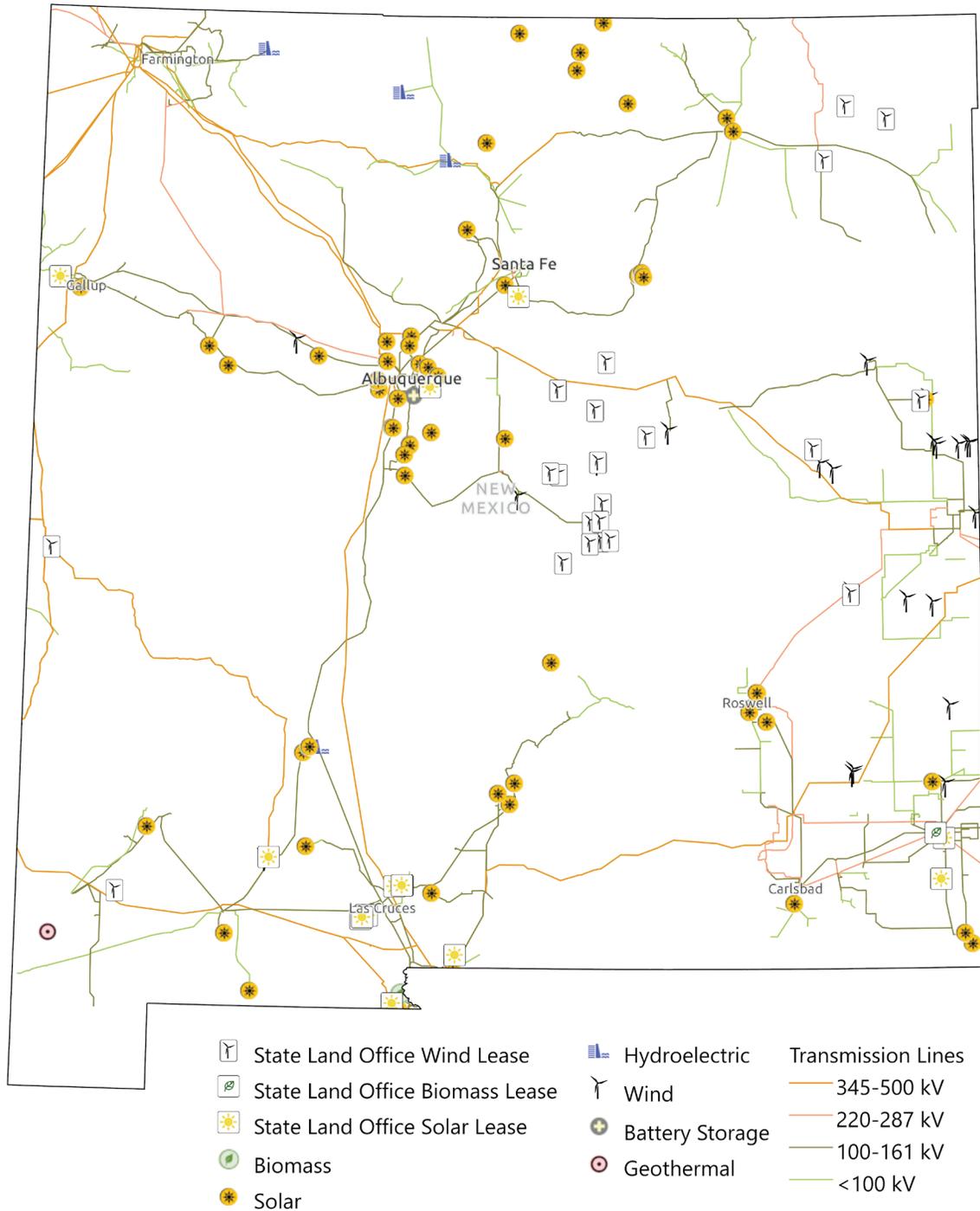


Figure 2 Image of New Mexico Climate Risk Map showing relative prevalence of outdoor workers across the state, a factor that can increase communities' sensitivity to heat, wildfire, and air quality hazards.

ECMD also applied for additional resources from FEMA's Building Resilient Infrastructure and Communities (BRIC) program to support development of a Climate Adaptation and Resilience Plan in 2022 and continued state agency and stakeholder outreach and coordination related to climate change adaptation and resilience strategies through 2024. FEMA has selected the Program's applications as identified for further review.

ECMD launched a free, online Climate Risk Map tool in June 2021 developed through a contract with the Earth Data Analysis Center (EDAC) at the University of New Mexico. The tool is intended to help agency and local government staff identify climate related hazards, vulnerability, and mitigation resources and is available [online](#).

New Mexico Clean Energy Resources Map



State Land Office leases as of September 7, 2021.
 > 1 MW scale projects accessed from Energy Information Agency September 24, 2021.
 New Mexico State University, Texas Parks & Wildlife, Esri, HERE, Garmin, FAO,
 NOAA, USGS, Bureau of Land Management, EPA, NPS

Figure 1 Large-scale renewable resource installations in New Mexico



DATA MANAGEMENT AND TRANSPARENCY

Data Dashboards

In 2021, ECMD began considering ways to summarize and communicate data to the public. Starting with its Solar Market Development Tax Credit program, ECMD designed a public-facing dashboard to communicate highlights of this popular incentive program and provide regularly updated snapshots of key indicators, including: total approvals by tax year; the proportion of the total state allocation that has been consumed for each tax year; total installed capacity (MW); average taxpayer annual energy savings; and average taxpayer annual energy cost savings. In addition, ECMD estimates the number of clean energy jobs created by county.

ECMD built the Dashboard from data collected through the tax certificate application process. Only data for approved tax credits are included, and absolutely no taxpayer personally identifiable information is used. The approved projects can be seen as a sample of the of distributed solar energy generation growing throughout the state of New Mexico.

ECMD expects to develop additional Dashboards and other data communication tools for its programs in 2022.

CONVENING EXPERTS AND THE PUBLIC ON CLEAN ENERGY

Transportation Working Group

In 2021, ECMD created the Transportation Working Group (TWG). The purpose of the TWG is to maintain regular statewide communication, support alternative fuels and alternative fuel infrastructure, and support alternative transportation. Data and information gathered through the working group may also help to develop future legislative transportation decarbonization policies.

The first two quarterly meetings for the TWG were held on July 15, 2021 and October 29, 2021. Each meeting hosted expert guest speakers that covered various topics including EV corridor designation, increasing EV adoption in New Mexico, and utility transportation electrification plans.

Stakeholders for the TWG include but are not limited to:

- Auto Dealership Representatives
- Planning Organizations and Local Government
- Electric Service Providers
- Active Community Groups
- Financial Resiliency through Energy Efficiency (FREE) Project

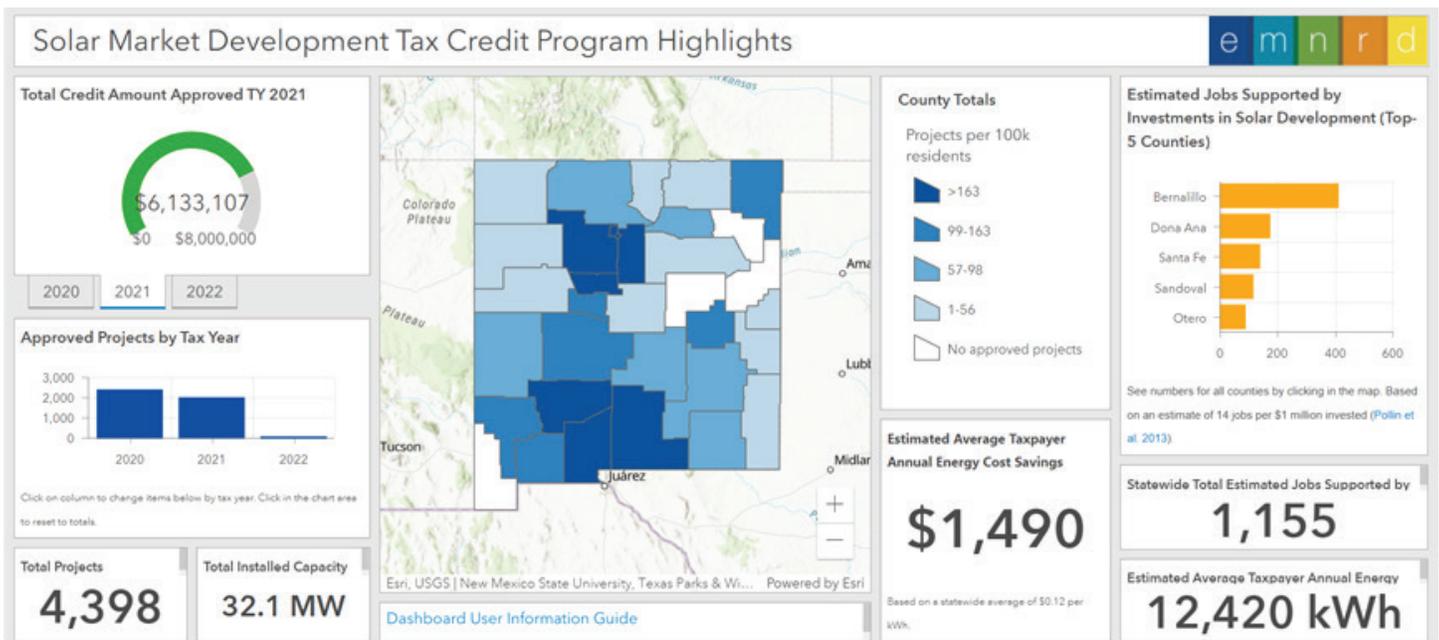


Figure 3 Public-facing Solar Market Development Tax Credit Dashboard

Financial Resiliency through Energy Efficiency (FREE) Project

In February 2019, ECMD was awarded a federal grant from the U.S. Department of Energy to support the FREE project. The goal of the project is to develop and deploy statewide energy practices that reduce energy use while generating new revenue (i.e., tax revenues, job creation, and product exports) for New Mexico. In March 2020, ECMD contracted with a team of energy economists from the University of New Mexico and New Mexico State University to develop a robust systems dynamic modeling tool for evaluating potential energy efficiency practices. The team will use the tool to prioritize energy efficiency measures

according to primary and secondary economic impacts, as well as environmental (e.g., emissions) impacts that could result from the deployment of new energy-savings programs. In the next phase of the project, ECMD will engage with a facilitation team to lead a series of discussion sessions in each of the state's key regions. During these meetings, stakeholders will be able to review the results of the model, talk about any barriers that might arise if these programs are pursued, and discuss any additional programs they would like the model to explore. These meetings will conclude by November 2021. The sessions will provide input for a final report and help ECMD define longer-term implementation in late 2021.

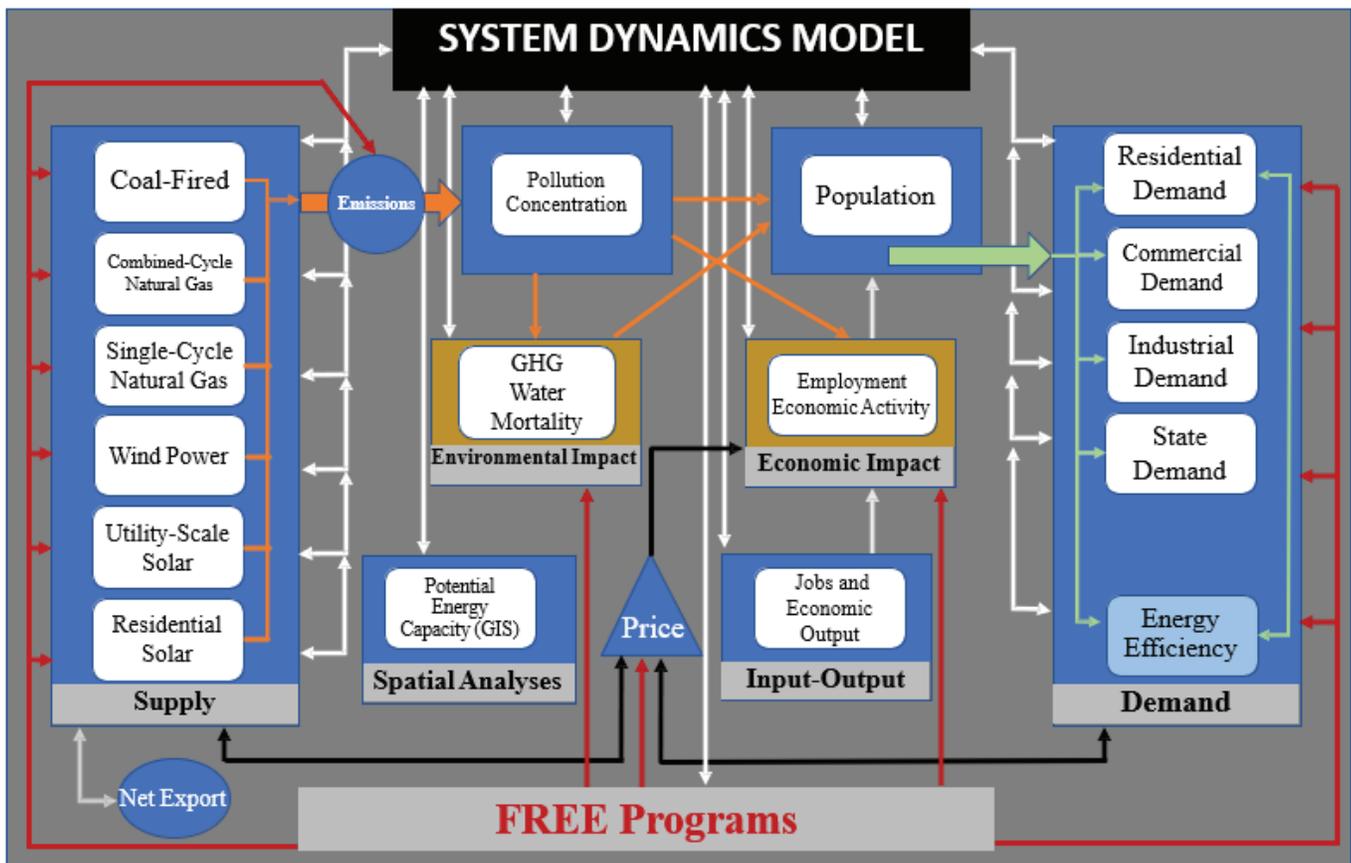


Figure 4 Image of simplified representation of the FREE model showing feedback loops that impact energy supply and energy demand and where energy efficiency fits into the model.



Grid Modernization Roadmap

In 2021, ECMD continued its efforts to produce a Roadmap for Electric Grid Modernization. After publishing whitepapers drafted by the Grid Modernization Advisory Group (GMAG) in February, ECMD solicited feedback from technical reviewers and began drafting a summary report. The Roadmap was finalized in January 2022. GMAG recommendations include updating New Mexico's interconnection rules and manual, deploying advanced metering infrastructure statewide; proactively engaging in regional transmission planning and considering joining a formal regional market; revising the IRP processes; deploying the community solar program and expanding methods for bringing energy efficiency and beneficial electrification to traditionally underserved areas of the state. Several of the recommendations are already being implemented through NM Public Regulation Commission dockets and rulemakings.

ECMD continues to focus on the underlying objectives for grid modernization including: reliability, resilience and security; distributed energy resource integration; adaptability to changing loads; customer enablement; and market animation. In addition to the Roadmap, ECMD published a Baseline Report that examined statewide data relative to these objectives. ECMD will regularly evaluate the state of the electric grid relative to the Baseline in the coming years.

EDA CARES Act Assistance Grant

The Coronavirus Aid, Relief, and Economic Security (CARES) Act provided the U.S. Department of Commerce Economic Development Administration (EDA) with \$1.5 billion for economic development assistance programs. Through this funding availability, ECMD partnered with the New Mexico Economic Development Department (EDD) to hire an Economic and Energy Diversification Coordinator who is now stationed at ECMD. The Economic and Energy Diversification Coordinator serves as part of an interagency Recovery Team with representatives from EDD to improve access to capital, provide technical assistance and develop a statewide recovery and long-term economic development plan. The Recovery Team worked with contractors to develop a Statewide Comprehensive Economic Development Strategy and ECMD has been assisting in this effort by providing input on renewable energy related topics and

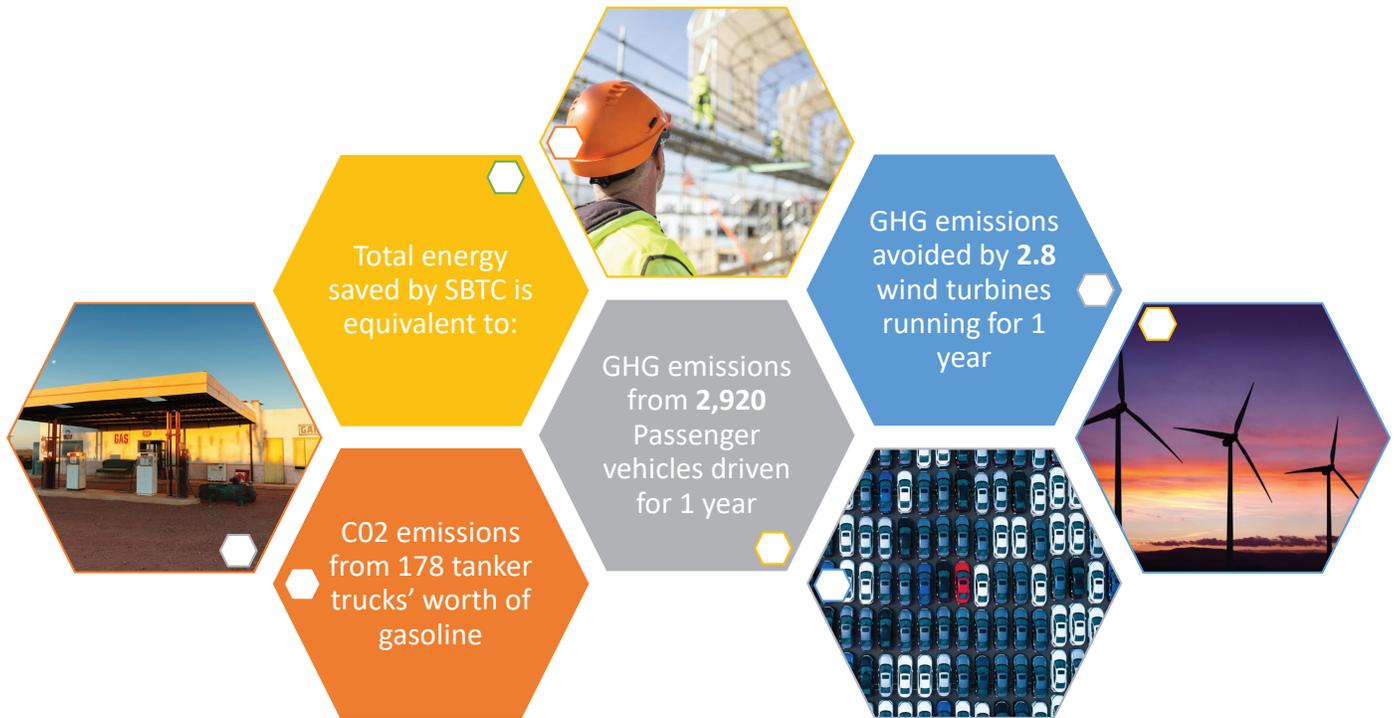


Figure 5 Image of John Winscott, ECMD Economic & Energy Diversification Coordinator, and Rick Bailey, President of Northern New Mexico College, in front of the El Rito campus solar array.

engaging stakeholders in the industry to participate in data collection. At ECMD, the Economic and Energy Diversification Coordinator has been putting together an inventory of renewable energy related businesses as well as clean energy related degree and certification programs. With the assistance of other government agencies like the New Mexico State Land Office, Bureau of Land Management, and the Department of Workforce Solutions we have identified over 1,400 clean energy related companies and 34 clean energy degree and certification programs around the state. The businesses and educational programs on these inventories will serve as a baseline as ECMD works to support clean energy industry growth in New Mexico

TAX CREDIT PROGRAMS

ECMD provides technical assistance to businesses and residents in certifying applications for several clean energy tax credits. These tax credits are instrumental in encouraging private-sector investment, creating high-quality jobs, fostering smart growth, and are an essential part of meeting our greenhouse gas reduction goals.



Sustainable Building Tax Credit

The goal of the Sustainable Building Tax Credit is to provide a tax incentive to sustainable and energy efficient green building; both residential and commercial.

From January 1, 2021, to December 31, 2021, there were 646 Sustainable Building Tax Credit applications that were approved, totaling \$4,458,618 for residences and commercial buildings, including manufactured homes.

The following benefits were realized:

- Total Energy Saved: 64,650.64 MMBtu/year
- Estimated CO2 Avoided: 14,801 tons
- Average Energy Saved Per Square Foot: 48.5 MMBtu/year
- Overall Rankings
 - » Silver: 463
 - » Gold: 139
 - » Platinum: 34
 - » Emerald: 4
 - » Manufacturing: 6

Estimated Total Annual Energy Produced for all Taxpayers with Solar System is **44,163 MWh**, which is equivalent to:



GHG emissions from **6,807** passenger vehicles driven for 1 year

GHG emissions avoided by **1,186,222** incandescent lightbulbs switched to LEDs



Carbon sequestered by **38,345** acres of U.S. forests for 1 year



Solar Market Development Income Tax Credit

The goal of the Solar Market Development Income Tax Credit is to provide a tax incentive to increase residential distributed solar PV and solar thermal generation.

From January 1, 2021, to December 31, 2021, there were 3,543 tax year 2020 and tax year 2021 Solar Market Development Tax Credit applications that were approved, representing a total of \$10,508,435 in credits issued to New Mexico taxpayers.

The following benefits were realized:

- Total Installed Capacity: 26.2 MW
- Estimated Taxpayer Average Annual Energy Produced: 12,465 kWh
- Estimated Taxpayer Average Annual Energy Cost Savings: \$1,489
- Estimated Program Total Jobs Supported: 1,742

Renewable Energy Production Tax Credit

The goal of the Renewable Energy Production Tax Credit is to provide a tax incentive for increased utility scale renewable energy generation.

From January 1, 2021, to December 31, 2021, there were 31 Renewable Energy Production Tax Credit applications that were approved, representing a total of 7,100,517.97 megawatt hours generated.

The following benefits were realized:

- Estimated CO2 Avoided: 5,546,845 tons

7,100,517.97 MW hours generated is equivalent to:



CO2 emissions from **11,650,173** barrels of oil consumed



GHG emissions from **1,094,362** passenger vehicles driven for 1 year



CO2 emissions from **605,971** home's electricity use for 1 year

IMPROVING ENERGY EFFICIENCY IN THE BUILT ENVIRONMENT

ECMD is leading several major initiatives to improve energy efficiency in homes, businesses, and government buildings across New Mexico.

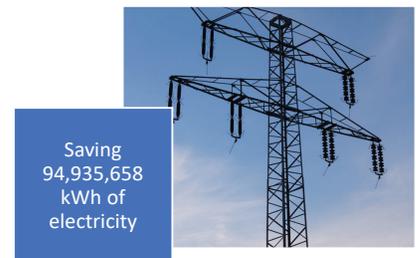
Work has continued to promote energy efficiency and to identify financing mechanisms that can support improvement of public facility inventories. The ECMD Energy Efficiency Program's sustainability is supported by two state statutes, the Public Facility Energy Efficiency & Water Conservation Act [NMSA 1978, 6-23] and the Energy Efficiency & Renewable Energy Bonding Act [NMSA 1978, 6-21], that allow financing of public buildings retrofits. The Program has provided education and technical assistance that has led to eight new projects this year.

Energy Savings Performance Contracting

As part of our state's climate and energy goals, ECMD is helping to make buildings across New Mexico state government more energy-efficient and water-efficient. Energy Savings Performance Contracting (ESPC) has been available to New Mexico's governmental agencies since 1993 through the Public Facility Energy Efficiency & Water Conservation Act.

ECMD has completed the cumulative review of \$278.4 million in ESPC projects, with a total annual guaranteed energy cost savings of \$12.1 million. In addition, \$31.2 million in renewable energy projects using power purchase agreement (PPA) have been completed, equaling 12 million kWh of electricity generated per year.

In 2021, the ESPC Program has reviewed and certified three projects, totaling more than \$15 million in energy efficient upgrades, of which \$2.5 million was financed through the ESPC process. These projects will save the public entities more than \$208,000 per year in utility spending. These monetary savings equate to 14,802 therms of gas, 433,700 kWh of electricity, and 634,000 gallons of water annually. These bring the ESPC program totals since 2011 to 1,217,987 therms of gas, 94,935,658 kWh of electricity, and 35,231,433 gallons of water annually. The three projects added 760.6 kW of solar PV capacity, guaranteed to produce 932,001 kWh of electricity.



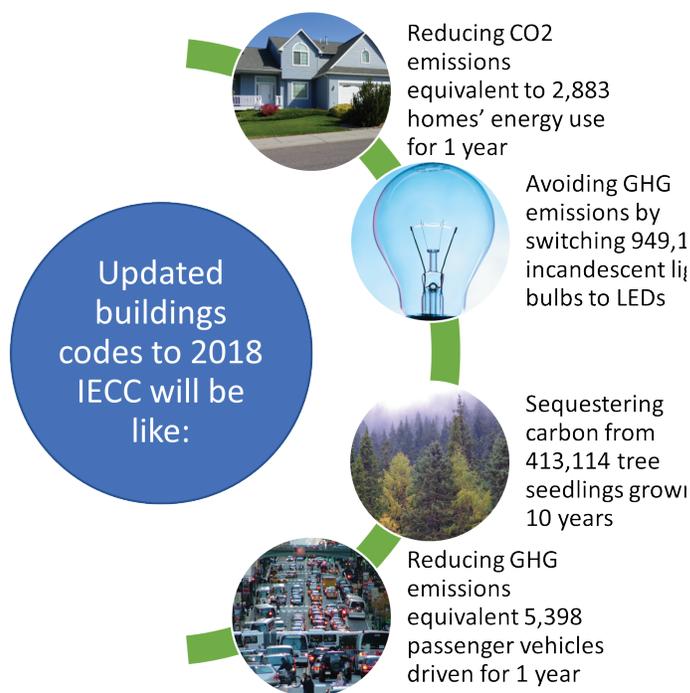


New Mexico Energy Conservation Code Technical Assistance & Training

New Mexico has adopted the 2018 International Energy Conservation Code (IECC), fulfilling a directive from the governor in Executive Order 2019-003. These updated codes went into effect for new buildings and major renovation projects in March 2021. ECMD, the Regulation and Licensing Department Construction Industries Division, the residential and commercial construction industry, and various NGOs collaborated to achieve this major update.

ECMD provided technical assistance and training to the building industry and inspectors on blower door and duct testing methods to meet the 2018 IECC Energy Code requirements. The Santa Fe Community College (SFCC) was contracted to train and certify contractors and inspectors on how to conduct these tests. In addition, considerable efforts went into developing a training syllabus for the SFCC to use in future classes. ECMD is also updating the energy code applications manual for the IECC 2018 Energy Code for residential buildings. The manual will help builders implement the new energy code.

By leading an educational effort to develop and provide training for professionals working in the construction industry, including but not limited to building code officials, architects, contractors, engineers, and project managers, New Mexico is working towards meeting our clean energy and energy efficiency goals. The training classes were developed to help the construction industry adapt to the new residential and commercial 2018 IECC and New Mexico Energy Conservation Code. This effort sets the stage for job creation in New Mexico by establishing a pipeline for qualified New Mexicans to receive training at our higher learning institutions for local jobs. This will strengthen the long run economic outlook of the state and help make our clean energy future a reality.



Sustainable Education for Advanced Buildings (SEAB) Project

A recent grant award from the U.S. Department of Energy, will support ECMD and its partners, Doña Ana Community College, Northern New Mexico College, San Juan College and Santa Fe Community College, all with established building trades programs, with developing and delivering continuing education, training and technical assistance initiatives supporting industry professionals as they adapt to advanced energy technologies. New Mexico's recent update to the state's energy conservation code, along with new aggressive statewide renewable energy and energy efficiency policies has created a new market for highly energy efficient and energy flexible buildings and a demand for highly trained professionals.

Each college, with the support of ECMD and other energy experts from both the private and public sector, will develop the new education and training programs in early 2022 with delivery of the new courses set for later that year.

MICROGRID PILOT PROJECTS

Albuquerque Public Schools, Atrisco Heritage Academy High School

ECMD, in cooperation with the U.S. Department of Energy and Sandia National Laboratories, is assisting the Albuquerque Public Schools (APS) with the procurement, design and construction of a battery energy storage system (BESS) at the district's Atrisco Heritage Academy High School. When completed, the 721 Kw, 2.9 MWh Tesla Mega Pack will provide the school with daily peak load shaving thus reducing the utility demand charges for the grid supplied electricity during peak hours of the day. The BESS will then recharge during off peak hours with electricity from the utility grid or from the recently proposed 850 Kw solar PV array. The BESS is the first installed at an APS school and will be used to demonstrate the value of BESS in reducing operating costs for the district.

ECMD's assistance to APS includes both technical and financial support. The technical assistance consists of supporting the selection of an engineering and procurement contractor, and engineering design review, while the financial support to APS goes to the engineering design efforts.

ELECTRIC VEHICLES AND ALTERNATIVE TRANSPORTATION FUELS

ECMD is responsible for policy development, technical expertise, and tracking of various statutory mandates associated with alternative fuel transportation fuels, electric vehicles and charging infrastructure. Electric Vehicles and Infrastructure

As of 2021, there are 166 publicly available Electric Vehicle (EV) charging stations with 391 charging outlets open to the public throughout New Mexico. In 2021, 69 new charging stations with an additional 89 charging outlets (which includes Level 1, Level 2, and DC fast charging) were installed at businesses, public parking areas and fueling stations across the state.

The current total number of EV chargers on state-owned property is 33, including one Level 2 dual port charger at the Wendell Chino building in Santa Fe and a similar station at Bluewater Lake State Park. The state currently owns 36 Battery Electric Vehicles (BEVs): a 2017 Chevrolet Bolt owned by EMNRD and 35 BEVs owned by the General Services Department.

The ECMD is working in conjunction with State Parks to identify state park locations that may be ideal for EV charger placement. This work includes recommendations for best EV charger type—Level 2 or DC Fast charger. There is currently one Level 2 charger at Bluewater Lake State Park.

ECMD continues our work with Regional Electric Vehicle West (REV West) to electrify New Mexico's major thoroughfares. The REV West partnership is made possible by the leadership and staff from eight states (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming), through their Governors, departments of energy or environment, departments of transportation, and collaborations with various other state agencies. In 2021, REV West began to convene EV branding discussions to potentially use in state tourism campaigns. Through this initiative, calls were set up with each state's tourism agency and REV West partners to learn about the tourism office's major campaigns and whether they have considered EV tourism. The meetings also provided the tourism agencies an opportunity to join future discussions on region-wide EV branding.



Federal Highway Administration New Mexico Alternative Fuel Corridors

In February 2021, ECMD collaborated with the New Mexico Department of Transportation, Land of Enchantment Clean Cities, and the Public Service Company of New Mexico to apply for four additional routes in the state to be electric corridors for the 5th round of the Federal Highway Administrations (FHWA) Alternative Fuel Corridor nominations. Through the approval of this application, New Mexico was able to more than double the length of corridors in the state from 1,100 miles in 2020 to 2,300 miles in 2021. Corridors span across most major routes in New Mexico connecting EV corridors to Arizona, Colorado, and Texas. In April 2021, the FHWA New Mexico Alternative Fuel Corridor Application was accepted, and the additional corridors were designated. The new designated corridors cover approximately 230

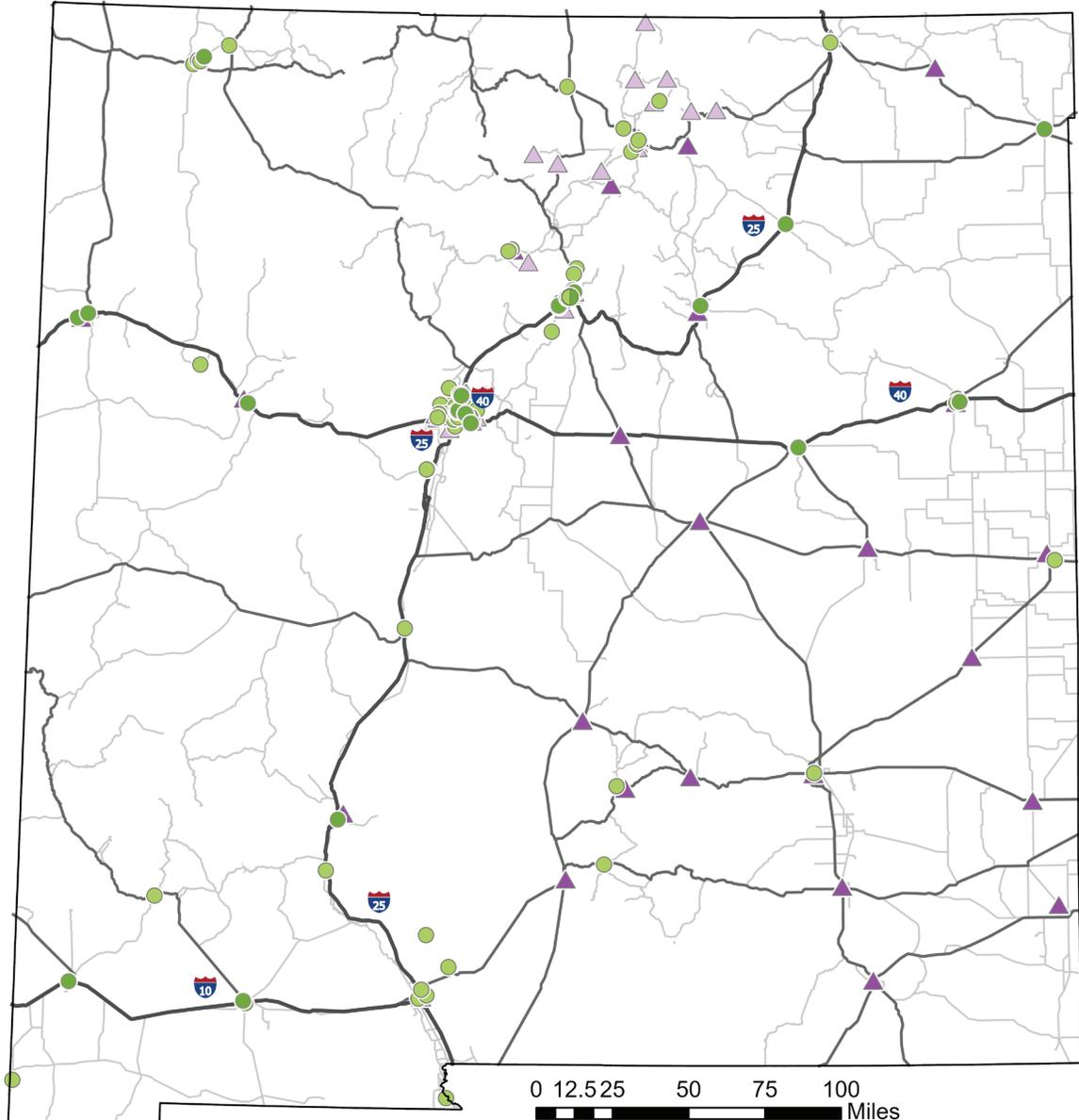
miles between the US60/I-25 interchange and the New Mexico/Texas border; approximately 300 miles along US70 between the US70 /I-25 interchange and the New Mexico /Texas border; approximately 380 miles along US285 between the New Mexico/ Colorado border and Carlsbad, New Mexico; and approximately 300 miles along US380 between the US70 /I-25 interchange and the New Mexico/Texas border The new corridors are as follows:

- U.S. Route 60: Vaughn, NM to Clovis, NM
- U.S. Route 285: Alamosa, CO to Carlsbad, NM
- U.S. Route 380: San Antonio, NM to Tatum, NM



ECMD and Land of Enchantment Clean Cities electric vehicle display at the 2021

New Mexico Electric Vehicle Charging Stations Map



Legend

- Existing DC Fast/Level 2 (1)
- Existing DC Fast Station (32)
- Existing Level 2 Station (138)
- ▲ Future VW Settlement Sites
- ▲ DC Fast Charger
- ▲ Level 2 Charger
- Interstates
- US Routes
- NM Routes

Accessed from U.S. DOE Alternative Fuels Data Center, August 12, 2021.

Large-scale present and planned electric vehicle charging stations in New Mexico



WASTE ISOLATION PILOT PLANT (WIPP) TRANSPORTATION PROGRAM

EMNRD has oversight of the Cooperative Agreement, whose parties include New Mexico Environment Department, New Mexico Department of Transportation, New Mexico Department of Public Safety, and New Mexico Department of Health, and annual funding for the state Waste Isolation Pilot Plant (WIPP) transportation program provided by DOE, and this oversight is housed within ECMD.

COVID-19 impacted training for the WIPP Transportation Program across the entire corridor. All training resumed in early August and paused again by September due to the Delta variant. The WIPP Program Manager and Coordinators continue to develop training delivery into a virtual setting. This has proven to be a challenge in a world where hands-on delivery provides a real-time understanding of processes. Staff continues to search for solutions that meet training needs while protecting responders and hospital staff.

Since 2017 the WIPP Program has:

- Trained over 15,000 responders, medical personnel, and volunteers
- Provided over 100,000 radiation and hazardous material training hours
- Funded 250 NMSP officers to be classified as Emergency Response Officer
- Provided funding to certify six officers as trainers in Critical Incident Management (CIM)
- Assisted in training over 747 State Police Officers in CIM
- Provided funding for 35 Commercial Vehicle Enforcement Officers and Inspectors to become CVSA Certified Level VI Inspectors
- Provided funding for two officers to become trainers for CVSA Level VI
- Provided funding for recertification biennially
- Funded 15 local fire services jurisdictions through a Memorandum of Agreement
- Provided funding for over 2,500 fire fighters to be trained in Hazardous Materials Awareness and Operations, Hazardous Materials Technician, or Chemistry since July 1, 2013
- Provided funding for seven fire departments along the shipping corridor to maintain a certification for FEMA Typed Hazardous Materials Team
- Implemented the in-state compliance review of the shipping carrier – placed on a biennial review process
- Developed a law enforcement centric course (LE



Shipper Site	Shipments Sent to WIPP
Idaho National Laboratory	85
Los Alamos National Laboratory	35 (Point of Origin)
Lawrence Livermore Laboratory	0
Oak Ridge National Laboratory	21
Savannah River Site	4
Sandia National Laboratories	0
Waste Control Specialists	1
Total	146 Inspections

MERRTT) for first responders accredited through New Mexico Law Enforcement Academy to be delivered by all police, sheriffs, and BIA officers along the shipping corridor

EMNRD continues to provide oversight of all transuranic waste transportation shipments in and through New Mexico. DOE averages 10 shipments a week with majority coming from Idaho National Laboratory. Shipments from Los Alamos National Laboratory make up the second largest percentage of shipments to the WIPP facility this year. Total inspections conducted on WIPP shipments in New Mexico for this calendar year in Figure 8.

ECMD worked with the Department of Energy Carlsbad Field Office (DOE-CBFO) to complete the Report to Congress: Evaluation of New Mexico Roadway Infrastructure Projects in Support of WIPP. ECMD continues to work closely with NM Department of Transportation (NMDOT) to review the primary and alternate designated routes to the WIPP for the National TRU Program Southern Transportation Corridor. Currently, shipments from Savannah River Site and Oak Ridge National Laboratories use the designated alternate Southern Corridor approach entering New Mexico on US176 from Andrews, Texas, proceeding south on NM18, and then west on NM128 to the WIPP site. ECMD will continue to work with



New Mexico Forestry Division

State Forester's Letter



Climate change and the pandemic defined 2021. The year started with drought conditions that worsened in late May to exceptional and extreme drought across more than half the state. Wildfires, both human and lightning-caused, were nearly a daily occurrence, with more than 250 fires in the first six months of the year. Volunteer fire departments, the Forestry Division's crews, and interagency partners responded quickly and kept all but a few wildfires on state and private lands under 100 acres.

The upside to the poor snowpack was that foresters and contractors could work through most of the winter. The Division and partners had a record-breaking year of treatments in the priority watersheds. The 2020 Forest Action Plan provided strategies for accelerated restoration, data assessing watershed conditions and wildfire threats to high-value resources, and maps to ensure the right treatment in the right place.

Even though conditions were too dry for spring prescribed burning, lawmakers took action to pass the state's first prescribed fire legislation. Governor Lujan Grisham signed the bi-partisan Prescribed Burning Act, sponsored by Representatives Matthew McQueen and Gail Armstrong and Senators Pat Woods and Peter Wirth, on April 8, 2021. Stakeholders who worked together to explore issues raised in the 2019 House Memorial 42 showed up virtually to support the bill and spoke to the appetite for active land management to promote forest and watershed health.

The Division launched a new program to sequester carbon in forests and other natural and cultivated lands that will play a role in reducing overall greenhouse gas emissions. It will also assist in stabilizing watershed functions, such as snowpack storage, surface water regulation, absorption of stormwater, soil health, and below-ground carbon storage. The Division started the challenging task of establishing a baseline for carbon storage in natural and working lands, including agricultural and rangelands along with forests and woodlands.

The Division worked throughout the year on a Shared Stewardship Portal – an online tool for all New Mexico agencies, organizations, and individuals to use for project planning, coordination, and reporting of treatments completed. Unveiled at the end of the year, the portal supports the cross-boundary partnerships essential to address wildfire threats and climate change.

Scaling up restoration quickly is an enormous challenge that no single agency or organization can accomplish alone. We need to – and we are – working together and accomplishing more each year. The Forestry Division's firefighters, foresters, and administrative staff are leading the way for the state. Monsoon rains from June to August provided New Mexico with a temporary respite, and we used this time wisely. With cooperators, neighbors, and a variety of stakeholders, we will be ready for wildfire next year and working as hard as we can to secure healthy forests for future generations.

A handwritten signature in black ink, appearing to read "Laura F. McCarthy". The signature is fluid and cursive.

Laura McCarthy, State Forester



New Mexico Forestry Division

MISSION: The New Mexico Forestry Division (Forestry) retains lead responsibility for wildland fire management on all non-federal, non-tribal, and non-municipal lands, maintaining fire suppression capacities and emphasizing public and firefighters' safety. Forestry promotes healthy, sustainable forests and watersheds in New Mexico for the benefit of current and future generations.

DIVISION OVERVIEW

- 43 million acres of wildfire suppression response area
- 24,700,000 acres of forest in New Mexico
- 10,700,000 acres of private forest
- 7,900,000 acres of National Forest
- 45 endangered plant species

The Energy, Minerals and Natural Resources Department (EMNRD), Forestry Division (Forestry) is devoted to addressing the critical needs of New Mexico's forests and watersheds by reducing the fuels that increase the dangers of wildland fires, identifying invasive insects that lead to mortality and disease, conserving rare plants, and promoting healthy forests and watersheds for generations to come.

STAFFING

- 78 staff positions
- 39 staff in fire protection, prevention and communication
 - 26 staff in forestry and natural resource management
 - 13 staff in administration and services

Forestry, headquartered in Santa Fe, supports satellite offices across the state, including the Forest and Watershed Health office in Albuquerque and six district offices in Bernalillo, Capitan, Chama, Cimarron, Las Vegas, and Socorro.

PRIORITIES

Address climate change effects on forest and watershed health by accelerating the pace and scale of restoration projects that remove overgrown brush and trees that act as fuel for uncharacteristic, high-severity wildfire, improving conditions to expand the use of prescribed fire on private lands, and by implementing natural climate solutions to reduce carbon emissions.

Assist rural communities and small businesses to restore forests and watersheds and use wood for subsistence and commercial products.

Plan for the future by reforesting burned lands with native trees that are well suited to the projected climate in 2100.

Use the science-based, collaboratively developed state Forest Action Plan to guide the Division's activities over the next ten years with goals, strategies and actions as the roadmap for forest management across ownership and jurisdictional boundaries.

STATUTORY RESPONSIBILITIES

Provide technical assistance to landowners across 33 New Mexico counties to improve forest and watershed health by developing resource management plans, providing insect and disease identification, facilitating forest health project funding, providing tree care training and distributing low-cost seedlings.

Respond to and suppress wildfires on 43 million acres of non-municipal, non-federal, and non-tribal land and proactively mitigate wildfire risk by evaluating communities most at risk to wildfire, developing appropriate management programs, implementing fire prevention projects and managing for forest health.

Regulate the harvest of commercial forest species on private forestland and support the development of a restoration-based forest products industry to use the wood byproducts of forest and watershed treatments.

Conserve forested ecosystems by improving forest conditions and habitat through active management and acquiring land and easements for conservation purposes.

Protect New Mexico's rare and endangered plants by regulating the collection of endangered plants, maintaining a state list of endangered plants, and conducting inventory and research to document the state's plant diversity.

BUDGET

Forestry utilizes the annual operating budget and capital appropriations authorized by the New Mexico Legislature to leverage and match other funding sources to meet its mission and goals. Collaboration with the State Land Office (SLO) and Department of

Game and Fish (DGF), as well as federal agencies including the USDA Forest Service (USFS) and DOI Bureau of Land Management (BLM), allows Forestry to improve the health of our forests across ownership boundaries, protect critical water sources and valuable watersheds, assist communities to reduce the risk of wildfires, and improve wildlife habitat.

LEGISLATION

In 2021, the New Mexico Legislature passed the Prescribed Burning Act (HB57; NMSA 1978, Section 68-5-1 et seq.). The statute was based on a report about the barriers to expanding prescribed burning on private lands, generated after passage of House Memorial 42 in 2019. The Prescribed Burning Act:

- establishes a negligence standard for any prescribed burning on private lands;
- creates a training program for landowners and contractors to build the skills to conduct prescribed burns safely;
- creates a certification program for prescribed burners who demonstrate proficiency; and
- creates a model prescribed burning permit for counties and municipalities to use if they choose to issue permits.

ACCOMPLISHMENTS OVERVIEW

During the calendar year 2021, the Forestry Division continued to meet its goals while living with the challenges of the ongoing COVID-19 pandemic. Significant drought brought an early start to the fire season and increased the number of wildfires on state and private land requiring initial attack. The New Mexico Forest Action Plan was published, providing strategies to reduce wildfire risk and increase the pace and scale of improving the state's overall forest and watershed health over the next decade. The Forestry Division developed a Natural and Working Lands program to carry out Governor Lujan Grisham's Climate Change Executive Order with strategies to reduce greenhouse gas emissions from wildfire and increasing the sequestration capacity of forests and rangelands. The Division cultivated new tribal partnerships and tried new management techniques such as using goat herds to remove invasive trees in bosque forests because they are less damaging

to sensitive riparian environments than heavy equipment.

This is only a fraction of the accomplishments achieved by Forestry staff this year. The following is a compilation of a wide range of activities completed across the state.

FIRE MANAGEMENT

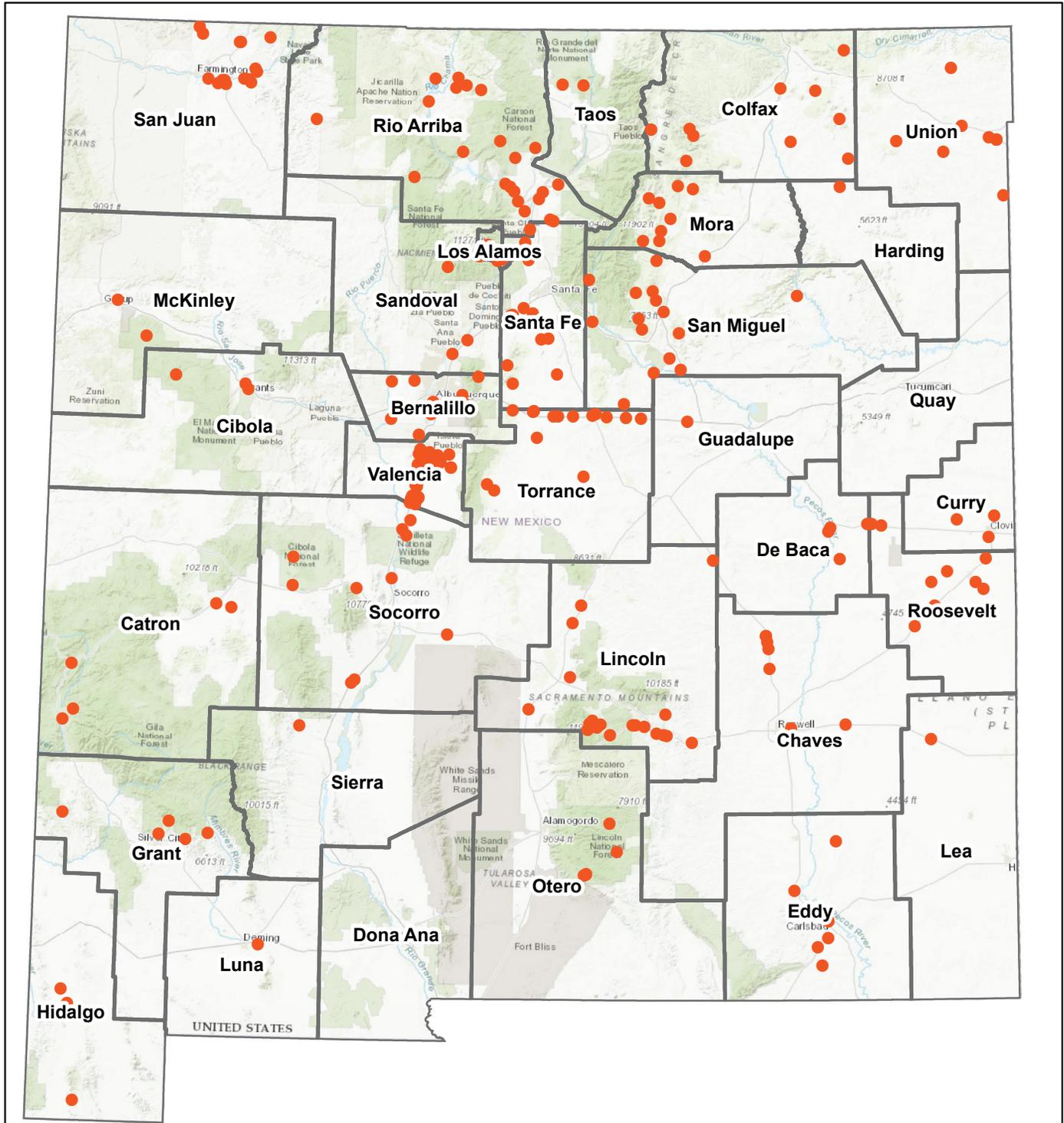
- 7,767 acres burned on state and private land
- 285 total wildfires
- 85% human-caused

Severe drought conditions gripped the state in 2021, thanks to a very dry monsoon the year prior. As New Mexicans prepared for long-term water deficits, fire managers were ramping up training and getting ready for what they expected to be a busy fire season. Swift initial attack on fires that burned on state and private lands and expanded public outreach kept the number and spread of wildfires in the state low. Still, the number of fires started by people remained high at 85%.

The Forestry Division continued to follow rigorous COVID-19 protocols on all incidents for the safety of firefighters and the public. Safe practices include daily self-health checks, using mobile decontamination units to disinfect tools and vehicles, and setting up fire camps comprised of separate sleeping and eating areas for each division or crew.

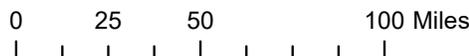


New Mexico Fires Calendar Year 2021



Cartographer: Randall Fowler
 Data Source: NMSF
 Coordinate System WGS 1984
 Scale: 1:3,000,000
 Date: 9/17/21

● 322 Wildfires (2021)
 8,976 Acres Total



FIRE TRAINING AND EQUIPMENT

- 1,059 non-federal wildland firefighters provided training
- 256 local fire departments and at-risk communities provided with equipment or training
- 164 local firefighters hired for emergency response

Forestry trains and hires hundreds of firefighters annually to combat wildfires each year in New Mexico. Entry-level and advanced training is provided free to students with support from state and federal funding.

In 2021, classroom training continued in a virtual environment to minimize physical contact during the ongoing pandemic. Local fire cooperators responded well to the online format, which followed criteria established by the National Wildfire Coordinating Group in November 2020. Physical fitness tests continued to take place in small groups. The Division is working to increase its training capacity for 2021/2022 by hiring more contractors to teach the curriculum. This will allow more wildland firefighters to be educated and qualified across New Mexico.



Paradise Loop Fire, Torrance County. Photo NM Forestry Division.

FIRE PLANNING TASK FORCE

- 840 communities at risk
- 62 Community Wildfire Protections Plans (CWPPs) completed

The New Mexico Fire Planning Task Force is made up of local, state, federal, and tribal cooperators who assist Forestry to identify and protect areas most vulnerable to wildfires. The Task Force meets once per year to approve CWPPs, develop model ordinances and standards for building codes, and consider the benefits of thinning, prescribed burns, and defensible space to reduce the threat of wildfires to communities.

WILDFIRE PREVENTION PROGRAM

- \$8,535,253 Firewise USA™ community investment over last five years
- \$2,050,132.70 invested by communities in 2021 to reduce their wildfire risk with Firewise USA™
- 32 Firewise USA™ sites in good standing

Forestry collaborates with local, state, federal, and tribal partners to educate New Mexicans about fire prevention and preparedness using programs such as Fire Adapted Communities (FAC), Ready,



Bernalillo District firefighters after the Cemetery Fire in Valencia County.

Set, Go! (RSG), and Firewise USA™. This flagship national recognition program encourages neighbors to act together to reduce the wildfire risk to their communities. Out of 31 active communities, the Village of Ruidoso in Lincoln County contributed the most significant investment of time and money (\$1,410,000) toward reducing their wildfire risk as of October 19, 2021.

Despite ongoing cancellations of public outreach events related to COVID-19, many Firewise USA™ communities continued in their commitment to work toward wildfire resilience. They did this by reducing hazardous fuels on their properties, holding virtual meetings, and using websites, social media, and community message boards to get the word out.

WILDLAND FIREFIGHTER PROGRAM

- 49 emergency wildland firefighters hired to hired by the Type II and Initial Attack Team
- 38 wildland fire and prescribed fires assignments completed on state, private, and federal land

The Wildland Firefighter Program provides Type II initial attack capacity for rapid response to wildfires throughout the state. The program trains emergency firefighters at the start of the season and provides them with work opportunities on the Rio Grande and Wheeler Peak crews.

During the 2021 fire season, the fire crews received training and responded to fires throughout the state in May and June. When the monsoon rains arrived, New Mexico crews assisted with firefighting efforts in Arizona, California, Idaho, Montana, Oregon, and Washington. When fires were not active, program staff worked on watershed and forest health improvement projects and accomplished fuels reduction, hazardous tree removal, and pile burning in Hyde Memorial State Park, Pecos Canyon State Park, and at Rio Grande Nature Center.

INMATE WORK CAMP (IWC) PROGRAM

- 75 acres treated on public and national forests
- 51 inmates trained
- 2 projects performed with two different state and federal agency cooperators
- 1 wildland fire assignment

Forestry's Inmate Work Camp Program (IWC) provides training and work opportunities for minimum-security inmates and contributes to forest health maintenance on public lands in the state. The crews are trained as wildland firefighters and, excepting the pandemic, are an efficient, cost-effective resource for New Mexico. In cooperation with the New Mexico Corrections Department (NMCD), each inmate crew comprises 10 to 12 inmates from the Level 1 Minimum Security Prison Facility in Los Lunas. The inmates are monitored by Forestry Division Crew Supervisors and a Correctional Officer.

Due to the COVID-19 pandemic, NMCD prohibited all off-site work details from March 2020 through June 2021. IWC staff typically assigned to supervise the inmate crews instead assisted the wildland fire crews to boost fire response capacity during the busiest times of the fire season. In June 2021 vaccinated inmates were approved for off-site and emergency wildland fire assignments and resumed pre-pandemic activities with one crew to start. The IWC Program continues to work with NMCD to add and train additional crewmembers.



IWC crews work to eradicate and control invasive plant species to help prevent the spread of wildfires in various environments across the state. This project along the Rio Grande Bosque in Albuquerque took place off Central Avenue in cooperation with the City of Albuquerque Parks and Recreation Open Space Division and the Forestry Division's Bernalillo District. Photo: NM Forestry Division

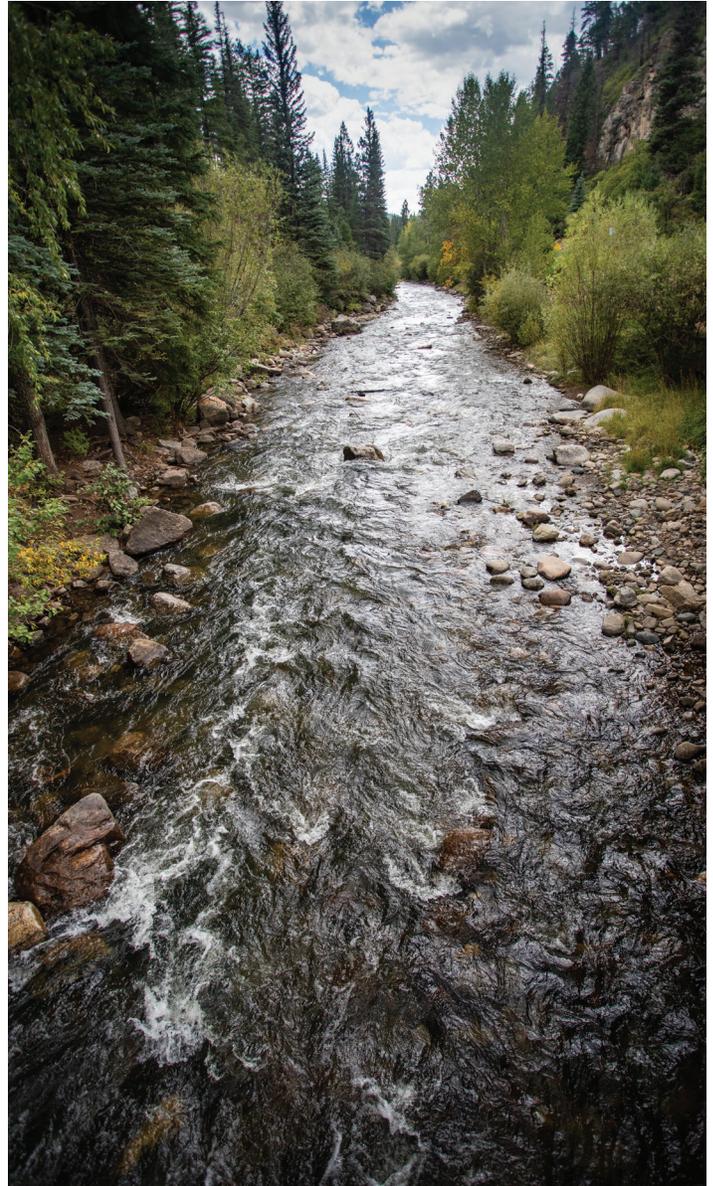
FOREST & WATERSHED HEALTH PROGRAM

- 99,414 acres of prescribed burning since 2014
- 65,633 of thinning treatment acres from 2014 through 2021
- 14,637 acres of forest restoration performed on state, private, federal, and tribal lands in 2021
- 192 action items in the 2020 Forest Action Plan supporting 10 statewide strategies
- 60+ agencies and organizations attending the statewide Forest and Watershed Health Coordinating Group's quarterly meetings in 2021
- 23 Pueblos, Tribes, and Nations invited to participate in Coordinating Group meetings

In 2008, the Forestry Division established the Forest and Watershed Health Office and created the Forest and Watershed Health Coordinating Group, an advisory body of partners engaged in restoration. The Forest and Watershed Health Plan created that year was intended to break down barriers to restoration and the Coordinating Group's objective was to collaboratively plan, fund, and implement the best restoration strategies in the right places. These concepts, updated with our current understanding of climate, fire, ecological and social sciences, are now integrated in the 2020 New Mexico Forest Action Plan.

The New Mexico Forest Action Plan, published this year, provides the Forestry Division and its partners a roadmap for managing our forests and watersheds in ways that increase their resilience to wildfire and other disturbances accelerated by climate change. The Forest Action Plan is organized by ten strategies that outline the range of actions required to restore forests, manage fire safely and effectively, and coordinate resource management and land conservation with our sister agencies and stakeholders statewide.

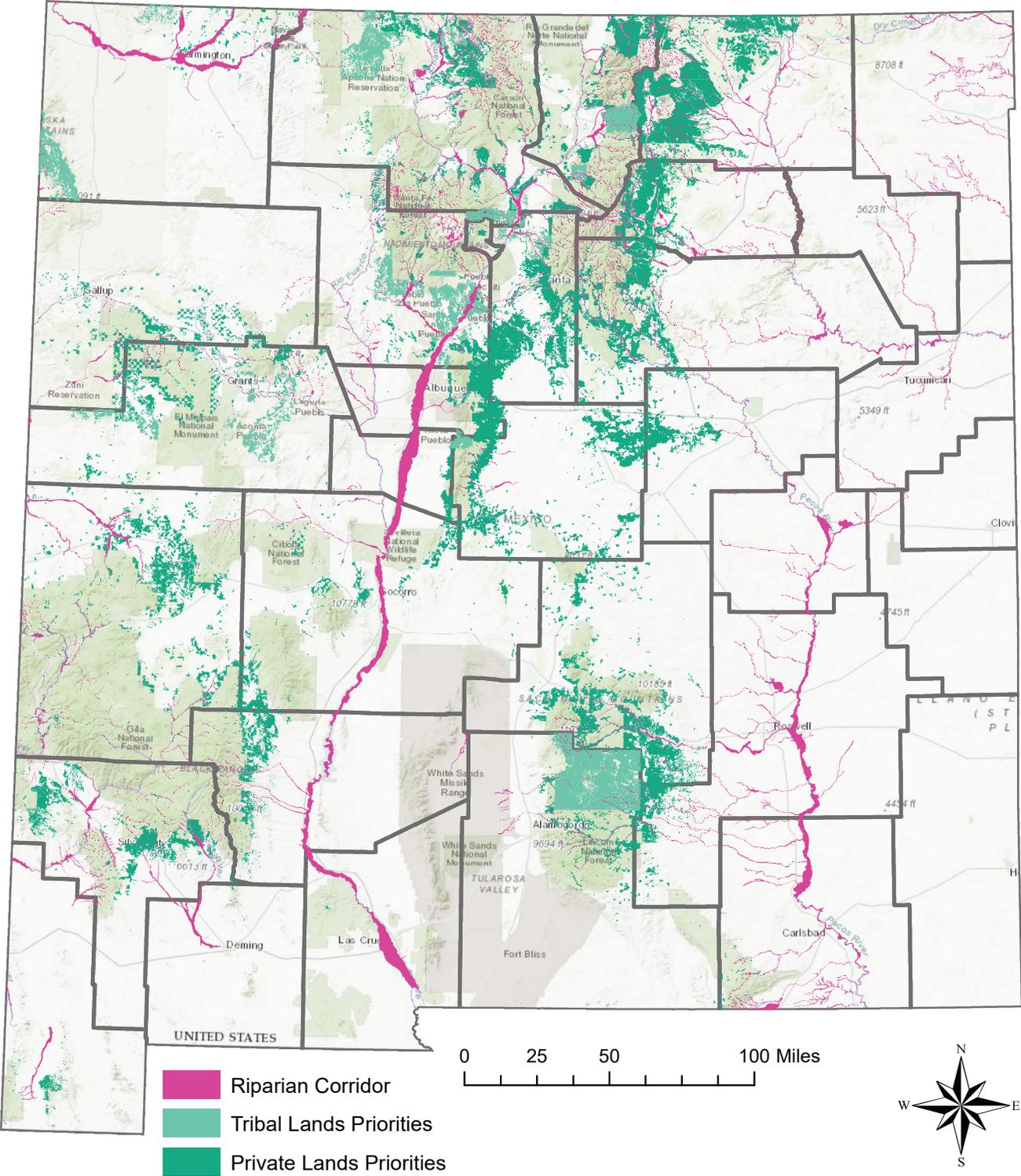
The Forestry Division began 2021 with a workshop about implementing the actions laid out in the plan. More than 80 participants contributed ideas and committed their organizations to carrying out activities in the plan. These include actions that meet the objectives, and carry out the intent, of the Agreement for Shared Stewardship in New Mexico, signed by Governor Lujan Grisham and the USDA Forest Service in 2019.



Pecos River photo courtesy of New Mexico Tourism

As of this year, the Forestry Division and the Southwest Region are leading the way for other states to implement shared stewardship. New Mexico mapped ten large Shared Stewardship Priority Landscapes based on cutting edge geospatial analysis. Together with our partners and local collaboratives, we are zeroing in on strategic 'focal areas' within the Priority Landscapes, and then identifying shovel-ready and out-year projects inside those focal areas. Focal areas are smaller, but still extensive, landscapes within which we will concentrate efforts and resources over the next decade, while projects are specific locations targeted for forest treatments and other forms of active management over several years.

Private and Tribal Lands Shared Stewardship Priorities



NATURAL AND WORKING LANDS

- 9 carbon flux towers providing data to establish a baseline of carbon stored in natural and working lands (forests, rangelands, and cultivated land)
- 5 goals established by the Natural and Working Lands Climate Action Team
- 2 state agencies working together (New Mexico Department of Agriculture and Energy, Minerals and Natural Resources Department)

The Natural and Working Lands Program was established to carry out Governor Lujan Grisham's Executive Order Addressing Climate Change and Waste Prevention (2019-003). The Forestry Division and New Mexico Department of Agriculture are co-developing strategies to reduce greenhouse gas emissions from wildfires and increase the sequestration capacity of New Mexico's forests, rangelands and cultivated agricultural lands through sustainable management practices.

The majority of 2021 was spent establishing measurable goals for the program and identifying forestry and agricultural strategies with high carbon gain potential. Strategies with the greatest carbon sequestration potential include: landscape-scale fire reduction and mitigation in high risk and high priority areas; prescribed burning on private land and across all ownerships; landscape-scale restoration to improve soil health and mitigate drought stress; and soil health improvement.

The program is organizing technical assistance for state personnel and establishing measures and oversight for state agencies to track natural climate solutions to aide in the development and implementation of a science-based monitoring protocol for carbon sequestration from natural and working lands strategies.

FOREST AND WATERSHED RESTORATION ACT (FAWRA)

- \$2 million allocated annually
- 4,480 total acres completed with FAWRA funding since Act passage
- 2,247 acres completed with FAWRA funds in CY2021
- 8 projects proposed in spring 2021



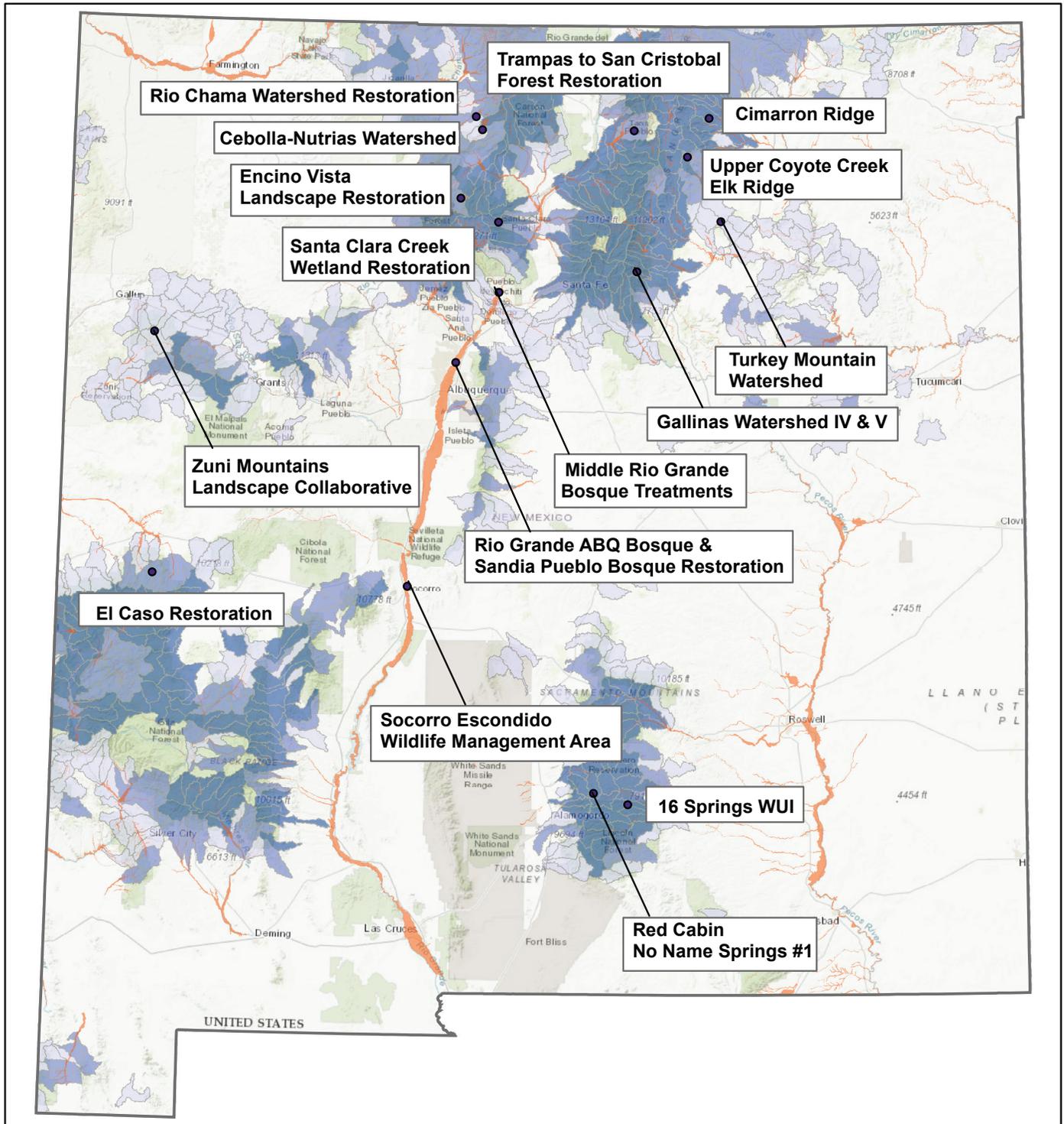
Carbon flux towers monitor ecosystem processes by quantifying carbon, energy, and water balances in semi-arid biomes across six major biomes in New Mexico. This flux tower is located in a piñon-juniper woodland on the Department of Energy, Ameriflux Management Project. More information can be found at <http://www.litvaklab.org/>. Photo: Marcy Litvak, Litvak Lab.

The Forest and Watershed Restoration Act (FAWRA) Advisory Board met two times in 2021 to review and recommend projects to enhance the adaptability and resilience of New Mexico's forests and watersheds to climate change and wildfires, improve water quality and support economic activity associated with wood harvest.

The eight projects recommended for FY2022 include the continuation of landscape-scale thinning projects in the Turkey and Zuni mountains and the Gila; a new landscape-scale thinning project near Cimarron; two national forest projects near Cloudcroft and in the Zuni mountains; and three new bosque restoration project areas on the Middle Rio Grande reach.

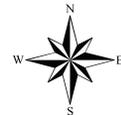
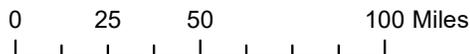
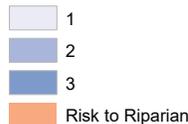
The Advisory Board met a third time in 2021 to develop guidelines for selecting FY2023 projects. The guidelines were issued in October to allow plenty of time for the next round of collaborative project development.

Statewide FAWRA Projects



Cartographer: Randall Fowler
 Data Source: NMSF
 Coordinate System: NAD 1983
 UTM Zone 13N
 Scale: 1:3,000,000
 Date: 9/29/2021

Top 500 Watersheds (Values at risk are wildfire damage, water sources and infrastructure, and wildlife habitat)



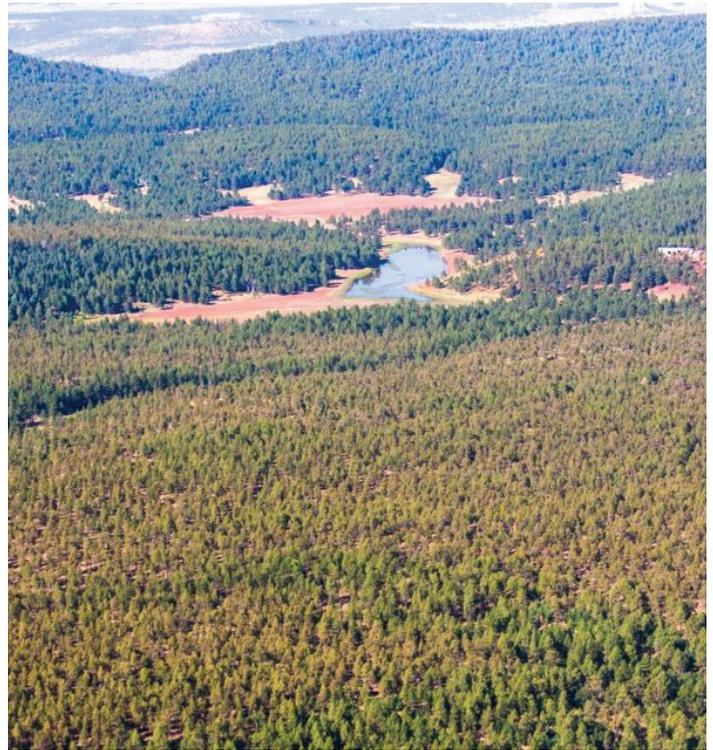
FOREST HEALTH PROGRAM

- 74 site visits, which included 44 site visit 'blitzes' to Homeowner Association property owners with bark beetle outbreak issues near Santa Fe and Sandia Park
- 18 partners, tree companies, universities, and extension agents assisted with forest health questions or concerns
- 12 private landowners chosen for Forest Health Initiative cost-share treatments
- 11 insect and pathogen samples identified

The Cooperative Forest Health Program delivers technical assistance and grant funding to landowners and managers to increase forest resilience to harmful insects and diseases. The program provides trainings, field visits, and education events that increase knowledge about native and invasive insect and disease outbreaks and improve management practices. Federal cost-share funding is administered to private landowners to improve forest resilience to bark beetles and other insects and diseases.

Drought conditions resulted in increased bark beetle-related piñon mortality across municipal and private land in northern New Mexico and yellowing ponderosa pine throughout the state in 2021. Extensive bark beetle-related piñon mortality continued for a second year in and around Edgewood and east of Santa Fe. Additionally, a large area of bark beetle-caused piñon mortality was newly detected on private land west of Cuba.

Ponderosa pine needleminer continues to defoliate large swaths of forest (70,000 acres) on the near Raton and has also expanded its defoliation activity around Tres Piedras. Douglas-fir mortality increased on higher elevation private land in northern New Mexico. This increased mortality was caused by Douglas-fir beetle activity and was likely triggered by stress from drought and chronic western spruce budworm defoliation.



Drought stressed Ponderosa pine with yellow foliage in the Gurman Canyon area of the Zuni Mountains. Photo Dan Ryerson, USFS

ENDANGERED PLANT PROGRAM

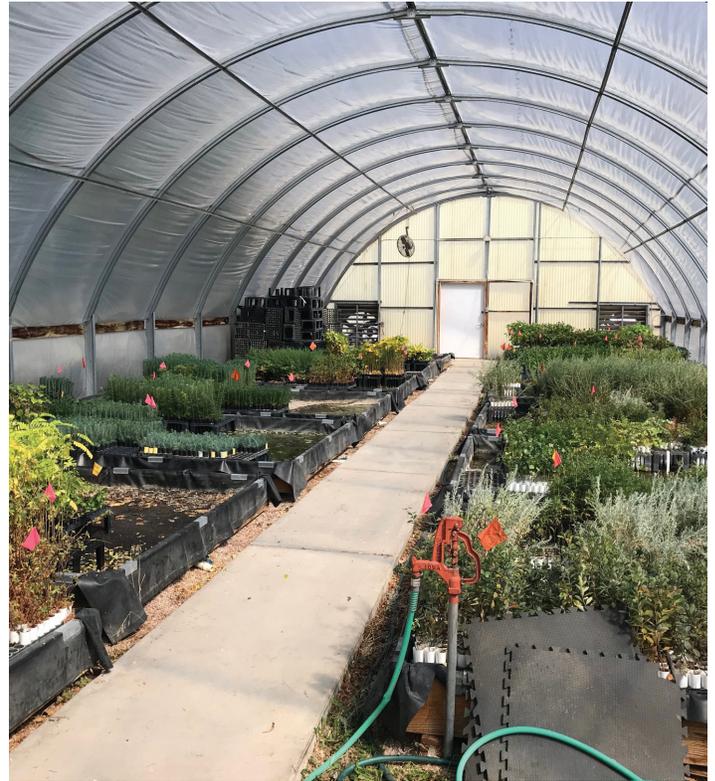
- 235 rare and endangered plant species in New Mexico
- 109 species only occur in New Mexico and nowhere else in the world
- 45 plant species listed as state endangered
- 13 plants federally listed as threatened or endangered
- 10 rare and endangered status and monitoring reports were completed and turned into the US Fish and Wildlife Service

Endangered Plant Rule amendment created to increase protection from incidental take of rare plants on federal and state lands.

The Endangered Plant Program maintains and updates the New Mexico Endangered Plant Species List, gathers information on the status and distribution of rare plants, and develops conservation measures necessary for the survival of rare and endangered plants. The Forestry Division promotes the conservation of rare and endangered plant species through research, inventorying and monitoring, law enforcement, habitat maintenance, education and propagation of rare plants.

The Division proposed an amendment to the Endangered Plant Rule in 2021 and held informal review from June to September, followed by a public hearing in November. The rule amendment will align more fully with the statute and will provide increased protection for endangered plants from incidental take.

The Division completed ten rare and endangered status and monitoring reports under grants from the US Fish and Wildlife Service. Status surveys were completed for Arizona willow, Metcalfe's beardtongue, and Mimbres figwort. Annual monitoring was also completed for Knowlton's cactus, Pecos sunflowers, Wright's marsh thistle, Santa Fe cholla, and Holy Ghost ipomopsis.



Forestry Division seedling warehouse Casa de Arboles, Santa Fe.



Ipomopsis sancti-spiritus (Holy Ghost *Ipomopsis*)

CONSERVATION SEEDLING PROGRAM

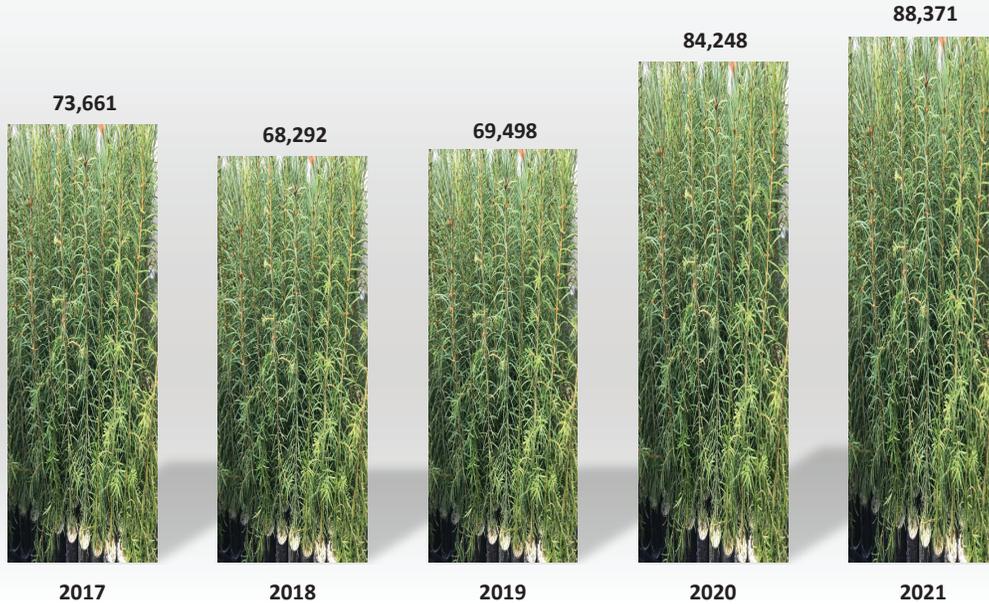
- 88,371 low-cost conservation seedlings sold
- 9,000 seedlings purchased and planted on tribal lands in the Jemez Mountains
- 73 species of native trees and shrubs distributed

Forestry's Conservation Seedling Program provides economically priced tree and shrub seedlings to landowners who own one acre or more of land in New Mexico. Through the program, tens of thousands of seedlings are planted each year for the establishment of windbreaks, erosion control, reforestation, crop and livestock protection, to improve or create wildlife habitat, and provide energy cost savings when trees are planted to shade homes and businesses.

Seedling sales continued through the pandemic from the Santa Fe tree house, but seedling distribution did not happen at the State Fair, which Forestry did not participate in in response to COVID. Trees, Water, and People, a non-profit foundation based in Fort Collins, Colorado, purchased 5,000 ponderosa pine and 4,000 Douglas-fir seedlings that were planted on tribal lands in the Jemez Mountains.



Number of Trees & Shrubs Distributed Conservation Seedling Program Calendar Years 2017-2021

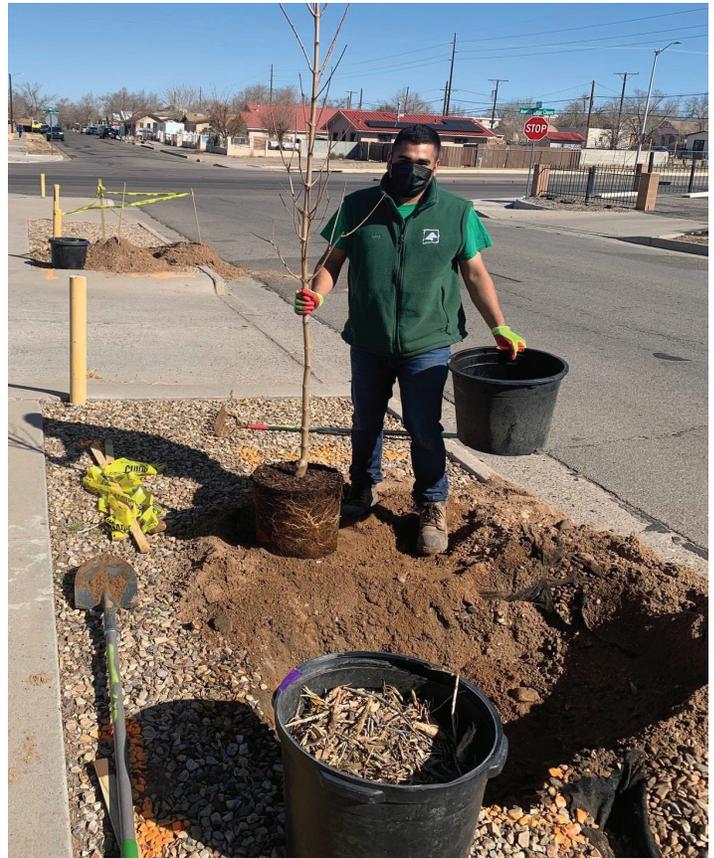


URBAN & COMMUNITY FORESTRY PROGRAM

- 31 communities with historic tree inventories and management plans
- 15 active partners serving on the New Mexico Urban Forest Council
- 9 communities recognized as Tree City USA's by Arbor Day Foundation
- 6 national champion Big Trees recognized by American Forests Foundation

The Urban and Community Forestry Program works to empower New Mexico communities to develop and sustain healthy community forests for the benefit of current and future citizens of the state.

Community forests have significant, positive impacts on human and environmental health, community tourism and economics, but are challenged by drought, lack of management, and planning. The program is guided by the Urban and Community Forestry Strategic Plan under the advisement of the New Mexico Urban Forest Council.



Spring Planting with Luis Santiago of Tree New Mexico in Albuquerque's South Valley.

RESOURCE MANAGEMENT PROGRAM

- 199,449 acres total with forest stewardship plans in New Mexico
- 21,423 acres in new or revised forest stewardship plans
- 649 landowners participated in educational programs related to forest stewardship, fire prevention, and forest management
- 226 technical assistance requests completed for landowners
- 6 forest stewardship plans for private forest landowners

Forestry works with private landowners and state and federal agencies through the Resource Management Program to improve healthy and resilient forests and watersheds, and to protect land from future development that isolate and fragment forested areas. Forestry administers several incentive programs to place conservation easements on large, contiguous tracts of land.

The Forest Stewardship Program also provides technical assistance and manages projects in partnership with Tribes, Pueblos and Nations. In 2021 the program supported a variety of projects from tree thinning and timber sales to firewood collection and wetland restoration.

The American Flag stands tall over log decks at a Northern New Mexico Tree Farm. Photo: Shannon Atencio, Las Vegas District Forester.



The American Flag stands tall over log decks at a Northern New Mexico Tree Farm. Photo: Shannon Atencio, Las Vegas District Forester.



"Brazos Peak" Photo by Anthony Webb

FOREST LEGACY PROGRAM

- 16,787 total acres protected with the Forest Legacy Program since its inception in NM
- 6,718 acres are pending a conservation easement through the Forest Legacy Program

The Forest Legacy Program is a federal partnership program that supports states' efforts to protect privately owned, environmentally sensitive forest lands. The program encourages and supports the acquisition of conservation easements that restrict development, require sustainable forestry practices, and protect other values in perpetuity. Landowners who own a minimum of 40 acres with at least 75 percent forested land can receive up to 75 percent of the appraised land value with a 25 percent donation.

An application for more than 3,600 acres, which includes the Brazos Cliffs in Chama, was funded in fiscal year 2017 for \$3,480,000. A new Forest Legacy Program application was submitted and funded in FY2019 to conserve the remaining 2,740 acres. Since then, 300 acres were added to the project for a total of 3,040 acres conserved by late 2021 or early 2022, pending review and acceptance of the appraisal value of the conservation easement by the landowner.

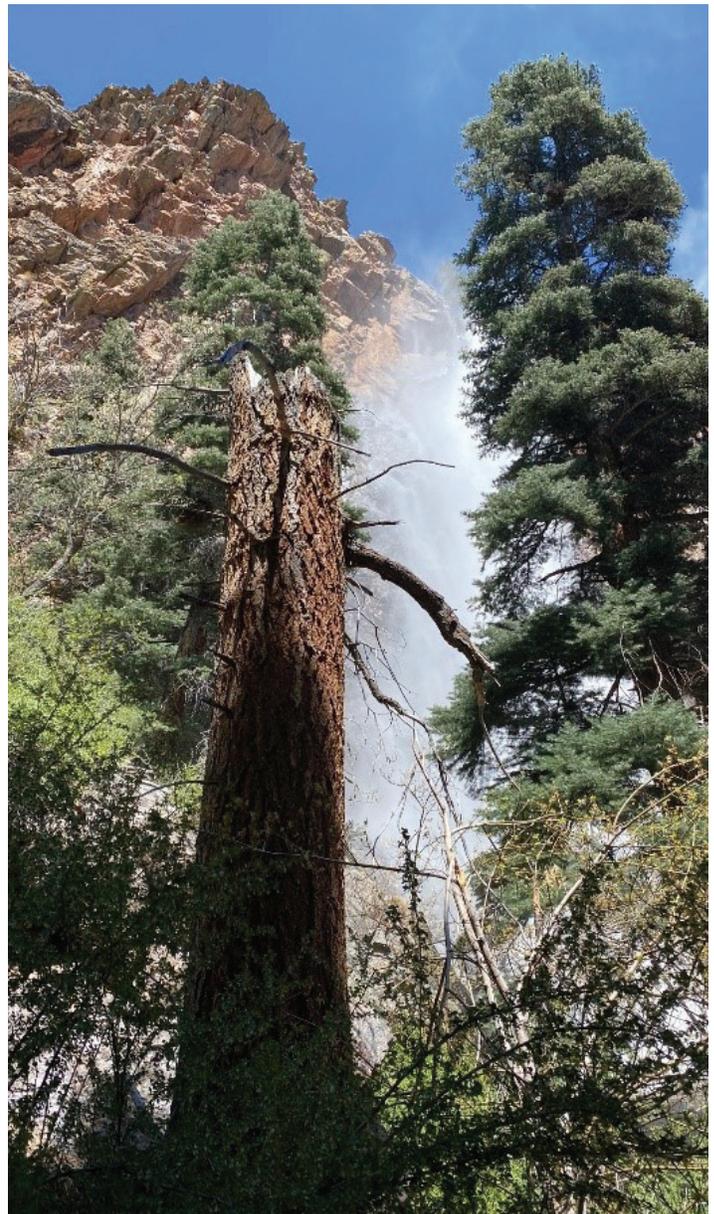
FORESTRY DIVISION LAND CONSERVATION PROGRAM

2021		2004 to Present	
Acres Conserved	5,735	Total Acres Conserved	220,250
Appraised Value	\$2,099,000	Total Appraised Value	\$102,781,644
Tax Credits Paid	\$750,000	Total Tax Credits Paid	\$30,338,787

LAND CONSERVATION INCENTIVES PROGRAM

- 220,250 acres of forest and rangeland conserved with state tax credits from 2004-2021
- 5,735 acres were conserved with the tax credit program in 2021
- 4 tax credits awarded

The Division oversees the Land Conservation Investment Program that provides state tax credits for charitable donations of land or an interest in land (conservation easement) for conservation purposes to a public or private conservation agency. A taxpayer has a maximum of 20 years to fully use the tax credit following the taxable year in which the donation took place, or the tax credit may be transferred (sold) to another taxpayer through a tax credit broker in minimum increments of \$10,000. In 2020, fifteen applicants were awarded tax credits ranging from \$20,500 to \$250,000.



"El Chorro", a 1300' seasonal waterfall on the Brazos Cliffs begins flowing in April 3, 2021. The waterfall, located seven miles from Forestry's Chama District office, is a local celebration of spring and promise of a new season. Photo by Chama District

TRIBAL PARTNERSHIPS

- \$1 million in Forest and Watershed Restoration Act (FAWRA) funding for treatment of forested areas containing springs on the Mescalero Apache Reservation
- \$420,000 of FAWRA funding used for treatment of the Rio Grande Bosque area of the Santa Clara Pueblo
- \$120,000 in funding provided to the Sandia Pueblo for wildland fire burn restoration and treatment of invasive species, including the use of 200 cords of firewood delivered to a portion of the Navajo Nation for heating and cooking
- 130 goats to treat salt-cedar and Russian-olive in the Sandia Pueblo Bosque
- 35 Division staff attended the new Cultural Connections training

The Division is actively engaging tribes in collaboration and communication, and has a designated Tribal Liaison who serves as the focal point for Division-wide initiatives and communication with tribes. The liaison also coordinates activities and communication with the Departmental tribal liaison.

Projects with Sandia Pueblo, Santa Clara Pueblo and Navajo Nation restored bosque habitat with a variety of techniques from invasive plant removal by grazing goats to mastication machines and prescribed burning of excessive vegetation. Tree thinning in dry mixed conifer forests was conducted by Mescalero Apache Tribe on their reservation lands. New restoration projects were planned with the Pueblos of Laguna and Acoma, and new agreements were started with the Pueblos of Isleta, Santa Ana, Jemez and Kewa.

A Cultural Connections training program was developed to complement the State Personnel Office's Building Cultural Equity with Tribal Nations effort. The Division-specific training covers the State-Tribal Collaboration Act, New Mexico tribes and their history, cultural customs and other information specific to New Mexico tribes. The training is available for all Division staff and was recently expanded to allow the State Parks Division to participate as well as the Division's non-governmental organization partners.

The Division also launched a tribal working group to provide a forum for tribes, state, federal and other agencies to coordinate, collaborate and communicate on a recurring, regular and

consistent basis. The group discusses state-wide natural resource and forest and watershed management efforts where tribal entities can engage, share knowledge and funding opportunities, leverage resources, and coordinate across boundaries. The group is intended to be a cultural exchange and to build state-tribal relationships that offer technical support and assistance. This working group sits under the umbrella of the Division's long-standing Forest and Watershed Health Coordinating Group.



The Forestry Division continues to provide firewood to multiple New Mexico chapters of the Navajo Nation on the Bernalillo District, including Oho Encino, Counselor, and Torreon. The effort with the Southern Sandoval County Flood Control Authority (SCCAFCA), Bureau of Reclamation (BOR), and The Nature Conservancy (TNC). The wood pictured came from the Rio Grande Restoration river channel project in February 2021.



Alpacas are used to fend off predators as goats graze through invasive trees, shrubs, and grasses. Photo: Todd Haines, Bernalillo District Forester.

SMOKEY BEAR HISTORICAL PARK

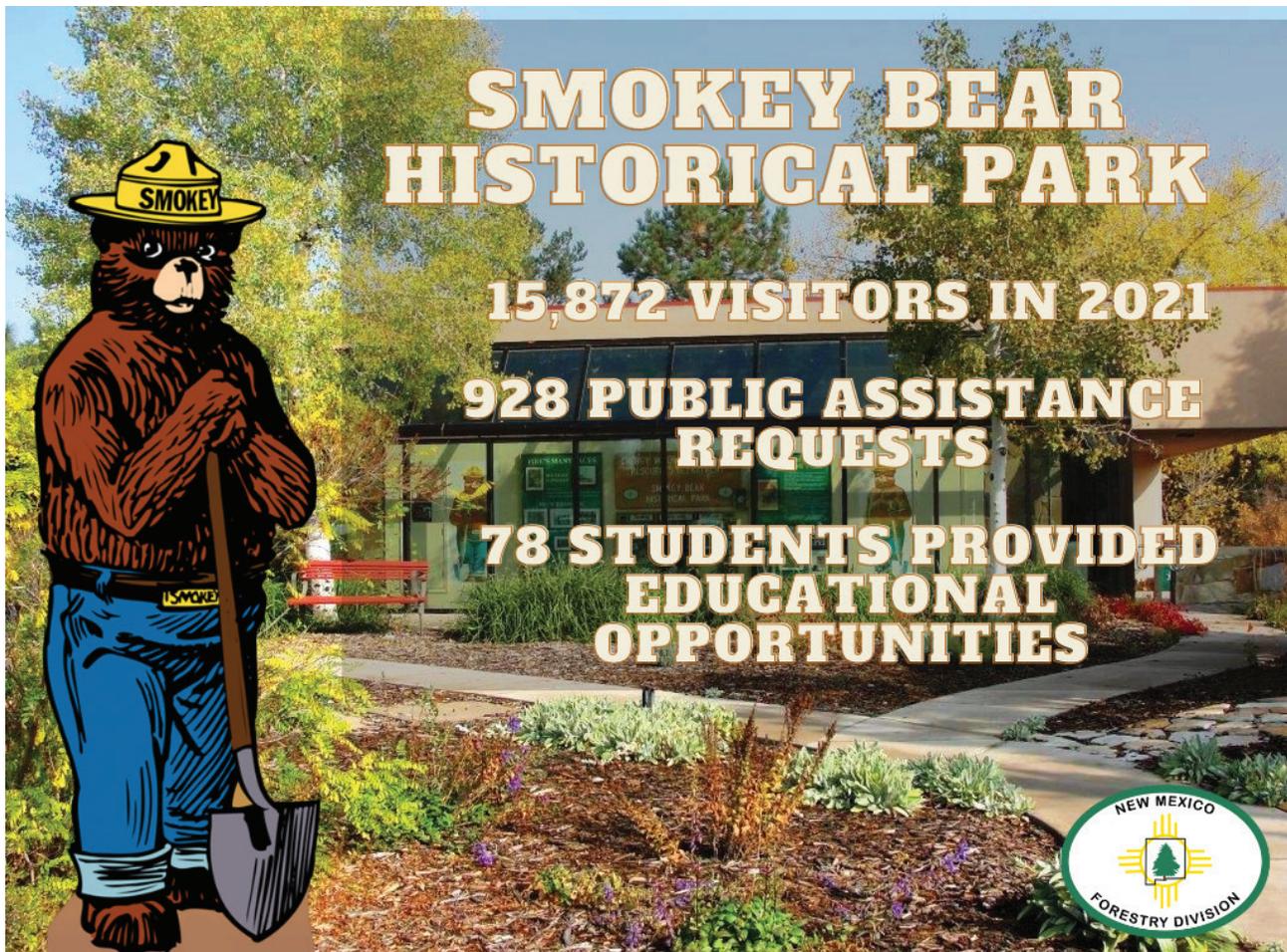
- 15,872 visitors in 2021
- 928 public assistance/information requests accommodated
- 78 students from Alamogordo, Mescalero, Portales, and California provided first-time virtual tours and educational opportunities

Smokey Bear Historical Park was built to honor a tiny five-pound black bear cub rescued from the Capitan Gap Fire in 1950. The cub later became the living symbol of the Smokey Bear Cooperative Forest Fire Prevention Campaign, which continues to educate the public nearly 80 years later. Smokey lived out his life at the National Zoo in Washington D.C. and was secretly buried at Smokey Bear Historical Park where guests can visit his grave and learn about forest health, fire ecology, and the history of fire prevention.

The park was fully closed due to COVID-19 restrictions from January 1, 2021, through February 28, 2021. On April 20, 2021, the visitor center, outdoor interpretive garden, and memorials reopened to in-state and out-

of-state guests. Once in-person outdoor activities were safely resumed, the park rangers conducted multiple educational opportunities for students of all ages, both virtually and in-person, once COVID-19 restrictions eased. The park held its first live virtual tour of the Visitor Center for 53 elementary-age students and 23 adults from the Portales area via the Portales Public Library Facebook page. Staff also assisted three students from Monterey Trail High School in Elk Grove, California, with a report on the history of Smokey Bear through Zoom, and another 22 students from schools in Alamogordo and the Mescalero Apache Reservation took part in tours of the park and visitor center.

Additional public outreach included participation in the Lincoln County Fourth of July Rodeo and parade in Capitan, which had more than 3,000 people in attendance. Staff from the park and the Forestry Division's Capitan District Office brought Smokey Bear to the event to share wildfire prevention messaging to both kids and adults.





Mining and Minerals Division

Mining and Minerals Division



State agencies continued to be impacted by COVID-19 this year. Department staff began teleworking in early March 2020 and returned to the office part-time in mid-July 2021. Fortunately, the transition to telework was seamless thanks to the use of technology and the Department's IT division's support, allowing day-to-day work to continue as described in this year's annual report.

The Mining and Minerals Division (MMD) serves the public by ensuring the responsible utilization and safeguarding of New Mexico's lands affected by mining and is a leader in responsible mine operation and reclamation. The Division consists of four programs: The Abandoned Mine Land Program, The Coal Mine Reclamation Program, The Mine Registration, Reporting and Safeguarding Program, and The Mining Act Reclamation Program. A description of each program and brief description of accomplishments over the last year are included in each section below. A more detailed description of accomplishments can be found in the program-specific sections.

Mining and milling have played a large part of New Mexico's history as minerals used in everyday life have been extracted since humans first settled New Mexico. In many cases, mining established many cities and towns that are still in existence today. Along with the establishment of these communities, many mines left behind dangerous mine features such as adits and shafts as well as un-reclaimed mine impacted areas. Since 1977, federal as well as state laws have been adopted to ensure that these legacy operations as well as existing mining operations are properly reclaimed. These laws include the federal Surface Mining Reclamation and Control Act (SMCRA - 1977) that assures the proper operation and reclamation of coal mines, and the New Mexico Mining Act (1993) which serves the same function but addresses most hard rock mines.

MMD enforces both federal and state laws that ensure abandoned, un-reclaimed mines will not be created in the future. An essential part of that is requiring current mining operations to put in place adequate financial assurance to ensure funding is available to complete reclamation following cessation of mining which is based on an agency approved cost estimate for a 3rd party to complete required reclamation work. All coal and non-coal mines permitted in New Mexico that are required to put in place financial assurance, have done so. This includes 68 mining permits with \$1.3B in financial assurance.

Despite this, many western states with long mining histories like New Mexico, have many abandoned mine features that pre-date regulations and present varying threats that need to be addressed. The Government Accountability Office issued a report on abandoned mines in March 2020 which reported at least 140,000 abandoned hardrock mine features on federal lands. Of these, about 67,000 pose or may pose physical safety hazards such as danger of injury or death, and about 22,500 pose or may pose environmental hazards, risks to human health or wildlife from long-term exposure to harmful substances. Federal agency officials also estimated there could be more than 390,000 abandoned hardrock mine features on federal land they have not captured in their databases, and agencies are developing more comprehensive information about these mines. Many more hard rock and coal abandoned mines/mine features exist on non-federal lands. The threat that these pre-regulatory abandoned mines has risen in the public eye over the year, including in Congress.



Jerry Schoeppner, Mining and Minerals Division Division Director



Mining and Minerals Division

MISSION: The Mining and Minerals Division mission is to ensure the responsible utilization, conservation, reclamation, and safeguarding of land and resources affected by mining. By statute, MMD enforces and administers laws and regulations relating to mine safety, coal surface mine reclamation, and abandoned mine lands reclamation, and annually collects statistical information from mine operators related to mineral extraction.

STAFFING

29 staff positions:

- 4 – Office of the Director
- 11 – Abandoned Mine Land Program
- 5 – Coal Mine Reclamation Program
- 1 – Mine Registration, Reporting and Safeguarding Program
- 8 – Mining Act Reclamation Program

STRATEGIC PRIORITIES

- Ensuring responsible mine reclamation by restoring lands back to beneficial use
- Protecting the public from physical and environmental hazards of abandoned mines
- Developing proactive mining and mine reclamation initiatives to ensure reclamation and safeguarding of mine sites
- Providing annual operator-reported information for New Mexico mines on mineral production, production value, employment, payroll, and revenue

PROGRAMS AND ACCOMPLISHMENTS

THE OFFICE OF THE DIRECTOR:

Office of the Director formulates division resource development, policy, planning, and administrative and fiscal management. The Director administers laws and regulations pertaining to hardrock and coal mining, mine registration and safeguarding, and annual industry reporting. The Director represents New Mexico on the Interstate Mining Compact Commission and is an ex-officio member of the New Mexico Mining Safety Board.

ABANDONED MINE LAND PROGRAM:

The AMLP works to identify and abate dangerous abandoned mine areas across the state. MMD estimates that more than 15,000 hazardous mine openings remain un-reclaimed throughout New Mexico.

AMLP’s primary source of funding is the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement (“OSMRE”) through the Surface Mining Control and Reclamation Act (“SMCRA”). The law authorizing a fee on coal production to pay for reclamation work at abandoned mines expired on September 30, 2021. As part of the “Infrastructure Investment and Jobs Act of 2021” (H.R. 3684), the fee collection authority was reauthorized for 13 more years at a 20 percent lower rate. In addition, a one-time infusion of \$11.3 billion was included for distribution to states and tribes based on historical coal production over 15 years. New Mexico’s portion of this distribution is estimated to be \$2.3 million per year for coal reclamation work above and beyond the money received from the fee on coal production. Also included in H.R. 3684 is money to address hardrock mines. An amendment to the bill pertaining to abandoned hardrock mines (introduced by New Mexico Senator Martin Heinrich) would provide an additional \$1.5 billion distributed among most states and tribes and \$1.5 billion to federal land agencies to address abandoned mines on federal land, including inventory, assessment, decommissioning, and reclamation work. Criteria for the distribution of the funds is being developed. AMLP plans to seek legislative approval to add more fulltime employees to accommodate the increased workload.

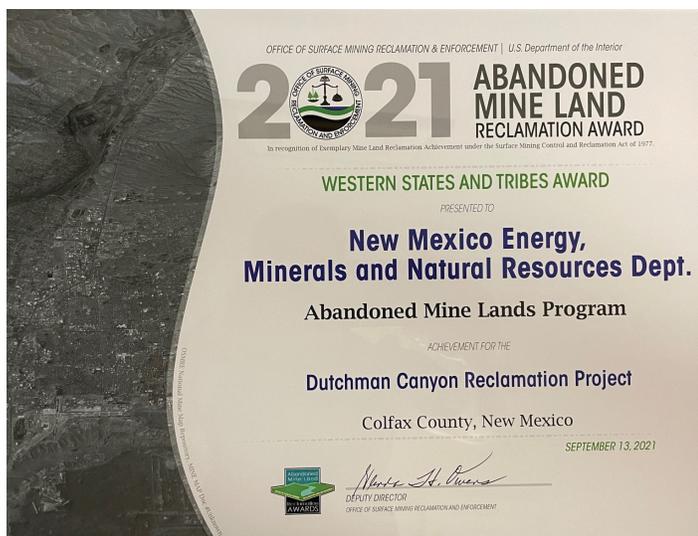
Since AMLP is federally funded, all project expenditures must comply with the National Environmental Policy Act (“NEPA”). Due to this requirement, AMLP, at any given time, has multiple

projects in various stages of development including obtaining landowner access permission, conducting archaeological and biological surveys, obtaining state and federal permits, and holding public meetings. AMLP develops engineering designs by working in coordination with the NEPA process.

AMLP was presented with the 2021 Western Region Abandoned Mine Land Reclamation Award from the federal OSMRE for the original Dutchman Canyon Reclamation Project constructed several years ago. Department of the Interior Secretary Deb Haaland provided opening remarks to the award ceremony, reiterating the Biden Administration’s support for mine reclamation work throughout the country. Additionally, the New Mexico Bureau of Land Management (“BLM”) was presented with the Hardrock Safety Award by the National Association of Abandoned Mine Land Programs for its New Placers Mine Safeguard Project in the San Pedro Mountains near Golden, NM. The AMLP collaborated with the BLM on the project by providing National Environmental Policy Act clearance work. The project safeguarded over 140 dangerous mine openings in challenging terrain, all while protecting bats, birds, and other wildlife potentially inhabiting the mines.

Coal Mine Projects Completed by AMLP:

AMLP completed two construction projects west of Raton on the Vermejo Park Ranch. The Tin Pan Canyon Gob Reclamation Project was completed in early 2021 and involved reclaiming a large coal gob (waste) pile adjacent to an intermittent stream. The dark surface, density, and lack of growing media of the gob pile made it difficult for vegetation to grow on its own. Terraces were built using straw bales and coir rolls and a large quantity of amendments was mixed into the coal gob surface to create a growing medium. Seedlings grown by the State Forestry Division were planted on the terraces and the area was hydroseeded.



OSMRE 2021 Western Region Abandoned Mine Land Reclamation Award presented to the New Mexico Abandoned Mine Land Program

A coal waste pile before, during, and after the Tin Pan Mine Reclamation Project



The nearby Dutchman Canyon Reclamation Project was the site of previous construction in 2012 where large coal gob piles were buried and a straightened stream channel was restored. The land was graded to mimic the adjacent natural area with a geomorphic reclamation technique. Multiple severe storms affected the project area before the vegetation could grow and led to the development of erosional features. To comply with an active water quality permit, this maintenance project, completed in May 2021, was undertaken to mitigate the erosion problems before they impacted the buried coal waste and to enhance water quality, stream stability and function, and expand wetland and riparian habitat. Rock structures were constructed in the channel and side drainages to slow the flow and allow the deposition of rocks and sediments, creating stable banks for vegetation to flourish. The maintenance project was a tremendous success.



Stream channel after the Dutchman Canyon Maintenance Project

Following emergency subsidence abatement work completed in the community of Allison (McKinley County) in 2018, AMLP completed geotechnical and hydrologic studies which will be used to design comprehensive solutions to remediate hazardous conditions caused by open subsidence features above an abandoned underground coal mine. Other McKinley County projects under development include addressing four coal mine fires and a subsided mine adit (a horizontal passage leading into a mine for the purposes of access or drainage) near a housing community.

In Madrid, AMLP completed conceptual designs for the Madrid Stormwater and Erosion Safety Project that will address property damage, flooding, sedimentation, and fire safety issues resulting from historical coal mining. The design is moving forward in close collaboration with Madrid residents and the New Mexico Historical Preservation Division.

AMLP continues to inventory and develop coal mine reclamation projects in areas of New Mexico impacted by historical mining including Gallup, Raton, Carthage Mining District, and Madrid.

Non-Coal Mine Projects Completed by AMLP:

AMLP continues to work closely with the BLM on the reclamation and safeguarding of abandoned hardrock mines in New Mexico. Through a Memorandum of Understanding and a Cooperative Agreement, actions funded by BLM include site reconnaissance and assessments, mapping, archaeological surveys, environmental assessments and other environmental clearance requirements, engineering, construction, and post-completion monitoring and maintenance.

AMLP and the BLM completed a mine safeguarding project at the Cookes Peak West - Phase IIIB, near Silver City earlier in the year and are working on an Environmental Assessment for safeguarding work at the Boston Hill abandoned mine complex, also near Silver City.

In late fall 2021, AMLP completed the San Pedro Mine Safeguard Project - Phase III. The project, near the village of Golden, safeguarded 62 dangerous mine

openings in a field of placer mining shafts created intermittently between the 1820s and 1930s.



A mine shaft being backfilled at the San Pedro Mine Safeguard Project - Phase III

AMLPL continues to inventory and develop non-coal safeguarding projects in several areas of the state including the San Pedro Mountains, Florida Mountains, and Tres Hermanas and Orogrande mining districts. There are still thousands of abandoned mines that pose hazards throughout the state.

MMD advises all citizens to *Stay Out and Stay Alive*.

COAL MINE RECLAMATION PROGRAM:

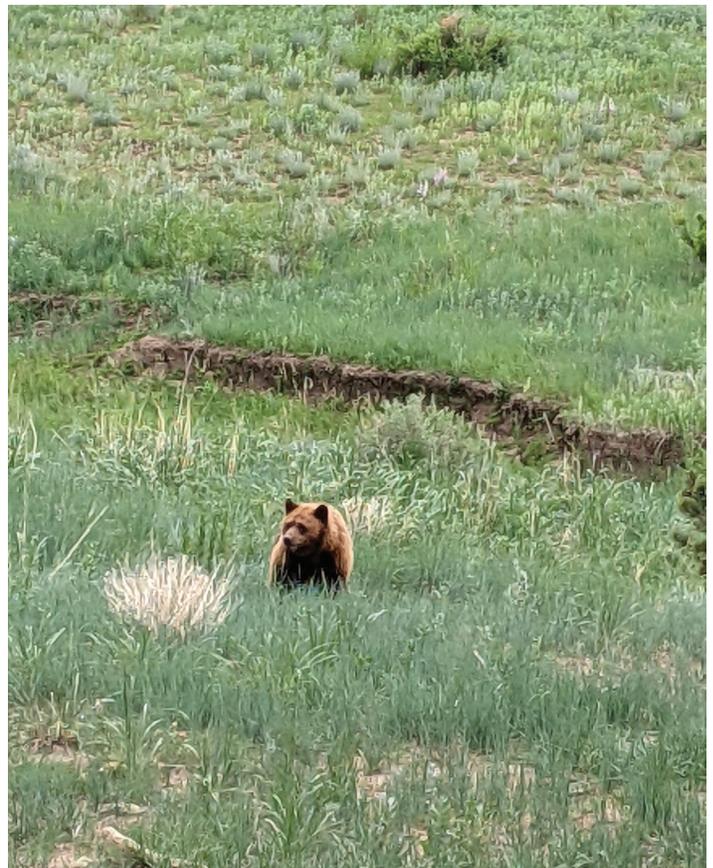
The CMRP enforces regulations and inspects all coal mines on federal, state, and private lands within New Mexico, excluding Indian lands. CMRP's mandate is to protect the public, adjacent landowners, and the environment from the effects of coal mining.

CMRP oversees more than 80,000 acres of permitted mine lands and over \$286 million in financial assurance to ensure that these mines will be properly reclaimed. New Mexico has 100 percent third-party surety bonds for all six actively permitted coal mines, three of which are in complete

reclamation. Westmoreland San Juan Mining's San Juan Underground Mine, and Peabody's Lee Ranch Surface Mine and El Segundo Surface Mine are currently extracting coal while Chevron's McKinley and Ancho mines along with Westmoreland's San Juan Mining's La Plata Mine are in reclamation.



The Ancho Surface Coal Mine undergoing an inspection



The Ancho Surface Coal Mine wildlife



The Lee Ranch Coal Mine Pond replacing historic playa (an area of flat, dried-up land from which water evaporates quickly)



The Lee Ranch Surface Coal Mine vegetation success

In the past, MMD allowed coal mines to be self-bonded; however, in the last several years, parent companies of four of CMRP's six permitted mines filed Chapter 11 Bankruptcy. Although all four companies emerged from bankruptcy, with the current uncertainty in coal mining, MMD only allows third-party surety insurance companies as the guarantor. This practice ensures there is adequate bond money for the state to have a mine fully reclaimed in the event an operator is unable to complete reclamation.

Bond release occurs in stages throughout the life of a mine. A coal operator is eligible for Phase I partial bond release as the affected lands are backfilled and regraded, and drainage control has been established in accordance with the approved reclamation plan. Lands are eligible for Phase II and Phase III releases upon successful establishment of revegetation (Phase II), and after the minimum 10-year liability period and successful demonstration of the reclamation's capability to support the post mine land use (Phase III).

Evaluation of bond release applications continues to be a significant part of CMRP's workload. All current bond release applications are posted on MMD's website and the documents are available to the public. Applications for partial bond releases were received and inspections completed for El Segundo Mine, Phase 1 for 764 acres, and San Juan Mine for phases II and III for 1,201 acres.

MINE REGISTRATION, REPORTING AND SAFEGUARDING PROGRAM:

This program provides comprehensive information on mineral resources, mine registration, reclamation, and safeguarding efforts, and other MMD activities related to New Mexico's mineral extraction industry and mineral resources. Decision-makers throughout New Mexico benefit from the valuable information compiled and disseminated through this program. Mining sector information reported by more than 150 operators for calendar year 2020 (latest information available) is provided in the Mineral Resources section of this report.

MMD provides public online web applications to enhance transparency and outreach and provides daily updated information for New Mexico mines. MMD Online links to the Mine Registrations and Permits web application which allows users to search by an individual parameter, or a multitude of combinations, with results exportable to Excel or to an Earth browser such as Google. (By statute, production information is held confidential.) The other link from the MMD Online web application page, Coal Mines Query, provides more extensive coal mine information including coal geology and quality, notices of violation, and water quality. Additional web applications are linked from the Mining Data and Statistics page including Registered Mines Web Map, Map Gallery, Abandoned Mine Land Program Story Map Journal, and the Legacy Uranium Dashboard.

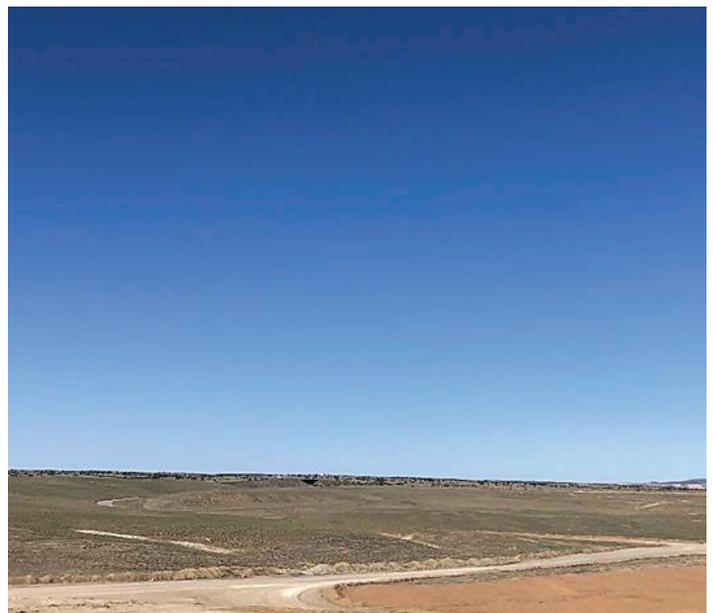
Another important public outreach component of mine reporting, the Excellence in Reclamation Award, was instituted in 1996 to recognize and celebrate excellence and innovation in coal, hardrock and aggregate mine reclamation, abandoned mine land reclamation projects, and other related efforts or initiatives deserving special recognition. The awards are presented annually at the New Mexico Mining Association's convention. Due to Covid-19 health restrictions, the 2021 convention was cancelled; however, two projects were selected for awards.

The 2021 awards went to Peabody Natural Resources Company in recognition of its contemporaneous reclamation (efforts that occur while mining is ongoing) at El Segundo Mine in McKinley County; and Navajo Transitional Energy Company, LLC, and Bisti Fuels Company, LLC, in recognition of their holistic reclamation project at Navajo Mine.

Peabody's El Segundo Mine has been in operation since 2008, producing 4-8 million tons of coal per year. At El Segundo Mine, Peabody has perfected the ability to establish a cost-effective and sustainable ecosystem through approximating original contours through designs, minimal handling of material, incorporating sinuous drainage patterns, erosion control, and successful vegetative growth. Peabody aims to restore the mined area to its original contours or better by designing the reclamation contours as closely as possible to the original landscape.



At Peabody's El Segundo Mine, a "shovel and truck" operation to move material prior to a dozer grading the site to the landform design



At El Segundo Mine, a stable, natural looking landform, one year post seeding



The Navajo Nation granted a 24,000-acre coal lease to a private mining company in 1957 and surface coal mining operations began in 1963. Over the years, the lease increased to approximately 33,000 acres. Since inception, ownership of the mine changed hands numerous times with all owners being non-Navajo companies. That changed in 2013 when Navajo-owned Navajo Transitional Energy Company purchased the mine, making it the first time a tribe has owned a coal mine on its own sovereign lands. Its contractor, Bisti Fuels Company, runs the day-to-day operations. The new holistic approach that was implemented to reclaim the watershed uses principles that mimic the natural erosion process. Reclaiming the entire watershed allows the pre-mine drainages to be reestablished and allows the land to be returned to self-sustaining grazing land. An extra bonus for the nearby community – the scraper crew saw an unplanned opportunity to upgrade the Table Mesa Community Road which provides public access through the mine site to the residents on the west side of the mine lease. The upgraded community road has improved visibility and safety and added a beautiful view of one of the reclamation areas.

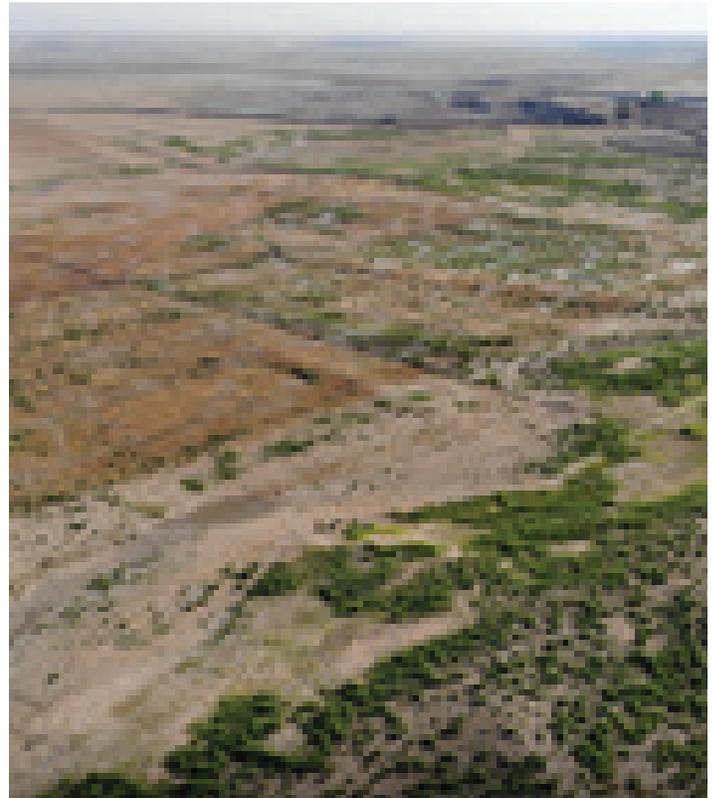
MINING ACT RECLAMATION PROGRAM:

MARP regulates and inspects all hardrock or mineral mines on federal, state, and private lands within New Mexico. MARP oversees the reclamation of all exploration and extraction activities conducted at all mines and mills, excluding coal, potash, and aggregate mines. As of the end of 2020 (the latest data available due to operator reporting requirements), MARP has permitted approximately 639 mining and exploration projects and holds more than \$1.053 billion in financial assurance for active mines and mines in reclamation. The overall disturbed acreage under permit with MARP is approximately 26,847 acres as of December 2020 and the total number of acres reclaimed since 1994, when the program started, is approximately 7,530 acres.

Questa Mine: In 2021, reclamation and remediation continued at Chevron Mining Inc.'s ("CMI") permanently closed Questa Mine in Taos County, a listed Superfund site. Three agencies, MMD, New Mexico Environment Department ("NMED"), and



Before: Navajo Mine, South Barber Watershed, August 2017



After: Navajo Mine, South Barber Watershed, August 2020

U.S. Environmental Protection Agency (“EPA”) are working with CMI to develop reclamation plans and agreements that comply with the federal Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) process. As part of the settlement between the U.S. Department of Justice, EPA, and the State of New Mexico, CMI will provide \$143 million for cleanup work. A portion of these funds were used to remediate Eagle Rock Lake remediation. Other reclamation and remediation work will be implemented over many years and will include demolition of the mill area, construction of a water treatment plant, and removal and disposal of old mine waste (tailings) along the tailings pipeline corridor (most of which has already been completed).

Several pilot projects have been initiated at the Questa Superfund site to identify best available reclamation technologies, including a demonstration project, completed in the spring of 2020, to place approximately a million cubic yards of cover material over 275 acres of a 1,000-acre tailings facility. The designed cover will inform the development of a methodology to apply viable borrowed materials from surrounding native soils that will result in a functional store and release cover. During the summer of 2020, CMI installed instrumentation to measure soil water properties in the cover and tailing materials, and the agencies completed a final construction walk-through in the fall of 2020. A six-year monitoring period will take place to evaluate the effectiveness of the designed cover and, if successful, will be applied to the remaining portion of the tailings facility. In another area of the mine, CMI operates a water treatment plant and installed new, or upgraded existing, groundwater extraction systems. Additionally, another large pilot study is being developed to address the first group of waste rock piles.



Dozer grading steep slope at the Group 1 Waste Rock Pile Reclamation Site, Questa Mine, Taos County (2021)



Early regrading of the Capulin Waste Rock Pile, Questa Mine, Taos County (2021)



Elk crossing portion of reclaimed tailings pilot project, Questa Mine, Taos County (2021)



CMI has completed the final engineering design and study of a pilot plot on two large waste rock piles, the Capulin and Goathill North, totaling approximately 109 acres, comprehensively named Group 1 Waste Rock Piles ("Group 1 WRP"). This study will determine best practices to reclaim the waste rock piles and will be used to address the remaining piles at the mine and will include the conversion of run-of-mine rock overburden materials to a viable store and release cover. In the spring of 2021, CMI began construction of the Group 1 WRP with completion scheduled for 2024.

Chino Mine, Tyrone Mine, Little Rock Mine, Continental Mine:

An equally important part of MARP's workload is permitting operational mines. MARP is permitting the revised closeout plans and expansions at the state's four largest copper mines in Grant County in 2021. Freeport-McMoRan Inc. ("FMI") is proposing expansions at four of its New Mexico operations. All permitting actions at the Chino, Tyrone, Little Rock, and Continental mines address the expansion, continued operation, and reclamation of these mining operations. As these existing mines expand, they must comply with new regulatory standards designed to address new mining impacts. The Continental Mine ended standby status through a revision to the permit thereby allowing the mine to return to active mining status. With a revised Closeout Plan approved in 2018, mining at the Continental Mine continues in 2021 with much of the top of Hanover Mountain reduced to about 40 percent of its original size. The Chino and Tyrone closeout plan renewals were completed at the end of 2020, leaving the Little Rock Mine plan to be completed in 2021. Partially as a result of the Covid-19 pandemic impacts on miners and the economy, mining slowed appreciably at the Chino and Continental mines, with furloughs occurring in mid-2020, and layoffs by the end of 2020. In early 2021 Chino began operations at 50 percent production while activity at Tyrone remains the same as before COVID. This was the start-up plan in January and will continue through 2021. Chino employs approximately 650 employees and Tyrone employs approximately 350 employees. There have been no significant issues related to COVID since the re-start in January.



Tyrone Mine completed corrective action of eroded borrow area, Grant County (2021)



Main haul road at the Continental Mine runs between Chino and Continental mines, Grant County (2021)

During 2021, MARP staff continued review of two large-scale permit applications under Part 6 (New Mining Operations) of the New Mexico Mining Act: one uranium mine, Energy Fuels' Roca Honda Mine; and one copper mine, New Mexico Copper Corporation's ("NMCC") Copper Flat Mine. The Roca Honda Mine project remains in the early stages of permit development as the federal government is conducting an Environmental Impact Statement ("EIS") evaluation and state permits are under review. With uranium prices remaining low, the permitting of the Roca Honda Mine continues at a slow pace.

Roca Honda Mine:

The proposed Roca Honda Mine by Energy Fuels, Inc., is in McKinley County on Cibola National Forest, private, and state trust lands. Energy Fuels, Inc., has submitted both the Sampling and Analysis Plan and several iterations of the Permit Application Package to MMD. The U.S. Forest Service ("USFS") released the Draft Environmental Impact Statement ("DEIS") in 2013. However, several additions and changes to the mine plan of operations submitted by Energy Fuels, Inc., in 2015 and 2016 had to be reassessed under public scoping by the Forest Service as a Supplement to the DEIS. The USFS continued to work on the Supplement to the DEIS in 2019, and MMD continues to collaborate with the USFS and the operator on this mine. Energy Fuels, Inc., submitted several technical documents to MMD throughout 2019 including addendums to the Baseline Data Report and responses to technical comments. During 2021, Energy Fuels provided some responses to technical comments as well as a report for characterization of the Rio San Jose.

Copper Flat Mine:

New Mexico Copper Corporation ("NMCC") proposed a new regular copper mine in Sierra County near Hillsboro, New Mexico. The mine is proposed to be an open-pit, truck and shovel operation with onsite milling. NMCC submitted the Permit Application Package to MMD in July 2012 and has been working with the BLM to address the federal NEPA requirements. In November 2015, the BLM released the DEIS, the Final EIS was issued in April 2019, and the Record of Decision was issued in August 2019.

In 2018, NMCC addressed technical issues on the Mining Operation and Reclamation Plan and Probable Hydrologic Consequences documents. NMCC also submitted a financial assurance cost estimate for agency review in August 2018, then addressed technical comments on the cost estimate in a revised submittal dated December 2018. In March 2020, the MMD Director rescinded the Notice of Technical Approvability citing uncertainty about when, and if, NMCC can secure the necessary water rights for the project. Rescission of the Notice of Technical Approvability reopened the permit review process for consideration of issues surrounding water rights as well as a dam safety permit from New Mexico Office of the State Engineer for the tailings storage

facility. In June 2020, MMD withdrew the March 2020 order, thereby reinstating the Notice of Technical Approvability, and entered into a settlement agreement with NMCC outlining the conditions by which MMD would issue a Part 6 (New Mining Operation) mining permit for the Copper Flat Mine. As of the end of 2021, MMD continues to review financial assurance calculations and other submittals from NMCC. In September 2021, the Court of Appeals issued an opinion on NMCC's appeal to the District Court's decision affirming the adjudication court's ruling granting 861.84 acre-feet per year and affirming that the NMCC has no Mendenhall rights.

Tererro (aka Jones Hill) Exploration Project:

In June 2019, MMD received an application from Comexico LLC (a subsidiary of New World Resources, West Perth, Australia) for a Regular Exploration Permit (Part 4, New Mexico Mining Act), for the Tererro Exploration Project. Comexico proposed to conduct exploration drilling of up to 30 drill holes (each up to 4,000 feet deep) exploring for gold, silver, copper, lead, and zinc deposits in the Santa Fe National Forest ("SFNF") near the historic Jones Hill Mine in Santa Fe County. The application includes the improvement of existing SFNF roads and the creation of additional access roads or pathways and drill pads for the exploration drilling project. In October 2020, Comexico LLC submitted an amended application to MMD proposing a total disturbance of 7.72 acres which is under review by MMD and SFNF, as are the other portions of the application. Several further revisions and updates were provided by Comexico during calendar year 2021. SFNF is analyzing the proposed project under NEPA guidelines. Once the SFNF completes the NEPA process, it will provide guidance for MMD on how to proceed with processing the exploration permit application. If SFNF issues a permit following completion of the NEPA process, MMD will continue to process the application. The proposed exploration project has generated much public interest from the nearby town of Pecos, from several environmental and public interest groups, and from the public throughout the Pecos canyon area. Based on this interest and if the SFNF issues a permit based on their determination under NEPA, MMD will hold a public hearing on the application as part of the review process under the regulations.



Government agencies inspect one of the old adits for water drainage at the Jones Hill Mine, Tererro Exploration Project, Santa Fe County (2021)

Uranium Mining:

Permitting actions related to earlier uranium mine applications have waned as has the interest in uranium mining overall. The Roca Honda Uranium Mine, discussed above, is a new application, but processing of the permit has slowed, due to financial constraints, competing company priorities, and the lack of incentive from the low price of uranium ore, on the part of the applicant, Energy Fuels. The Mt. Taylor Mine, an existing uranium mine in Cibola County formerly on standby status since 1999, is an exception. The operator, Rio Grande Resources (“RGR”), applied to end standby status. In December 2017, the mine received MMD approval to come off standby status and restart mining. RGR performed construction and some reclamation activities throughout 2018 and 2019; however, some local non-governmental organizations opposed any permitting action for the mine, other than reclamation, and appealed the MMD permit approval to the New Mexico Mining Commission in 2018, which upheld the permit approval in July 2018. In 2019, RGR conducted a substantial amount of work toward reopening the mine including

cleaning sediments from and lining two large water treatment ponds; adding to, expanding, and beginning reclamation of a large waste rock pile including installation of a lined waste disposal cell; and reducing and hauling a large ore pile to a mill in Utah. In 2020, RGR informed MMD of its decision to reclaim the mine instead of developing it and renewing mining. RGR and MMD are updating the permit for reclamation and permanent closeout. A substantial amount of work continued at the Mt. Taylor Mine during 2021 to closeout and reclaim the old mine. RGR will submit an updated and revised Closeout/ Closure Plan in early 2022 to address the completion of reclamation at the site.



Reclamation has begun at the Mt. Taylor Mine. Portions of the mine facilities have been cleared, regraded, revegetated, and rippedraped, Cibola County (2021)

MARP is examining some of the state's older mine sites that have been under reclamation for over 12 years for reclamation release. One such site is the U.S. Hill Mine in Taos County, acquired by the Picuris Pueblo in 2004, reclaimed in 2007, and now ready for reclamation bond release; this project received a 2020 Excellence in Reclamation Award. FMI's Brockman Mine in Grant County, and American Minerals' Deming Jigging Mill in Luna County were released in 2020 and 2021.

El Cajete/Los Conchas Mine:

In 2021 Copar Pumice repaired an erosion feature at the El Cajete/Los Conchas Mine, in Sandoval County. The use of stable rock materials, referred to as riprap, is a common reclamation practice used at mine sites and it was used to reclaim a surface water erosion channel that developed at the former pumice mine. This erosional feature was the final reclamation issue before release of the site could be contemplated. The erosion feature was concentrating surface water and creating a long gully eventually discharging to a forest meadow. Revegetation alone was not sufficient to control the development of the gully. As such, the operator imported and placed riprap strategically within the channel to slow water runoff and line the channel. The operator also constructed several Zuni bowls to significantly reduce the amount of erosion occurring at the site.



Repair work at the El Cajete/Las Conchas pumice mine in Sandoval County, New Mexico (2021)

Cunningham Hill Mine:

LAC Resources has been reclaiming and monitoring the Cunningham Hill Mine since the early 1990s. LAC started permitting under the NM Mining Act in 1996 when the mine site was already under reclamation. Portions of the mine have already been released from the New Mexico Mining Act while other portions are still under permit and reclamation. The operator will renew the Closeout Plan in 2021 and addressing areas required to meet Mining Act standards before release. The waste rock pile outslope, depicted below, still requires some remediation work before release can be approved. The mine pit status must also be updated and addressed in the renewed Closeout Plan.



Reclaimed waste rock pile slope at the Cunningham Hill Mine, Santa Fe County (2021)



Cunningham Hill Mine Pit and Pit Lake, Santa Fe County (2021)



MINERAL RESOURCES: Calendar Year 2020

New Mexico Statute 69.26.2 states that mine operators shall submit an annual report to MMD on the previous calendar year's mine activities; and the rule in New Mexico Administrative Code 19.71.9 provides that calendar year reports are due by April 30 of the following year. Accordingly, the following mineral resources report covers the most recently reported mining data for calendar year 2020.

Mine operators reported mineral production value of more than \$1.5 billion extracted from New Mexico mining sites, a decrease from 2019 (Table 1 and Figure 1).

TABLE 1 MINERAL RESOURCES: Calendar Year 2020

Mineral	Production ¹	Production Rank ²	Production Value \$	Employment ³	Reclamation Employment	Payroll \$ ⁴	Revenue Generated \$ ⁵	
							State	Federal
Coal	10,249,124	12	\$ 453,218,459	705	123	\$ 91,348,321	\$ 10,390,190	\$ 5,748,892
Copper	137,096,867	2	\$ 383,799,937	1,348	8	\$ 73,149,480	\$ 3,221,390	\$ -
Gold ⁶	2,495	-	\$ 4,416,096	-	-	-	\$ 47,297	\$ -
Industrial Minerals ⁷	2,523,871	-	\$ 197,466,323	607	8	\$ 33,109,020	\$ 120,015	\$ 363,253
Aggregates ⁸	13,293,701	-	\$ 145,804,489	1,111	37	\$ 31,826,126	\$ 5,202,347	\$ -
Other Metals	-	-	-	-	-	-	\$ -	\$ -
Molybdenum	-	-	-	-	-	-	\$ -	\$ -
Potash	409,277	1	\$ 376,673,452	712	21	\$ 60,581,794	\$ 3,384,612	\$ 1,080,141
Silver ⁶	52,077	-	\$ 1,069,687	-	-	\$ -	\$ 10,629	\$ -
Uranium ⁹	-	-	\$ -	17	17	\$ 888,123	\$ -	\$ -
TOTAL			\$ 1,562,448,443	4,500	214	\$ 290,902,864	\$ 22,376,480	\$7,192,286

Source: Operator reports submitted to the Mining and Minerals Division, unless otherwise noted

¹ Production is in short tons for coal, industrial minerals, aggregates, other metals, and potash; in pounds for copper; and in troy ounces for gold and silver.

² Production rank, where available, is based on 2020 production in relation to other states.

Sources: *Copper and potash: Mineral Resources Program, United States Geological Survey*

Coal: Energy Information Administration, United States Department of Energy

³ Employment category includes direct and contract employees.

⁴ Payroll does not include benefits.

⁵ NM State Land Office revenue: mineral lease royalties, rentals, bonuses; NM Taxation and Revenue Department revenue: severance, resource excise, and conservation taxes.

Federal revenue includes 50% state share of federal royalties.

Sources: *State data: New Mexico State Land Office, New Mexico Taxation and Revenue Department*

Federal data: Office of Natural Resources Revenue

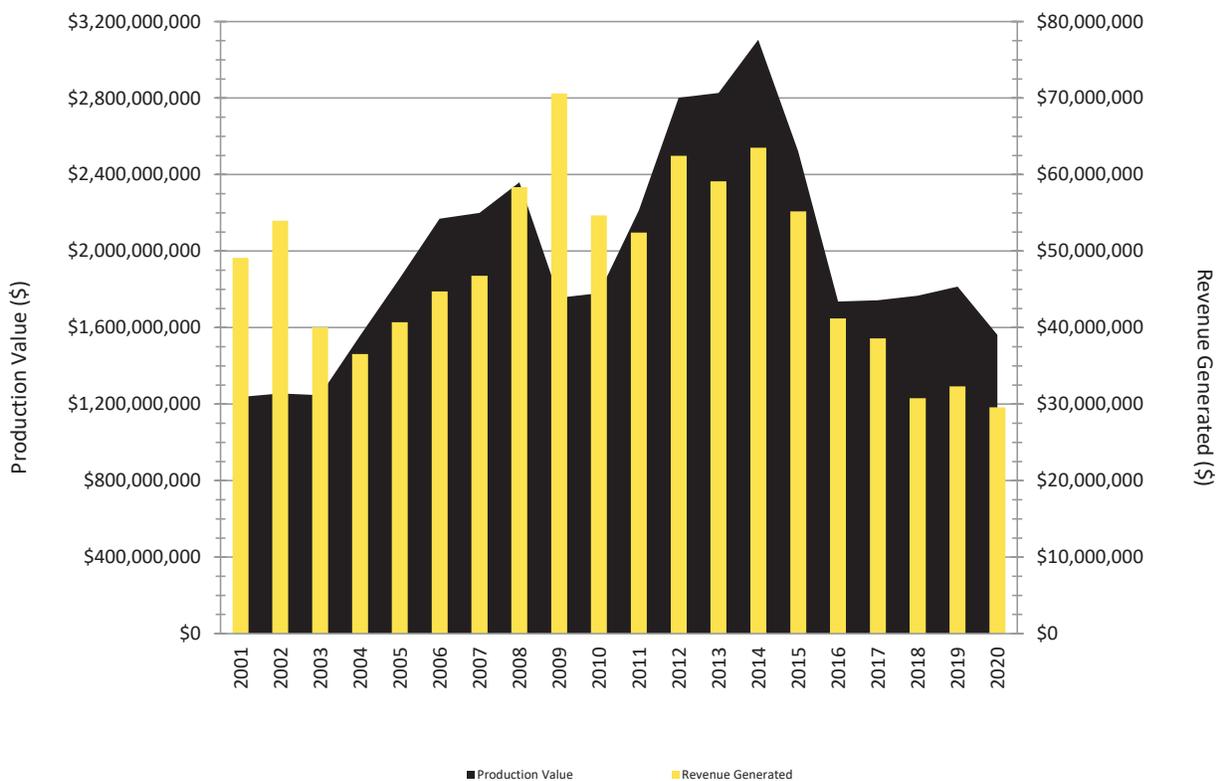
⁶ Gold and silver are by-products of copper production. Employment/payroll for gold/silver included in copper.

⁷ Category includes brick clay, calcite, dimension stone, gypsum, humate, perlite, Portland cement, pumice, salt, silica, and zeolite; USGS ranks NM first in perlite and zeolite.

⁸ Category includes base course, caliche, clay and shale, crushed rock, flagstone, fill dirt, gravel, limestone, red dog, rip-rap, sand, scoria and topsoil.

⁹ Employment/payroll numbers are for licensing/permitting at proposed uranium mines, if any, and reclamation activities/maintenance at closed mines and mills.

FIGURE 1 New Mexico Mineral Production Value and Revenue Generated: 2001-2020



New Mexico remains a leading United States mineral producer in the 2020 commodity rankings provided by reports from the U.S. Geological Survey (USGS) and U.S. Energy Information Administration (coal):

- Potash – 1st (50 percent of total U.S. production, used primarily in fertilizer)
- Perlite – 1st (used in building construction products, horticultural aggregate, and fillers)
- Zeolite – 1st (used in animal feed, odor control, and water purification applications)
- Copper – 2nd (up from 3rd in 2019; used primarily in building construction, transportation equipment, and electrical and electronic products)
- Coal – 12th (down from 10th in 2019)

Total federal and state revenues generated by 2020 mineral production in New Mexico decreased 8.5 percent from 2019 levels to \$29.6 million. State revenue information is provided by the Taxation and Revenue Department and the State Land Office and includes state trust land mineral lease royalties, rentals and bonuses, and associated

taxes. Federal revenue information is provided by the Department of Interior’s Office of Natural Resources Revenue and includes a 50 percent state share of federal royalties. In any production year, these revenues only accrue if the lessee is mining and producing commodities on federal or state land.

Copper was the largest employer in New Mexico’s mining industry, followed by sand and gravel operations, and coal (Figure 2). Reported industry payroll (excluding benefits) decreased 4 percent from 2019 to \$291 million (Figure 3). Overall, reported employment decreased in 2020, from 4,715 employees in 2019 to 4,500 employees (excluding reclamation employees). By category, compared to 2019, direct employment decreased 3.6 percent from 4,120 to 3,971 employees; contract employment decreased 11 percent from 595 to 529 employees; and reclamation employment decreased 1 percent from 217 to 214 employees (Figure 4).



FIGURE 2 Percentage of Production Value, Employment, Payroll and Revenue by Commodity: 2020

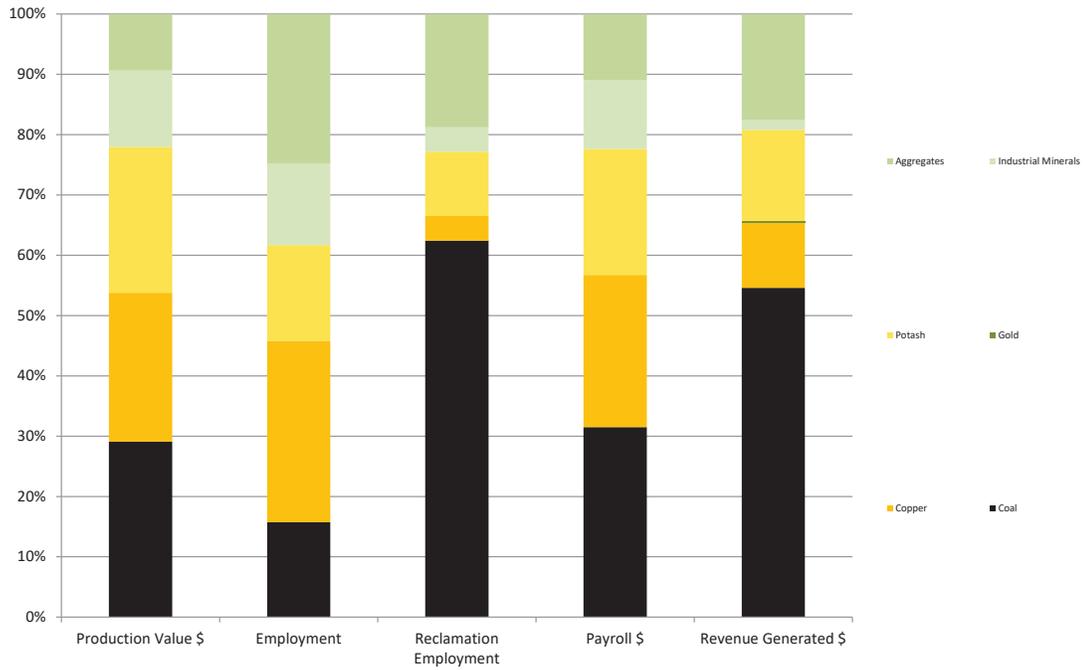


FIGURE 3 New Mexico Mineral Industry Employment, Payroll and Capital Improvements: 2001-2020

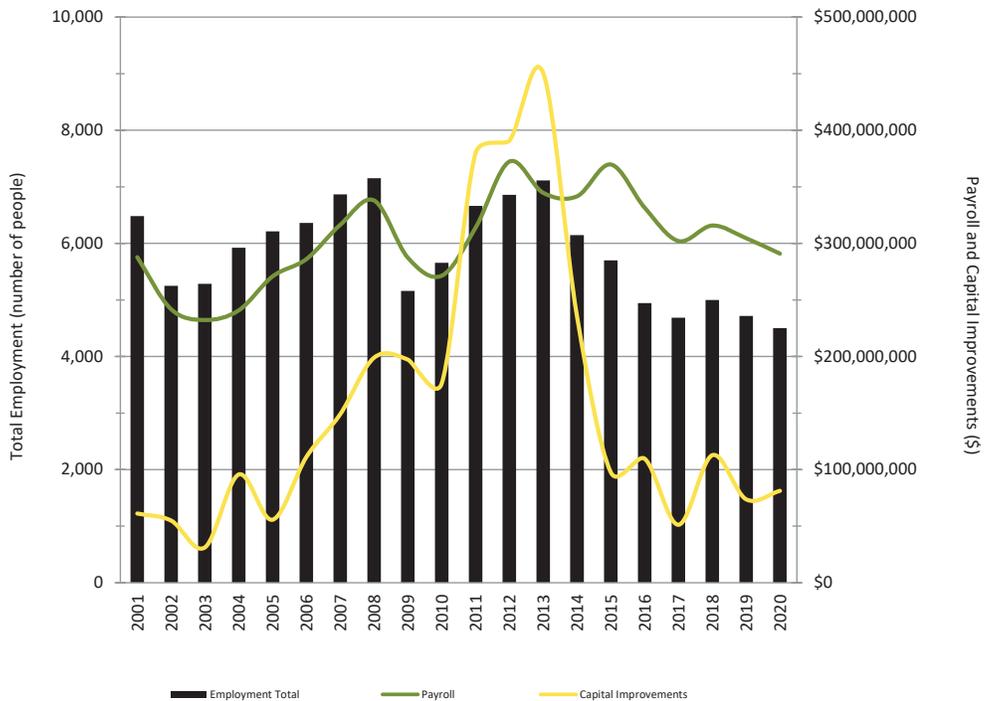
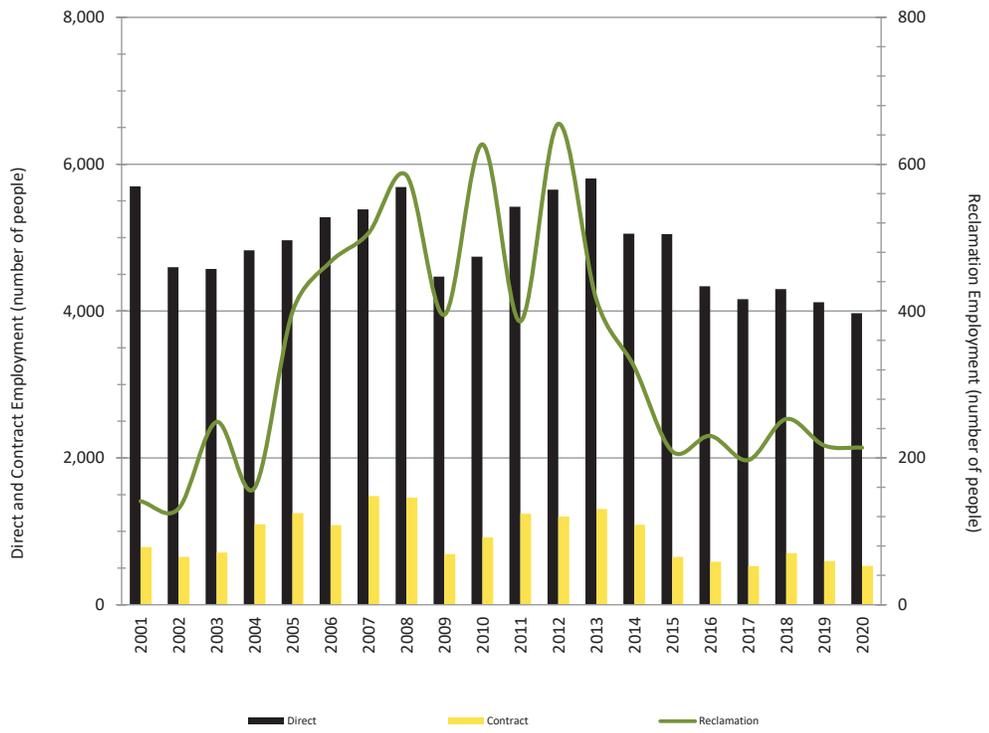
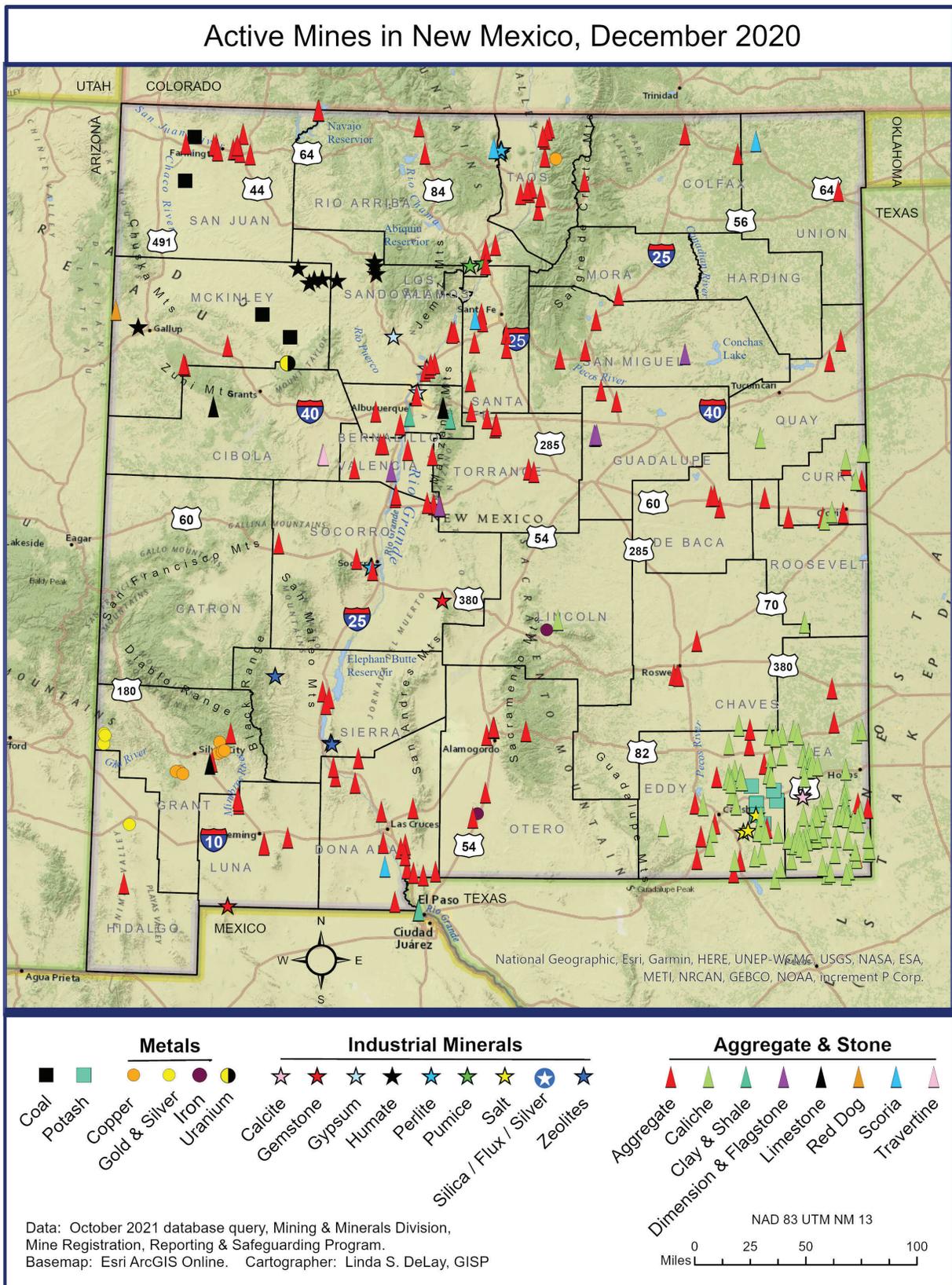


FIGURE 4 New Mexico Mineral Industry Employment: 2001-2020





Active Mines in New Mexico, December 2020



Active mining and active reclamation only operations in New Mexico in 2020 numbered 382 including coal mines; potash operations (includes mines, refineries, and compaction plants); metal mines, mills, and solvent extraction and electrowinning (SX/EW – a copper extraction process) operations; industrial mineral mines and mills; stone and aggregate operations; and uranium mine reclamation operations (Figure 5 – any discrepancies are due to mine data run date).

FIGURE 6 New Mexico Coal Production and Value: 2001-2020

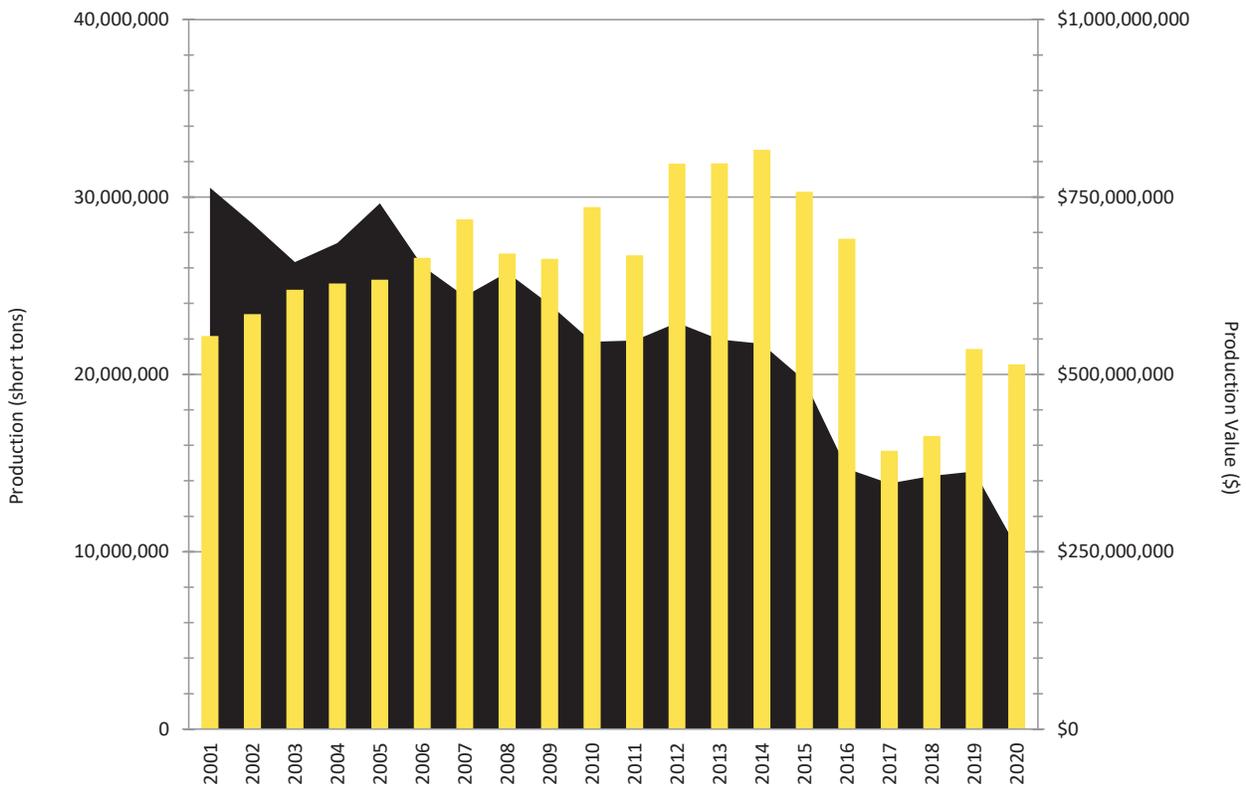


FIGURE 7 New Mexico Copper Production and Value: 2001-2020

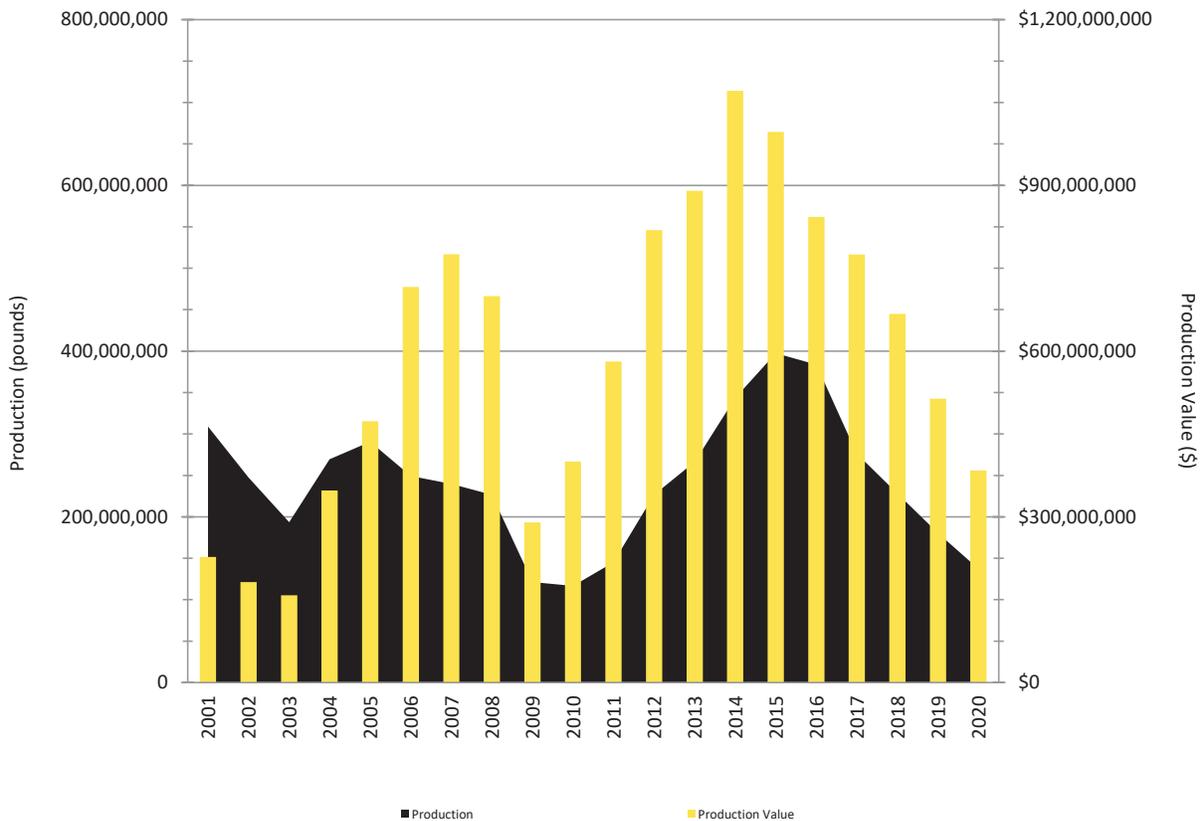




FIGURE 8 New Mexico Potash Production and Value: 2001-2020

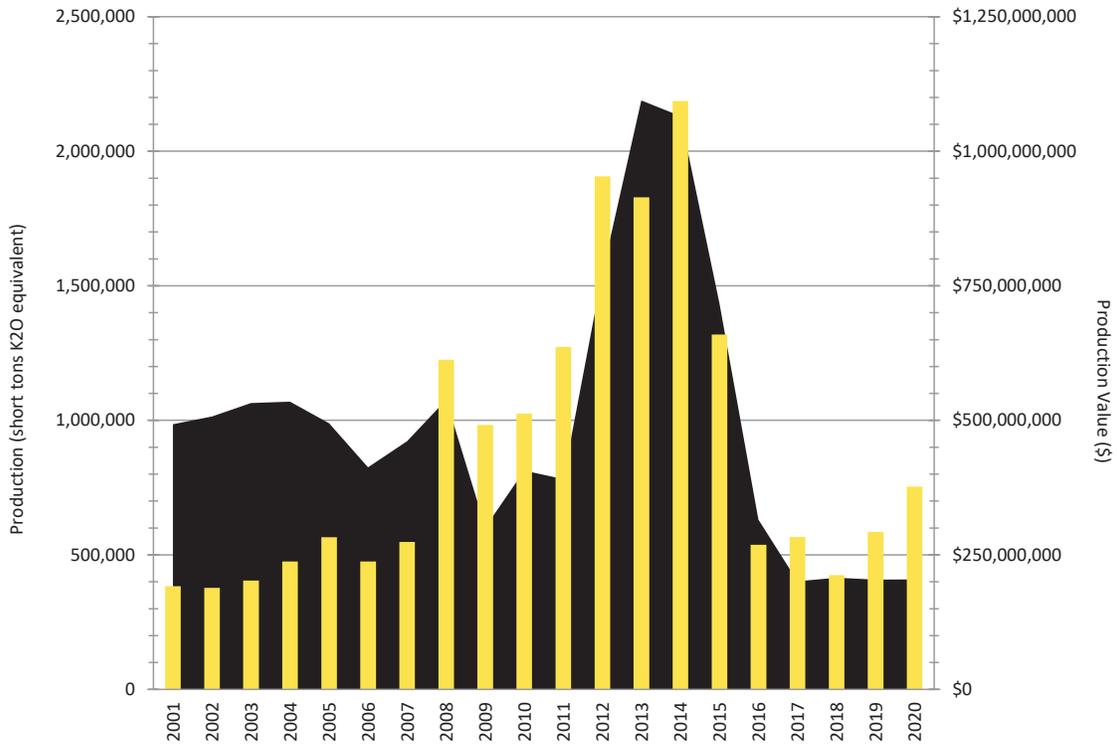


FIGURE 9 New Mexico Aggregate Production and Value: 2001-2020

Aggregate includes base course, caliche, clay and shale, crushed rock, flagstone, fill dirt, gravel, limestone, red dog, rip-rap, sand, scoria and topsoil

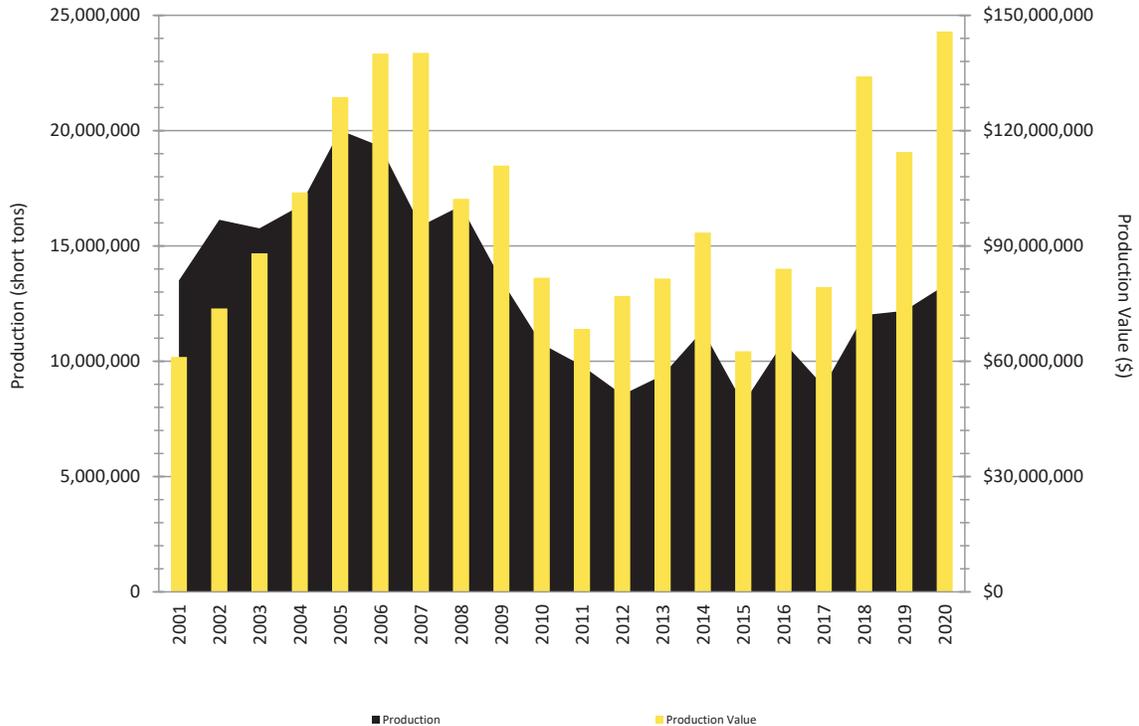
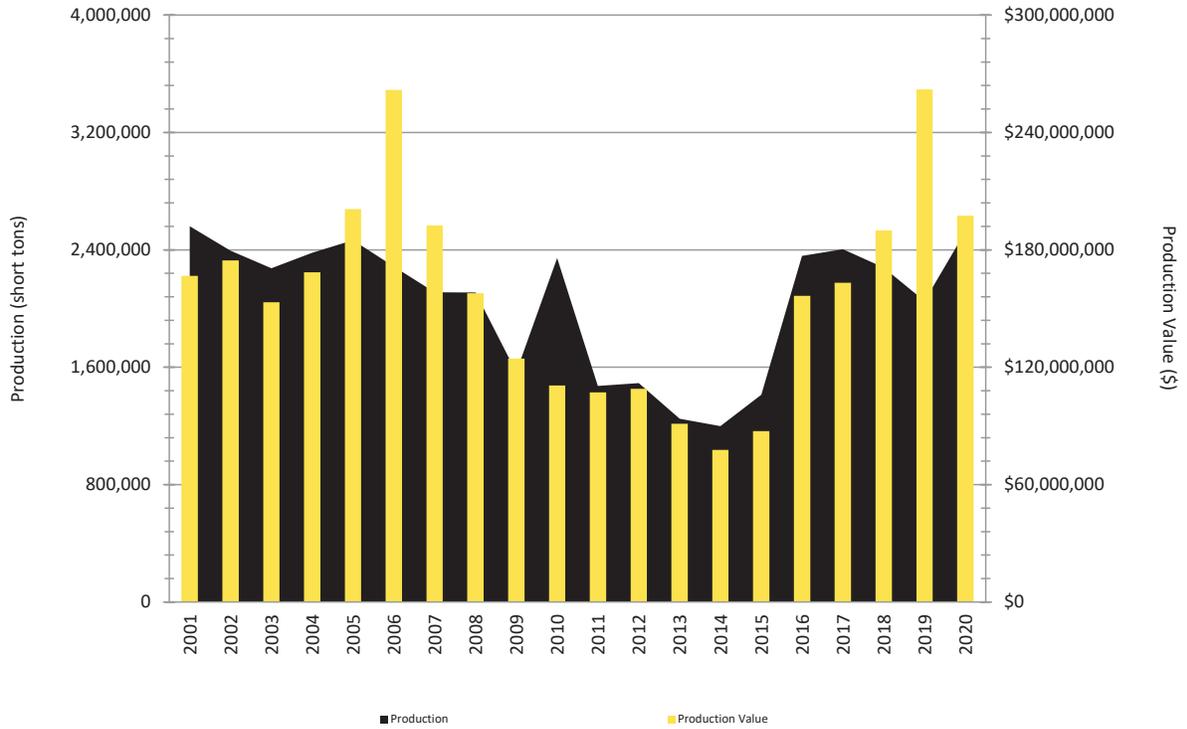




FIGURE 10 New Mexico Industrial Mineral Production and Value: 2001-2020

Industrial minerals include brick clay, calcite, dimension stone, gypsum, humate, perlite, Portland cement, pumice, salt, silica, and zeolite





Oil Conservation Division

Oil Conservation Division



Letter from the Director:

In the past year the Oil Conservation Division has once again risen to the challenge to protect human health and the environment. The culmination of years of work towards our natural gas waste reduction rules were realized in May 2021 when the regulations went into effect. The Division also continued our work with stakeholders to find common-sense solutions to protect our water resources and the environment, mostly notably with updates to the spill rule.

Following two years of public input the Division released our draft natural gas waste rules for public comment in July 2020, then revised and submitted our proposed final rules to the Oil Conservation Commission in October. Hearings were held in January 2021 and following two weeks of hearings the OCC voted to unanimously approve the rule which went into effect on May 25, 2021. The rules apply to upstream and midstream operators and require them to meet a 98% gas capture percentage by the end of 2026 with increasing requirements over the years. Over the course of 2021 the OCD has worked to implement the rule which has phased in effective dates. To ensure continued robust stakeholder engagement the OCD has put out for stakeholder engagement many components of the rule implementation including forms, processes, etc.

This year the Division's work was showcased on the international stage with Governor Michelle Lujan Grisham highlighting our natural gas waste rule at the United Nations Climate Conference – COP 26 – in Scotland. Gina McCarthy, climate advisor to President Biden, specifically identified our rules as a framework for new federal methane regulations. I'm proud that the hard work of our employees is being recognized on the national and international levels.

My vision for the Oil Conservation Division is to be an innovative, efficient, and transparent office that serves New Mexico. I'm proud of the work accomplished so far and look forward to the work still left to do. I hope you enjoy reviewing the OCD's 2021 accomplishments.

A handwritten signature in cursive script, appearing to read 'ASandoval'.

Adrienne Sandoval, OCD Division Director



Oil Conservation Division

MISSION: The Oil Conservation Division (OCD) regulates oil and gas activity in New Mexico. It gathers oil and gas well production data, permits new oil, gas and injection wells, enforces the Division rules, develops administrative orders to which operators are subject, enforces the State's oil and gas statutes, ensures abandoned wells are properly plugged and that the land is responsibly restored once production activities are done. The OCD's goals are to promote balanced, consistent, fair and transparent regulation of the oil and gas industry, to prevent the waste of oil and gas resources within the state, to protect the correlative rights of resource owners, to foster efficient development, and to protect human health and the environment.

OVERVIEW: The OCD is organized into five bureaus: engineering, environmental, hearings, projects and administration, responsible for different aspects of regulating the oil and gas industry. The OCD Offices are in Hobbs, Artesia, Aztec, Albuquerque and Santa Fe.

OCD BUREAUS

The *Engineering Bureau* manages the administrative permitting program, Underground Injection Control (UIC) program and inspections program of the Oil Conservation Division (OCD) to ensure program goals and regulatory objectives are met. The bureau supports the OCD by providing the technical expertise needed to design and develop programs that address new issues arising from advances in the oil and gas industry; processing administrative permit applications pursuant to the New Mexico Oil and Gas Act; acting as technical examiners for protested applications and for applications requiring an adjudication process; overseeing activities including application processing for the UIC program; and inspects facilities to ensure industry activities comply with OCD rules and regulations, and do not result in the waste of oil and gas resources while protecting human health and the environment. The bureau monitors and enforces the UIC program in coordination with the personnel of the Field Operations, Administrative and Compliance Bureau who conduct inspections and document conditions for UIC wells.

The *Environmental Bureau* manages the administrative permitting program, incidents program and projects and compliance programs of the Oil Conservation Division (OCD) to ensure program goals and regulatory objectives are met. It enforces both the State's Oil and Gas Act and Water Quality Acts in

protecting public health, groundwater, surface water, and the environment in relation to the activities of the oil and gas industry in New Mexico. This involves complex technical issues of geology, hydrology, and engineering.

The *Hearings Bureau* manages the OCD and Oil Conservation Commission hearings, organizing the dockets for protested applications and for applications requiring an adjudication process, acting as hearing examiners and assisting in the preparation of orders.

The *Projects Bureau* manages the Carlsbad Brine well project and the Engineering and Environmental Bureau Program Coordinators. They plan, coordinate, and evaluate the day-to-day operational and administrative activities of multiple defined, funded OCD programs, including managing the program as an internal and external liaison, the program logistics coordinator, and for any program reporting.

The *Administration Bureau* manages the administrative compliance program and the administrative functions within the OCD. As part of these responsibilities the Administration Bureau works with operators to develop agreed compliance orders to attain compliance with rules and regulations. The bureau tracks statistics, provides administrative support, tracks operator financial assurance, and production reports.

OCC & RULEMAKING

OIL CONSERVATION COMMISSION (OCC):

The OCC is a three-member commission chaired by the OCD Director with a designee of the Commissioner of Public Lands and a designee of the Cabinet Secretary of the Energy, Minerals and Natural Resources Department. The OCC promulgates rules governing oil and gas production in New Mexico, conducts hearings on matters of significant interest, and hears appeals of OCD examiner decisions.

OCD RULEMAKING:

The OCD works with representatives from diverse groups to identify areas where rules need to be updated. The Division is actively involved in federal, state, and industry organizations to share information on new technologies and discuss best practices on issues such as hydraulic fracturing and horizontal well drilling. We are committed to promulgating regulations based on science and technology and include university researchers in workgroups as needed for rule modification and development.

In October 2020, the OCD petitioned the OCC to schedule a rulemaking on the natural gas waste rules. In Governor Lujan Grisham's Executive Order 2019-003, she charged the OCD and the New Mexico Environment Department to develop a regulatory framework to reduce natural gas waste from the oil and gas industry. The OCC heard the petition for rulemaking in November 2020 and set the petition for rulemaking in January 2021. Following two weeks of hearings the OCC voted to unanimously approve the rule which went into effect on May 25, 2021. The rules apply to upstream and midstream operators and require them to meet a 98% gas capture percentage by the end of 2026 with increasing requirements over the years. Over the course of 2021 the OCD has worked to implement the rule which has phased-in effective dates. To ensure continued robust stakeholder engagement, the OCD has put out for stakeholder engagement many components of the rule implementation including forms, processes, etc.

In June 2021 the OCC heard a joint petition from the OCD and WildEarth Guardians to make modifications to 19.15.29 NMAC. The petition made releases in the

state unlawful and gave the OCD authority to take enforcement actions as necessary. The OCC voted to unanimously approve the rule which went into effect on August 24, 2021. The rule is not retroactive and is only applicable to spills from August 24, 2021 forward. The rule encourages operators to take proactive measures to prevent spills before they occur.



OCD PERFORMANCE

Inspection & Plugging

In fiscal year 2021 the OCD performed 34,210 inspections on oil and gas wells and facilities out of 60,454 completed wells in the state. Inspections consist of site inspections of oil and gas wells, associated facilities, releases, and general site conditions. Underground Injection Control (UIC) well inspections are conducted to meet the goals set by the federal UIC program, overseen by the US Environmental Protection Agency. These inspections are performed to verify wells are operating under the terms of their permits and are tested to ensure integrity of the well bores for the protection of underground sources of drinking water.

The OCD has made great strides in the overall effectiveness of inspections. This has been done by prioritizing inspections using a risk tiered system. The higher risk inspections include but are not limited to public complaint responses, witnessing well work and testing, and following up on compliance issues. This resulted in 2,640 compliances issued to operators in fiscal year 2021 which is an increase from the 2,161 issued in fiscal year 2020, which is an increase of 22.2%. This increase in compliances has created substantial strides in protecting the resources of New Mexico.

To date, the OCD has plugged 43 wells in 2021 and is planning on meeting the legislative goal of plugging 50 wells in fiscal year 2022.

Applications for Permit to Drill (“APDs”)

In FY21, the OCD approved 87.60% of all APDs within 10 business days of receipt, exceeding the performance target of 85% set by the Legislative Finance Committee.



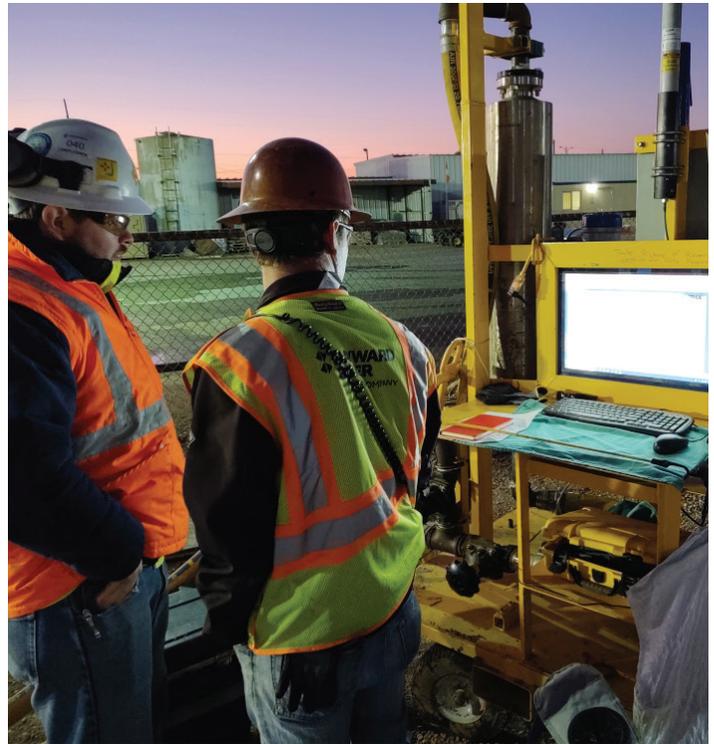
Carlsbad Brine Well Remediation

Since 2009, EMNRD has been the lead in characterizing and monitoring a large and unstable brine well cavern threatening a developed portion of the City of Carlsbad in Eddy County. This cavern was created beginning in 1978 when the operator began injecting freshwater into the subsurface salt formation to produce saturated brine used for oil and gas operations. The most recent operator, I&W, went bankrupt while failing to monitor or remediate the cavern.

Given the size and characteristics of the cavern, the potential for catastrophic failure is significant and would result in serious disruption to local infrastructure, tourism, oil and gas logistics, and agriculture, as well as contaminating groundwater. Using the Oil Reclamation Fund and I&W's liquidated bankruptcy estate, OCD completed an assessment of the cavern in 2014 using multiple geophysical techniques. The OCD also installed and maintains an automated ground movement monitoring system integrated directly into the local emergency response infrastructure.

During the 2017 and 2018 legislative sessions a fund to remediate the cavern was established, along with the creation of the Carlsbad Brine Well Remediation Authority, to oversee future actions relating to the brine well. The Authority has representation from the City of Carlsbad, Eddy County, the Carlsbad Irrigation District, the Office of the Attorney General, the Office of the State Engineer, the Department of Transportation, and the Environment Department, with the Secretary of the Energy, Minerals and Natural Resources Department serving as the chair. Wood Environment and Infrastructure Solutions, Inc. (Wood) was contracted in 2018 to design and implement an in-place remedial program.

The in-situ backfilling effort began in September 2019 with the drilling of wells penetrating the southern portions of the cavern followed by pressure injection of grout while simultaneously extracting brine from the cavern. Two drilling rigs were used concurrently operating on a 24 hours per day/7 days per week basis using multiple crews.



In the southern portions of the cavern this approach was very successful such that the Carlsbad Irrigation District main canal, a trailer park south of the canal, and the Jehovah's Witness church to the east are no longer at risk.

However, as the drilling program extended into the northern portions during December 2019, an unexpected, large void was encountered that is the result of significant undetected roof failures occurring over the past 20+ years. Sonar logging in January 2020 determined the void was more than 98,000 cubic yards in volume and extended beneath US 285 to the north. Injection of grout into a large open void is cost-ineffective so Wood made a determination that the backfilling material should be changed to sand which provides equivalent stability at a lower unit cost.

After completing a portion of the backfilling with sand, sonar logs indicated significant infiltration of injected sand into cracks within the rubble pile at the bottom of the void formed during roof failure. Due to the size of the void and the infiltration of sand, EMNRD projected funding was not sufficient to completely fill the northern void. Injection operations were paused on July 24, 2020 after the introduction of 100,563 cubic yards of sand into the void with 59,851 yards of space still needing to be filled. EMNRD, in collaboration with the Authority, began to seek additional funding to mitigate the remaining serious impacts of a cavern failure.

EMNRD established a panel of experts to estimate the additional sand needed for adequate stabilization. Various factors were considered including the accuracy of the sonar data, future infiltration, settling, a contingent percentage, and the volume which cannot practically be backfilled. The estimated volume of sand needed to complete the project is 76,500 cubic yards. During 2021, \$18M in additional funding was obtained from the Legislature, the Department of Transportation, the City of Carlsbad, and Eddy County. Approximately \$3.5M remained within the remediation fund. Wood was directed to proceed with remobilization and by mid-September 2021 the driller had re-entered and cleared the sand injection/brine extraction wells. A new round of sonar logs were then completed to ascertain the state of the void since July of 2020. Areas of continued roof failure were identified along with some compaction of previously injected sand. However, the void volume only increased by 4.5% and the geometry remained amenable to



backfilling. Pumping equipment and crews arrived at the site in early-October and the injection of sand has resumed.

PARTNERSHIPS AND COLLABORATION

New Mexico Junior College

The OCD has entered into an agreement with the Junior College in Hobbs to provide assistance on an as-needed basis. Their first project is developing guidelines for new surface waste management facility permit applications as that portion of our regulations is complex. This guidance will aid both the applicants and OCD reviewers in expediting the permitting process.

New Mexico Produced Water Research Consortium

The Consortium is an effort with NM State University, the NM Environment Department, other state and federal agencies, our national labs, and the private sector to develop a basis for the regulation of reusing produced water outside of the oil and gas industry to ensure protection of public health and the environment. OCD is a member of the Governmental Advisory Board overseeing their research and outreach.



New Mexico Bureau of Geology and Mineral Resources

The OCD provides funding to the Bureau for a variety of projects that will assist the OCD:

1. Development of a 3-dimensional model of the Pecos Slope and Delaware basin aquifers containing information on the depth to groundwater, water quality, aquifer thickness and lateral extents, and calculated volumes. One of the benefits of this work is to reduce possible interference by the oil and gas industry with fresh water zones not only during the drilling and completion of production wells but also in the investigation and remediation of spills and releases. OCD also provides geologic data for the model from our library of well logs.
2. Mapping of Siluro-Devonian to crystalline basement stratigraphic intervals in the Delaware Basin through analysis of formation tops derived from OCD well logs. This helps the OCD to effectively regulate produced water disposal and minimize the potential for induced seismicity caused by water injection.
3. A geographic analysis of the sources and volumes of produced water which is used to evaluate injection trends.
4. The Bureau's Seismological Observatory for the monitoring and analysis of induced seismicity. Additional seismic monitors have been installed to provide better fidelity of data within specific areas of interest.
5. The scanning, cataloguing, and archiving of the OCD's legacy hearing orders dating back to the early days of oil and gas production in New Mexico.

Ground Water Protection Council

The GWPC is a non-profit organization whose members consist of state regulatory agencies working together for the protection and conservation of groundwater. The GWPC's promotes effective regulations and the use of best management practices with a focus on matters of energy, water quality, water availability, and sustainability. The GWPC has had a significant impact on national policies in underground injection.

Interstate Oil & Gas Compact Commission

The OCD Director represents our state on the IOGCC which was chartered in 1935 with New Mexico as a founding member. The Commission works to promote sound regulatory practices for the conservation and efficient recovery of oil and natural gas resources while protecting health, safety, and the environment.

US Environmental Protection Agency

The EPA funds and provides oversight of the state's Underground Injection Control (UIC) program initiated as part of the federal Safe Drinking Water Act. New Mexico has regulatory primacy to permit produced water disposal wells, brine production wells, refinery wastewater disposal wells, and remedial injection wells to ensure the protection of underground sources of drinking water.

Native American Communities

When requested, the OCD provides assistance to tribal entities on issues of oil and gas development and the response of operators to spills and releases.



New Mexico State Parks

New Mexico State Parks



To Our Visitors and Citizens of New Mexico:

Growing up and then raising my own family in New Mexico, I've learned that New Mexicans are spirited people who have and continue to face challenges with resolve. For over 88 years, there have been times of adversity and prosperity that continue to draft the historic story of your state park system. If anything, the past year has written a new chapter emphasizing our combined resilience and dedication to ensure your state parks contribute to quality-of-life across the Land of Enchantment.

As a result of the global pandemic, New Mexico State Parks are more desired and valued than ever before as they continue to provide formative outdoor experiences that establish interests and create memories that will last generations. In many ways it was a taxing year, the impacts of the ongoing global pandemic were substantial due to park closures that resulted in lost revenues and reduced operating budgets.

Yet, we were glad to transition to near normal park operations during the peak of the 2021 outdoor recreation season. As expected, state parks continued to offer the best recreation value close to home, serving many new and experienced outdoor recreation enthusiasts as visitation rebounded dramatically. Communities began to recover as well, people made their way back to their favorite places, reconnected, and reengaged with each other in their state parks.

To my state park family of over 23 years, a small but mighty group of dedicated and talented professionals who share and exhibited a tireless commitment to resource management and to serving their visitors, thank you. I realize how fortunate our state is to have each one of you, you are indeed essential. As we continue to recover, you will lead the way.

To my fellow Nuevo Mexicanos who love their state parks and to the many visitors who remain enchanted with our state, thank you for your continued interest, support, and understanding. I know the last year was tough on you and you're recovering as well.

As we continue our trail as leaders in outdoor recreation, we must not take our importance for granted. The following report reflects how much we accomplished this year and recognizes the people endeavoring to protect and enhance natural and cultural resources, provide first-class recreational and education facilities and opportunities, and promote public safety to benefit and enrich the lives of visitors.

Sinceramente,

A handwritten signature in blue ink, reading "Toby Velásquez".

Toby Velásquez, Director
New Mexico State Parks



New Mexico State Parks

Mission: Protect and enhance natural and cultural resources, provide first-class recreational and education facilities, and promote public safety to benefit and enrich the lives of visitors.

OVERVIEW

Established in 1933, the New Mexico State Parks Division (State Parks) has grown into a 35-park system that includes 19 lakes and nearly 189,942 surface acres of land and water. Our mission is to protect and enhance natural and cultural resources, provide first-class recreational and education facilities and opportunities, and promote public safety to benefit and enrich the lives of visitors.

State Parks is committed to our mission, employing professional, dedicated staff to ensure that parks are cared for and preserved to the highest professional standards. State Park programs provide safe, fun, and educational experiences for the whole family.

STAFFING

235 Total Full Time/Seasonal Employees comprised of the following:

- 30 Operations, Administrative and Program Support Staff located in the Santa Fe Office;
- 10 Operations and Administrative Support Staff at (5) Region Offices;
- 150 Field Operations Management and Staff at (35) parks; and
- 46 Field Operations positions that support up to 136 seasonal hires system wide.

ADMINISTRATIVE BUREAU

The Administrative Services Bureau provides financial services, information services, and coordinates and supports personnel related functions. This bureau serves as a resource and provides support to the divisions 41 decentralized locations as well as departmental program support services, and coordinates with other local, state, and federal agencies.

The bureau's primary services and functions are to provide fiscal support and oversight, financial advice, accounting, budget preparation and management,

procurement, fixed assets, property disposal, records retention, and fleet/telecommunication services. The goal for the bureau is to deliver the best service and support to every employee and program to accomplish our shared mission.

FIELD OPERATIONS BUREAU

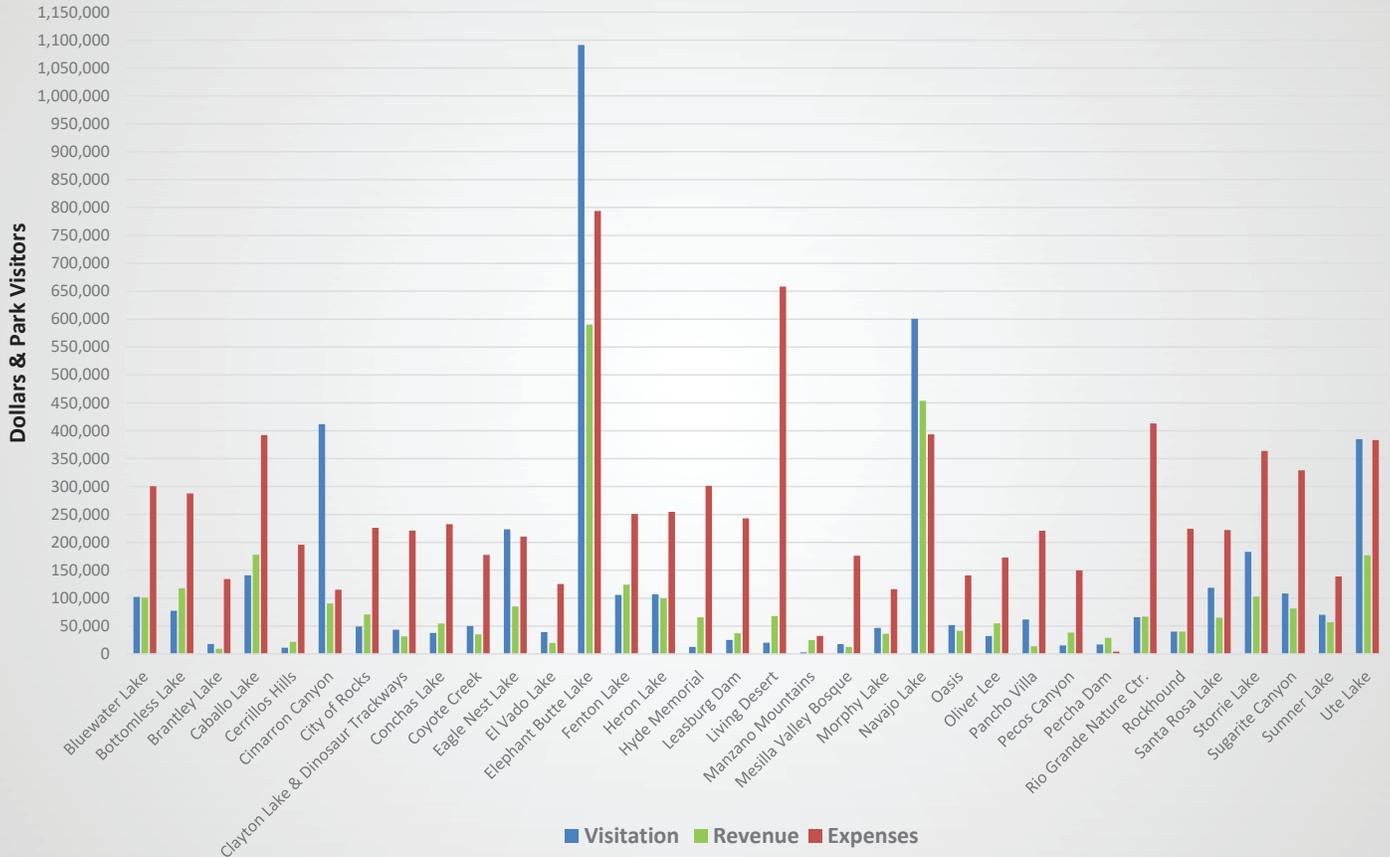
The Field Operations Bureau oversees the daily administration, management, and operation of the 35 State Parks to ensure that park resources, grounds and facilities are maintained and that services are provided in accordance with Division standards. The State Parks are organized into five geographic regions (Northwest, Northeast, Southeast, Southwest and Central). Each region is assigned a Regional Manager and Regional Administrator.

State Parks was an essential agency referenced in and impacted by the series of Public Health Orders and Executive Orders that were issued and enforced in our state since March 2020. Our State Parks field staff served on the front lines of our state's COVID-19 emergency response and educated the public in-person and enforced public health and executive orders to reduce the transmission of COVID-19 and safeguard the public. In FY21, state park revenues were down \$1.4 million at \$3.25 million, a 30% reduction when compared to pre-pandemic FY19 revenues. In April 2021 state parks returned to normal seasonal operations, and in July all pandemic-related restrictions were lifted.

After pandemic-related restrictions were lifted, FY21 Q4 visitation outperformed the same quarter in FY20 [+148%], FY19 [+22%], and FY18 [+25%]. As result of increased visitation in FY21 Q4, park revenues outperformed the same quarter in FY20 [+284%], FY19 [+24%], and FY18 [+9.4%].

Despite the threats and impacts of COVID-19, the public's response emphasized their love for their 35 State Parks, and their vast public lands. For New Mexicans and our many visitors, it is clear, that outdoor recreation is essential and contributes to

Visitation, Revenue, & Expenditures Fiscal Year 2021



quality of life while living in and visiting the Land of Enchantment.

LAW ENFORCEMENT AND BOATING SAFETY BUREAU

In 2021, the Law Enforcement and Boating Safety Bureau worked diligently at maintaining high standards of customer service during the ongoing COVID-19 pandemic. The efforts of the Bureau concentrated on serving park visitors, maintaining compliance with laws and regulations, and maintenance of park grounds and facilities. Additionally, our park officers worked hard at promoting safety and education as well as natural and cultural resource conservation and preservation.

The Division currently has 82 park law enforcement officer positions distributed across the state within

the park system. As “essential workers,” our law enforcement officers have continued to cultivate and improve relationships across the state with outside agencies and stakeholders.

While maintaining support of our State’s Public Health Orders, park officers have been educating visitors, and facilitating access to State Parks for approximately 4.75 million visitors across the system. Park officers, having full statutory authority within the parks, answer calls for service ranging from water rescues, injuries, domestic violence, aggravated battery, disorderly conduct, battery on a peace officer, shoplifting, weapons, drugs, traffic, DWI, BUI, PFDs, accidents involving fatalities, and suicides. Park officers also routinely assist other agencies when requested for emergency calls outside the park as allowable by law. To date, park officers have written approximately 1,000 citations and issued over 4,500 verbal warnings which serve to educate the public.

Additionally, park officers continue to attend training to improve themselves, for the benefit of the recreating public, as well as to maintain their law enforcement certifications as prescribed by the NM Law Enforcement Academy. Trainings include dealing with people in crisis, de-escalation, cultural awareness, leadership, legal update, child abuse, officer survival, Marine Enforcement Officer basic and advanced, domestic violence, Intoxilyzer 8000, Standard Field Sobriety Test, and firearms training.

The Law Enforcement and Boating Safety Bureau is working hard to improve how the Bureau conducts business in accordance with technological advances. Current improvement projects include:

- New DTRS radio (digital) roll out to all parks statewide, replacing old, outdated analog radios
- New dispatching services
- New electronic/automated citation and report process with TraCS system in collaboration with NMDPS
- New Axon Body Cameras
- New Mobile Data Terminals for all officers
- Re-write/revise Law Enforcement policies and procedures



Park officers have established themselves as consummate professionals, treating the public with empathy and compassion, all while fulfilling our mission of conservation, preservation, education, and customer service. The law enforcement footprint isn't just within the confines of the park, it extends into the community, reaching a greater number of people than those who choose to spend their leisure time within the state park system. We will continue to provide a strong and positive example to our recreating public and our partners as we help to move our profession and our division forward.

DESIGN AND DEVELOPMENT BUREAU

The Design and Development Bureau is responsible for the planning, design and construction of park facilities and infrastructure statewide, including park buildings and recreation facilities, roads, trails, and water-wastewater projects. The following are key construction projects from 2021.

In FY21, State Parks continued to focus on capital investments and completed and initiated the following capital and construction projects across the state:

Capital Investment Projects [Completed 2021]

- 11 - Cibola, Chaves, Eddy, Sierra, Santa Fe, Dona Ana, San Juan, Mora, Colfax, and San Miguel Counties
- \$6.272 million in state and federal funds

Capital Investment Projects [Initiated 2021]

- 17 - Cibola, Eddy, San Miguel, Rio Arriba, Santa Fe, San Juan, Bernalillo, Colfax, De Baca, Dona Ana
- \$6.395 million state and federal funds

Bottomless Lakes State Park

- Lea Lake Day Use and Campground Comfort Station Sewer Line Replacement
- The sewer lines for the comfort stations in the Lea Lake Day Use and Campground were replaced.
- Total project cost \$39,817.18

El Vado Lake State Park

- Staff Residence Renovations
- The staff residences were renovated, including bathroom and kitchen plumbing repairs, window replacement, and finish upgrades.
- Total project cost \$138,452.27 (Bureau of Reclamation Title 28 with 50% State match)



Hyde Memorial State Park

Solar Microgrid

The State Parks Division, in partnership with the New Mexico Energy Conservation and Management Division, completed construction of an off-grid solar microgrid at Hyde Memorial State Park that will provide the park with 85 percent of its annual energy needs. It is one of the largest microgrid solar projects in a state park in the country. The system includes an 81 KWdc solar PV array located within the park, solar plus battery storage and a back-up propane generator. Hyde Memorial State Park will be the first state park in New Mexico to be self-sustaining using primarily renewable energy resources.

Total project cost \$2,233,743



Historic Camp Shelter Restoration

The historic camp shelter and stone fireplace at site 50 was restored to its original condition. The camp shelter was one of the original shelters constructed by the Civilian Conservation Corps (CCC) circa 1938 when Hyde State Park was first opened to the public.

Total project cost \$51,491.13

Visitor Center Renovation

The roof of the Visitor Center was replaced with composite, fire-resistant roof tiles that are made to look like the cedar shakes that were used for the original roof of the historic building. The interior of the Visitor Center was renovated, which included replacing the old wood stove with a gas fireplace and upgrading the restroom.

Total project cost \$99,454.30



Leasburg Dam State Park

New Entrance Station

A new entrance station was constructed for the South Picnic Area and Beach, including road improvements, drainage, and utility work.

Total project cost \$200,970.01 (Bureau of Reclamation Title 28 with 50% State match)





access pads.

A new entrance from the Crusher Hole Day Use Area and a basecourse driveway loop was constructed to provide access to the campsites. This project also included construction of a pump house, irrigation infrastructure, and planting of native shrubs in an approximately 15-acre area within the campground. State Parks has surface water rights and will use water drawn from the San Juan River to irrigate the newly planted native trees, shrubs, and grasses. The native vegetation will provide a buffer for the campground and improve habitat for wildlife.

This new campground facility was developed in partnership with the Land Water and Conservation Fund (LWCF). The cost of the project was \$1.85 million. In addition, State Parks received a second grant award from LWCF to develop other camp sites and day use facilities and provide additional recreational opportunities at Navajo Lake State Park. The estimated cost of the future planned project is \$954,000.

Navajo Lake State Park

Renovate Vault Toilets and Comfort Stations at the San Juan River Day Use Areas, and the Pine and Sims Mesa Recreation Areas

The vault toilets and comfort stations at the River Day Use Areas, Pine and Sims Mesa recreations areas were renovated including new concrete, subsurface drain lines, gutters and downspouts, vent system upgrades, accessible parking, new door hardware and restroom accessories.

Total project cost \$258,389.13

The new Crusher Hole Campground opened Friday, June 25, 2021 at Navajo Lake State Park. The new campground is adjacent to the Crusher Hole day-use area along the San Juan River.

The new campground was constructed on the state-owned Johnson Tract property at Navajo Lake State Park. The sites include: 17 standard sites, 3 accessible sites, and one host site, all furnished with a concrete pad, shelter, grill, fire ring, and tent pad. The three accessible sites and the one host site received accessible furnishings. Two double vault toilets were installed that have accessible concrete parking and



RESOURCE PROTECTION

As part of its mission, State Parks documents and preserves the unique cultural and natural resources within its park system. In 2021, much of the focus was on a series of maintenance and repair projects, and State Parks staff reviewed several park projects requiring compliance with various state and federal laws including the National Environmental Protection Act, National Historic Preservation Act, and New Mexico's own Cultural Properties Act. In meeting these compliance requirements, Parks Resource Protection staff successfully coordinated with partner and regulatory agencies that were critical to the compliance process, especially the State Historic Preservation Division. Finally, the State Parks Division coordinated with other EMNRD Divisions and has entered into a department-wide agreement that will allow all EMNRD Divisions to share access to environmental and cultural resource consultants that assist with our compliance needs.

In addition to regulatory compliance, State Parks continued important resource protection projects and partnerships with a variety of local, state, and federal entities. For example, the Division continues to work with the SiteWatch program at several parks as a means of further protecting cultural resources. This important program pairs trained volunteers with archaeological sites that are at risk of damage from unauthorized excavations. The volunteers document any new damage at the site(s) they oversee and pass



Hyde Memorial State Park Ski Run and Lodge 1940's.



VOLUNTEER PROGRAM

Park volunteers include camp hosts and day volunteers who assist with operational needs, staff visitor centers, provide educational programming, landscape, and maintain grounds, maintain trails, clean camp sites, assist campers, staff gift shops, and many other critical needs.

While the pandemic lingered throughout 2021, park visitation soared, and volunteers returned with great enthusiasm and effort. State Parks benefited from the work of hundreds of dedicated volunteers who contributed thousands of hours of service to park operations.

In addition, State Parks also received vital support from 18 local Friends Groups throughout the year. Friends Groups hosted park events and raised funds to complete park projects. These efforts help offset budget and staff shortfalls.

- A few highlights of Friends events throughout calendar year 2021 include:
- Friends of Rio Grande Nature Center hosted a BioBlitz and the Summer Wings Festival.
- Friends Group and volunteers at Ute Lake State Park hosted a Zombie Fun Run.

it on to the State Historic Preservation Division and State Parks. SiteWatch has been particularly important in assessing resource damage at Cerrillos Hills State Park this year and their presence appears to have slowed unauthorized digging.

In 2021, the Division's Archaeologist undertook 22 new park-related projects, and continued work on numerous projects from previous years. The majority of these were in advance of planned maintenance or improvements within various parks.

In addition, the State Parks Archaeologist collaborated with an environmental consultant to complete the nomination process for Hyde Memorial State Park to be listed in the National Register of Historic Places. This process was completed when the State Park and Ski Area Historic District was officially listed in the Register on August 6, 2021. Hyde Memorial State Park Ski Run and Lodge 1940's.

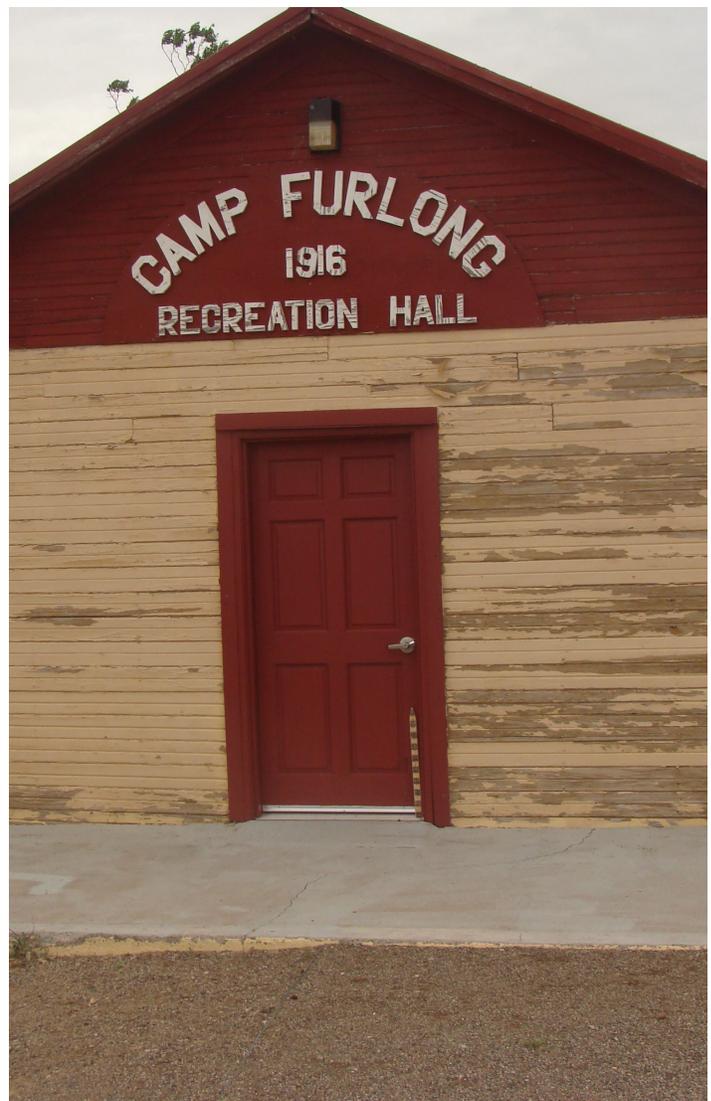
Planning also progressed this year on the renovation of the 1916 Camp Furlong Recreation Hall at Pancho Villa State Park. The assessment of the extent of the renovations has been completed and the project has moved into the development stage with implementation expected in the Spring of 2022.

State Parks continued to work with Eastern New Mexico University's Department of Anthropology and Applied Archaeology on an archaeological field school that took place on State Parks owned land in Broad Canyon, near Leasburg State Park. The field school included excavation and survey techniques for students. The site excavation focused on a small rock shelter and revealed that the shelter was used by the Jornada Mogollon Culture between A.D. 1250 and 1450, with minor use by later Apache groups during the 1800s. A preliminary report was received for Park's review in August.

State Parks also continues to analyze many of the collections of cultural materials that are on display at various parks. This is an ongoing commitment to ensuring that interpretation is kept fresh and relevant and that the displays are up to date both in terms of information but also in the way they are cared for as new technologies become available to better care for our cultural materials.



ENMU 2021 Archaeological Field School in Progress. Artifacts await analysis.



Camp Furlong Recreation Hall at Pancho Villa State Park

OUTDOOR EDUCATION PROGRAM

State Parks provides quality interpretive experiences and educational programming for visitors. Live programming returned in 2021 with approximately 170 formal programs presented to over 3,350 visitors. Virtual programming also continued in 2021 with a YouTube video educating people on fire safety in parks.

In September, New Mexico State Parks partnered with Girl Scouts USA, New Mexico Girl Scouts Trails, Department of Game and Fish and the US Forest Service to host the 3rd annual Girl Scouts Love State Parks event highlighting the importance of young people connecting with the outdoors. This year's theme was "Stewardship" and approximately 30 Girl Scouts and their families participated in live online activities as well as camping and taking advantage of day-use visits to several of our parks. A total of 4 parks participated in the program.

Girl Scouts at Manzano Mountains State Park learning about our natural resources.

Today's children truly represent the next generation of adventure in New Mexico. The knowledge and experience gained through State Parks' Outdoor Classroom Program will shape the future of resource protection and recreation. State Parks is working with the Office of Outdoor Recreation to plan statewide outdoor education.



Girl Scouts at Manzano Mountains State Park learning about our natural resources.

BUSINESS ENTERPRISE

The State Parks Division had another successful fiscal year working with ReserveAmerica (RA), our online reservation system. The Division continued to build its online inventory of reservable campsites on RA with a goal of 80% of total campsite inventory available online. This increase was initiated to meet the customer demand to make reservations online, and to reduce the amount of cash handling required by park staff. Because of our strong marketing message encouraging people to "Book Now" and "Know Before You Go", the Division hopes the added convenience of reserving campsites and purchasing day-use passes online throughout the year will drive more people to our parks.

State Parks saw a slight decrease in the number of reservations made on RA with a total of 25,667 reservations in FY21 compared to 36,615 reservations made in FY20, much of it because of the ongoing pandemic. ReserveAmerica accounted for 82,809 resident visitors and 56,943 non-resident visitors, which shows parks remain a very attractive destination. Revenue from online reservations and pass sales for FY21 was \$2,192,424.50, well ahead of the \$1,263,866.35 for FY20. Donations to the Division through RA were also up this year. RA collected \$33,753 in donations in FY21 compared to \$13,769 in FY20. We are very grateful to all who contributed.

The top five parks in total nights booked and revenue generated on RA for the calendar year are Navajo Lake, Elephant Butte Lake, Bottomless Lakes, Ute Lake, and Santa Rosa Lake State Parks.

State Parks relies heavily upon relationships with private business concessionaires to provide services in our parks that would not otherwise be provided. In doing so, these businesses often generate additional revenue for the Division. State Parks currently administers 16 concessions through contracts or permits. Concessions include the state reservation system, marinas, fishing outfitters, a wireless internet provider, horseback riding services, stores, food trucks, and gift shops. Total revenue collected from all concessions in FY21 was \$2,443,324.00 compared to \$1,236,768.22 in FY20.

SAFETY AND LOSS CONTROL

The Division's Safety and Loss Control Program continued in its leadership role to provide a Covid-safe environment for staff and visitors. All the parks have been awarded the NM Safe Certified designation through the Department of Tourism and State Parks continues to revise and improve operational standards to serve employees and visitors more effectively. Testing, reporting, and tracking Covid infections has become a central pillar of safety protocols.

In addition to the many COVID-related tasks taken on by this program, the Bureau has continued to monitor and improve on all aspects of safety and loss control across the Division by carrying out regular physical inspections; providing reporting and follow-up on sub-standard safety practices or conditions; tracking, coordinating, and providing required safety training (e.g., First Aid/CPR/AED); and coordinating with Risk Management on a variety of property loss claims. Overall, this program is critical to the safety of our staff and visitors and benefits the Division in its efforts to reduce and manage for excessive property loss.

LAND AND WATER CONSERVATION FUND

At the time of this report, the Division has yet to receive its annual Stateside apportionment from the Land and Water Conservation Fund (LWCF) administered by the Department of the Interior, National Park Service. However, this year's appropriation (FFY22) is expected to be in-line with the FFY21 appropriation, which was \$3,328.0. Infrastructure projects across the parks system are among those proposed uses for these funds.

These funds will also be used to support the re-establishment of New Mexico's annual LWCF Local Assistance grant program. The Division solicited proposals from eligible entities (state sub-divisions and tribes) for a total of \$1.5 million in grant awards and received 13 proposals that are currently under review. There was a small grant and a large grant category to provide funding opportunities for a wider

array of applicants. Applicants included the following entities:

- Acoma Pueblo
- City of Bayard
- Town of Bernalillo
- City of Carlsbad
- City of Clovis
- City of Farmington
- City of Las Cruces
- Luna County
- City of Portales
- Santa Clara Pueblo
- Village of Santa Clara
- City of Santa Rosa
- City of Sunland Park

Finally, the Division completed its' required revision of the Statewide Comprehensive Outdoor Recreation Plan. This document is the state's strategic plan for outdoor recreation and required significant collaboration with other local, state, and federal agencies; outdoor-oriented NGO's; and private citizens with an interest in outdoor recreation. Work on the plan was a central focus of the LWCF Program this year. In addition to the regularly revised discussion of outdoor recreation trends and needs in the state, this version addresses outdoor learning along with a discussion of awareness, accessibility, and equity in outdoor recreation.





MARKETING

2021 was all about working with local partners and expanding partnerships by rebuilding public outreach through various channels. At the beginning of the new year, the marketing team advised the public via radio and television interviews about the changing operational hours related to the Public Health Order. Visitors were directed to “Know before you go” and continue to check the website for details on specific park hours of operation and additional information before visiting.

In February, the restriction of out of state visitors was lifted and New Mexico State Parks reopened to all visitors. Amid newcomers flocking to state parks, State Parks worked with the New Mexico Tourism Department on the NM True Public Lands Recovery Readiness Initiative by enhancing our presence on Google My Business (GMB) by claiming, editing, and managing our listings. Our collaboration helped capture beautiful new footage for Google Business Profiles and enabled the Division to offer educational and informative virtual tours.

The Division worked to improve listing completeness, training on Google My Business and content audit and scheduling photo shoots. Initially nine parks were identified for the new 360 photospheres and street view footage to better enhance the visitor experience. To date, all 35 state parks have received Google pixel phones to manage real-time videography and photography of parks.

In March, State Parks partnered with the State Forestry Division on Wildfire Prevention advertising. A radio and video campaign was created targeting northern New Mexico for the upcoming fire season. State Parks coordinated and participated in the video commercial with filming at Fenton Lake State Park, which is nestled in the Santa Fe National Forest. The message promoted was:

“New Mexico’s State Parks are the perfect getaway this time of year, but it’s also a time when carelessness can lead to unwanted wildfires. So, before you hit the road, check that tow chains are not dragging on boats, trailers, and RV’s. Never park vehicles in tall, dry grass. Remember, it’s not a matter of if, but when a wildfire will start. – This message brought to you by the New Mexico State Parks and Forestry Divisions.”



In an effort to connect more visitors with the outdoors and to encourage responsible recreation, the State Parks Division developed new materials in Spanish. Through the Next Generation of Adventure, a multi-year campaign to modernize our State Park system in several ways, one of the first projects was partnering with Geico to publish a 2021 bilingual park brochure for New Mexico State Parks, which had never been done before. Since its launch, the brochure has been well-received and was distributed at the 2021 New Mexico State Fair.

State Parks continues to partner with the prestigious New Mexico Magazine for their annual photo contest. Every year, state parks receive hundreds of entries of amazing photographs captured across the state by amateur photographers. The winning photographers are eligible for prizes including camping passes and overnight stays at the yurts at Hyde Memorial State Park.



The outdoor mural at City of Rocks State Park was funded by the NM Economic Development Department's Outdoor Recreation Division Outdoor Equity Grant

State Parks partnered with the New Mexico Economic Development Department's Outdoor Recreation Division (ORD), the Western New Mexico University Outdoor Program (WNMU), and the Youth Mural Program (YMP) to create an outdoor mural at City of Rocks State Park in southwestern New Mexico. The project was funded through the ORD Outdoor Equity Grant which aims to engage low-income youth in nature-based outdoor recreation activities and provide education about climate and the environment.

New Mexico State Parks staff and marketing team dedicated time to partner with the Upper Pecos Watershed Association (UPWA) on planning the annual Dia del Rio y Camino (Day of River and Road) litter-pick up event along the Pecos River from Pecos, NM to Pecos TX. Four parks are along the Pecos River which include Pecos Canyon, Villanueva, Santa Rosa, and Sumner Lake State Parks. The event was scheduled on National Public Lands Day on September 25th. However, due to increasing COVID-19 cases, the Pecos to Pecos Dia del Rio y Camino Litter Event has been postponed for Earth Day 2022.

This year, at the New Mexico State Fair, the marketing team and staff handed out litterbags to thousands of fair goers promoting Toss no Mas and Recreate Responsibly. This is in partnership with the New Mexico Department of Transportation in attempting to curb litter in the Land of Enchantment and to protect our natural resources and wildlife while outdoors.



2020 NM Magazine "Enchanted Adventures" photo contest 1st Place Winner- Elephant Butte Lake State Park

The Energy, Minerals and Natural Resources Department proudly presents the work of our Department in calendar year 2020. EMNRD looks forward to continuing our work managing resources sustainably for all New Mexicans in 2022.

Data and Statistics: Collected and published pursuant to the authority of the New Mexico Energy, Minerals and Natural Resources Department: NMSA 1978, Sections:

- 69-5-7 (1933, as amended through 2007)
- 69-11-1 (1933, as amended through 1989)
- 69-11-2 (1933, as amended through 1989)
- 69-11-3 (1933, as amended through 1989)
- 69-25A-10 (1979)
- 69-26-1 (1933, as amended through 1989)
- 69-26-2 (1933, as amended through 1989)
- 69-26-3 (1933, as amended through 1989)
- 70-2-12 (1978, as amended through 2004)

For more information on the Energy, Minerals & Natural Resources Department visit: www.emnrd.state.nm.us

Acknowledgments:

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Editor’s Note: If you have any questions or comments regarding this document, please contact:

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