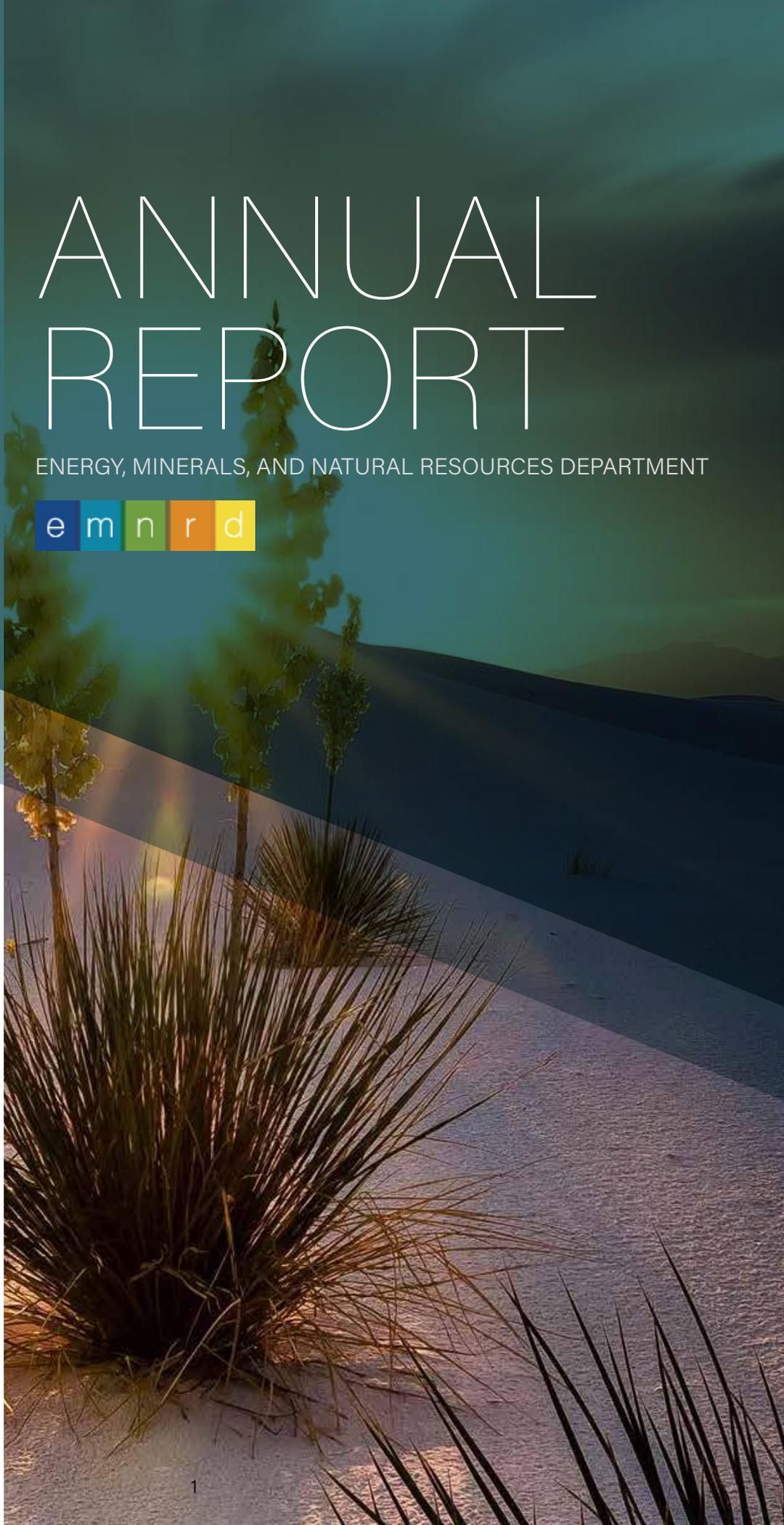


ANNUAL REPORT

ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT



20
22



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Message from Cabinet Secretary

Sarah Cottrell Propst



In 2022, the two largest wildfires in the state's history ravaged hundreds of thousands of acres, resulting in tragic losses of lives, properties, ancestral lands, and wild places. Monsoon rains brought new challenges to communities in and around the burned areas. EMNRD's Forestry Division played a central role in firefighting, response, and recovery efforts. In addition, several State Parks were impacted or temporarily closed by the fires. Several parks served as staging areas for firefighting or evacuations or saw helicopters dipping water from their lakes for fire suppression. EMNRD employees across our divisions were impacted directly by fires and flooding. Many of our employees were supporting family members impacted by these twin disasters while also contributing to our agency's work in responding to these emergencies.

As I've traveled through these parts of our state repeatedly over the year, it is clear we will be recovering and learning from the fires and floods for many years to come.

In November I attended the U.N. Climate Conference, COP 27, in Sharm el Sheikh, Egypt. Governor Lujan Grisham and I each spoke on multiple panels, describing New Mexico's climate policy work and the importance of action at the U.S. state government level. Our state's Climate Change Task Force reports that we still need to reduce over 16 million metric tons of carbon dioxide equivalent (CO₂e) to hit our 2030 goal of 45% lower emissions than 2005. In 2022, we started work on a 5-year plan to close that gap, which is expected to be released in early 2023. EMNRD's Energy Conservation and Management Division is working on many related climate and energy initiatives, such as the Grid Modernization Grant Program described later in this report. The first program award went to the City of Albuquerque for a Balanced Resource Acquisition and Information Network (BRAIN) data center and computer platform, providing visibility into energy usage data and enabling real-time demand response.

The federal government's enactment of multiple laws, including the Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) provide incredible funding opportunities for programs that EMNRD administers. EMNRD's Oil Conservation Division received an initial \$25 million grant on October 1st to clean up orphan oil and gas sites, and we started the first well-plugging project using those funds less than a month later. This builds on our pre-existing successful well-plugging program, expanding the wells we can reach within a year by approximately 200.

Governor Lujan Grisham signed HB 164 in March 2022, creating a uranium reclamation coordinator in EMNRD's Mining and Minerals Division. For the first time, this provides the agency with a dedicated person to manage and track reclamation of legacy uranium mine and mill sites. The Division also continued its award-winning work in abandoned mine reclamation, receiving the 2022 National Association of Abandoned Mine Land Programs Hardrock Award for a project near Cookes Peak in southern New Mexico.

Last but not least, our State Parks welcomed over 5 million visitors this year, continuing to be essential economic drivers for local communities. Outdoor recreation is a growing industry in New Mexico. For my part, I plan to ring in the new year by staying in one of our beloved State Parks.

A handwritten signature in blue ink that reads "Sarah Cottrell Propst".

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.

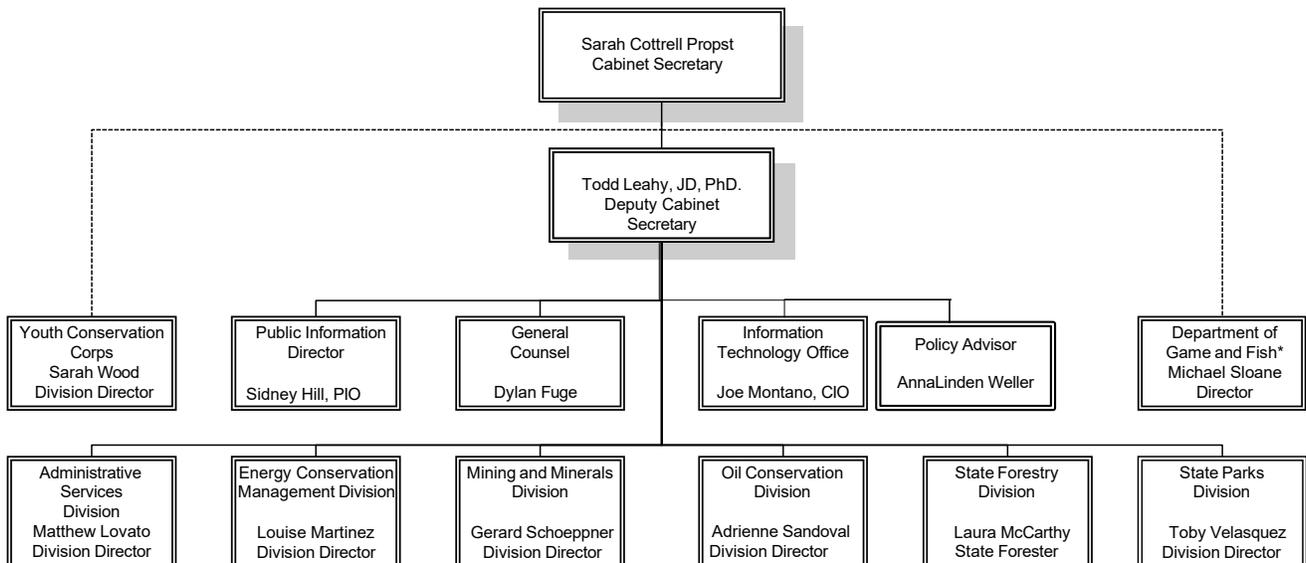
Office of General Counsel

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

Letter from the Director:

The Energy Conservation and Management Division (ECMD) is leading the state's charge toward clean energy adoption. ECMD has positioned New Mexico as a leader in the implementation of innovative clean energy programs, which will generate quality jobs, attract investment opportunities, and accelerate economic growth.

The year 2022 marked a period of growth for ECMD as we continued to expand our team to meet both existing challenges and new opportunities. In this report, we highlight several ways in which we helped New Mexicans take advantage of renewable resources, become more energy efficient, and build professional skills. We are also looking forward to furthering development of clean energy infrastructure projects that will impact the lives of New Mexicans statewide.

ECMD's collaborative spirit has led to strengthening relationships with several in-state partners such as many of the state's public colleges and universities, the New Mexico Public Regulation Commission, Sandia National Laboratories, the City of Albuquerque, as well as many other state agencies, public institutions and non-profit organizations serving New Mexico's communities. Relationships are essential to building responsive programs such as our Sustainable Buildings for Advanced Professionals (SEAB) program, the Community Energy Efficiency Development (CEED) block grant program, and climate mitigation, resilience, and adaptation.

ECMD expanded its role as a valuable resource to all New Mexicans by reviewing specifications for a record number of residential solar installations and developing metrics for quantifying energy efficiencies. Our subject matter experts participated in many forums, providing unbiased technical support, and helping advance many high priority projects and initiatives.

After the passage of the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law, ECMD developed a plan to take advantage of relevant energy provisions. ECMD, also known as the New Mexico State Energy Office, quickly applied to the U.S. Department of Energy for \$36 million in project funds to support electric grid resilience. Drawing on connections and conversations with other State Energy Offices, ECMD also began fleshing out ideas for energy programs and activities, revolving loans for energy audits and upgrades, energy efficiency grants, training opportunities, and helping NMDOT develop New Mexico's application for the National Electric Vehicle Infrastructure Formula Program.

ECMD is committed to timely and meaningful technical assistance; developing and deploying solutions that will maximize New Mexico's renewable energy resources; and improving energy efficiency and transportation standards that will support advancement of New Mexico's climate goals. We have a great opportunity to collaborate with our local and tribal communities to address environmental, public health, and economic burdens that impact all New Mexico residents.

A handwritten signature in black ink that reads "Louise Martinez". The signature is written in a cursive, flowing style.

Louise Martinez, ECMD Division Director

Energy Conservation and Management Division

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.

DIVISION OVERVIEW

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
- 3 WIPP staff for safe transportation of transuranic waste
- 5 administration and public services positions

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.

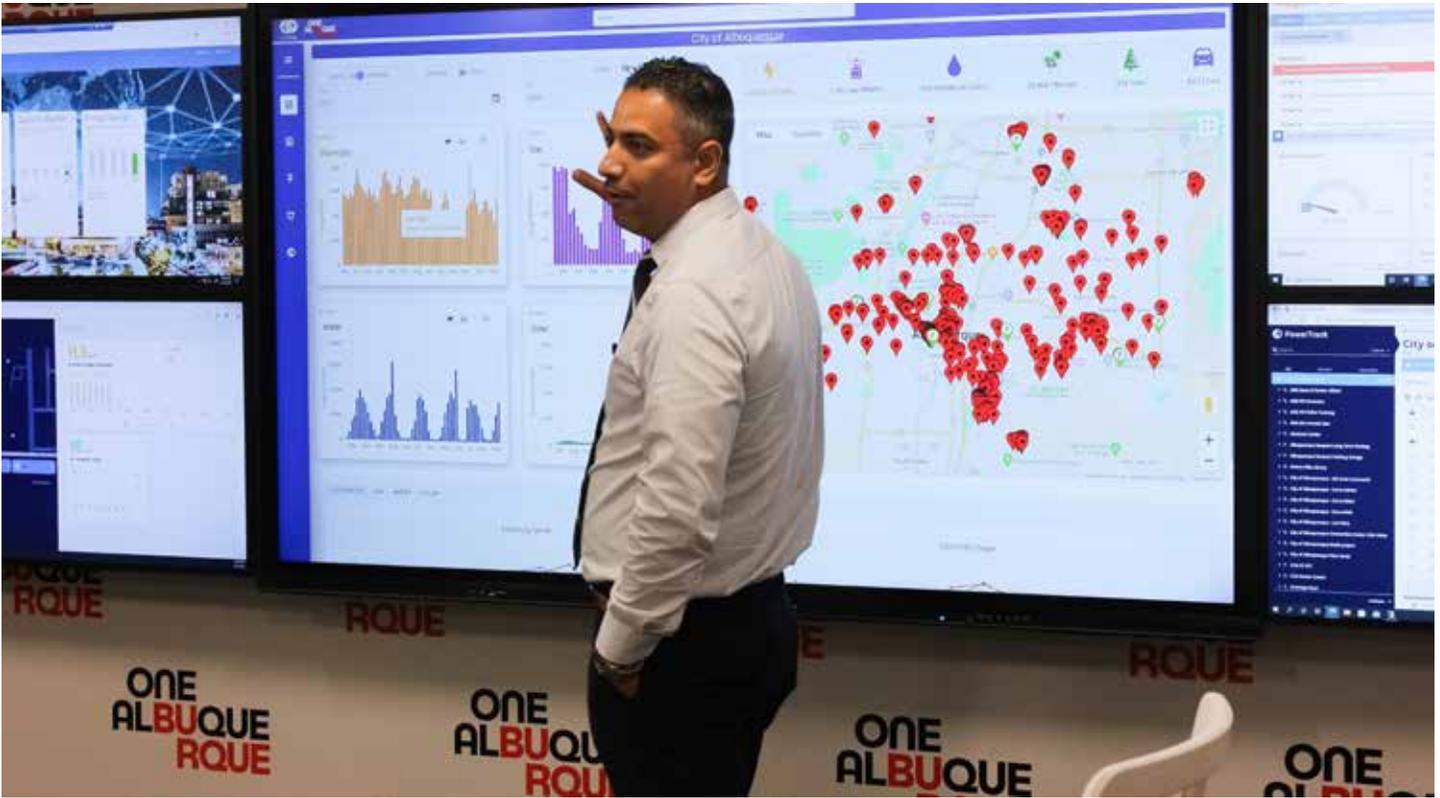
OUTLINE OF STRATEGIC PRIORITIES

- Grid Modernization & Clean Electrification
- Climate Change Action
- Transportation Decarbonization
- Energy Efficiency
- Energy Diversification and Workforce Development
- Sustainability & Resiliency
- State Energy Security Planning
- Transuranic Waste Transportation Safety

GRID MODERNIZATION DEMONSTRATION PROJECT

The goal of ECMD's Grid Modernization Grant Program is to support pilot projects that facilitate the adoption of renewable resources on the grid and increase grid reliability, grid security, demand response capability, customer service, energy efficiency or conservation. In 2022, the program completed its first round of funding, issued a new award, and began the rulemaking process to formally adopt requirements and a process for applying for a grid modernization grant.

The first program award went to the City of Albuquerque for a Balanced Resource Acquisition and Information Network (BRAIN) data center and computer platform. EMRND applied funding from the State Energy Program (\$200,000) combined with a state allocation (\$51,000) to cover about 40 percent of the total project cost.



Saif Ismail, the City of Albuquerque’s Manager of Energy and Sustainability, demonstrates how the BRAIN dashboard helps the city tracks its energy usage in real-time.

The City’s Energy and Sustainability Management Division (ESMD) manages over 4,818 metered utility accounts, nearly 39 MW of solar, 9 battery installations and 56 building management systems across over 600 facilities. The vision for the BRAIN platform is to ensure all the data and connectivity is established in one place. The BRAIN’s primary benefits to the grid currently are capturing energy usage data and enabling real-time demand response. The BRAIN can automatically trigger a ‘change of state’ or ‘control command’ to the assets and resources to which it is connected. Through the BRAIN, city energy managers can execute a pre-programmed asset response when prompted by PNM. Pre-cooling, temperature setbacks, discharging a behind the meter battery, dimming lights, interrupting an EV charging station are all examples of possible ‘control commands’ that can initiate from the BRAIN to interact with the grid. By activating the BRAIN, the city is able to gain real-time insight and control over energy consumption and asset performance. The city is already realizing financial savings of close to \$10 million/year with all of its clean energy and energy efficiency initiatives.

In FY23, the Grid Modernization Grant Program is supporting the Resilient El Rito (REL) project. REL is a

collaboration between Northern New Mexico College El Rito campus, the community of El Rito and Kit Carson Electric Cooperative. The funding will support an engineering study to assess the feasibility of and design a nested microgrid to increase electric service reliability and resilience for the historic campus and community. In the future, the microgrid project would become an important educational component for the College.

Looking Ahead to a More Resilient Grid

In October 2022, ECMD, also known as the New Mexico State Energy Office, applied to the U.S. Department of Energy (DOE) under the Infrastructure Investment and Jobs Act provision 40101(d): Preventing Outages and Enhancing the Resilience of the Electric Grid.

The new program will bring \$36 million to New Mexico over five years, starting in 2023, to help firm up vulnerable electric systems, modernize the grid as utilities make the transition to renewable energy resources and strengthen community resilience.

Large Scale Renewable Resources

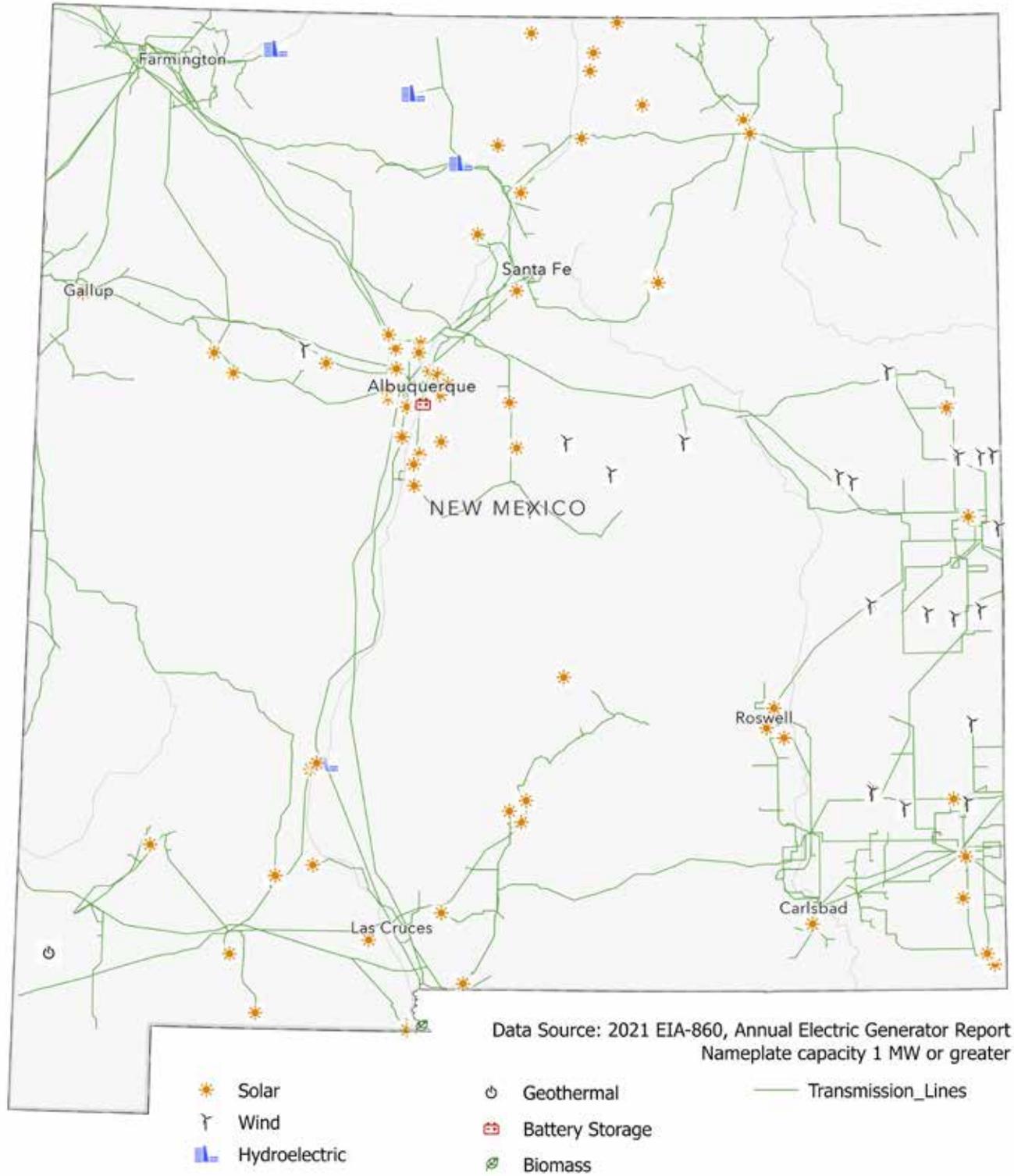
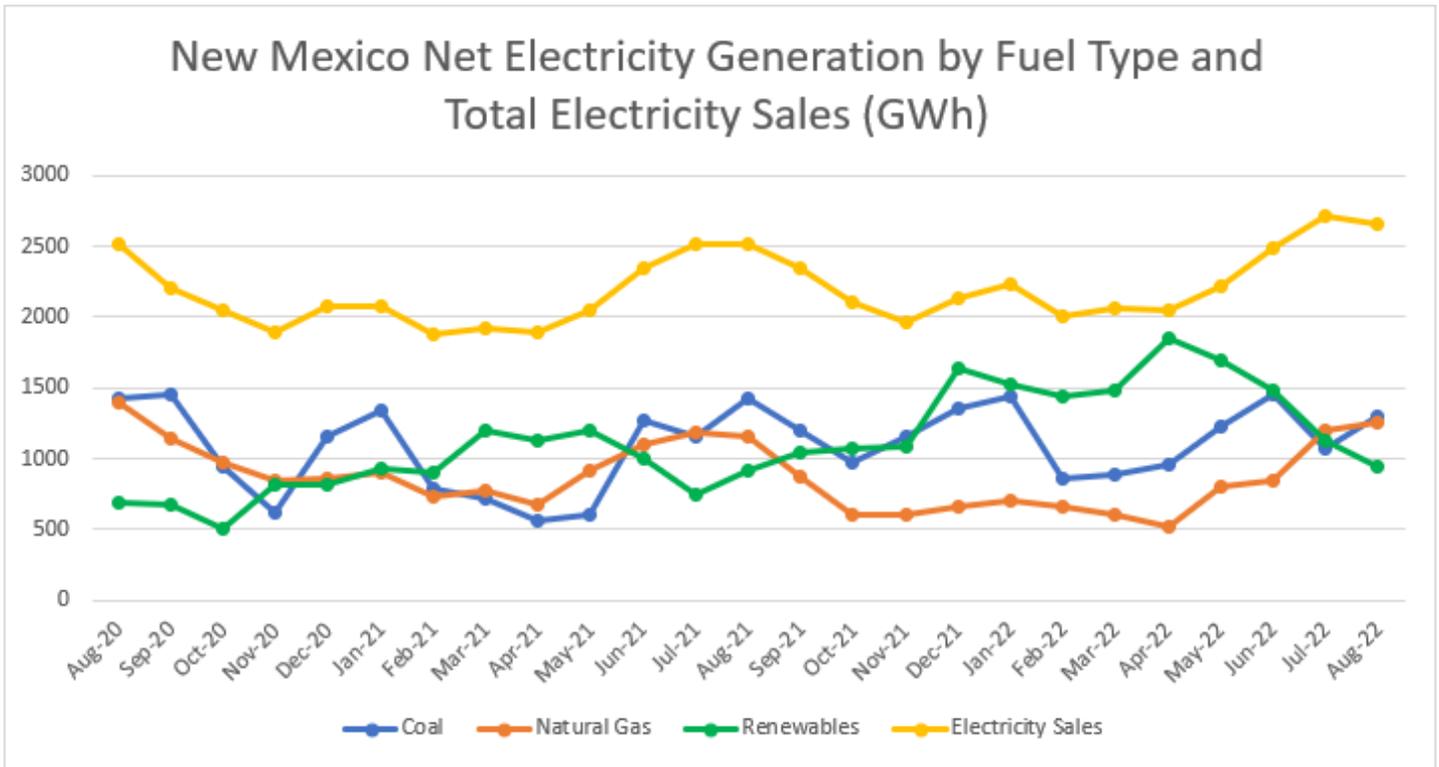


Image 1: New Mexico Resource Map

New Mexico State University, Texas Parks & Wildlife, Esri, HERE, Garmin, FAO,



Graph 1: New Mexico Net Electricity Generation by Fuel Type and Total Electricity Sales

Based on EIA data, the summer of 2022 saw New Mexico reach another historic peak for monthly electricity usage statewide. For the first time electricity usage for the month of July peaked at over 2700 GWhs. Previous summer peaks in New Mexico barely exceeded 2,500 GWhs, so this year's summer peak has exceeded all previous peaks by over 8 percent. While residential power usage has returned to the COVID pandemic peak of 2020 when many people stayed home, the commercial and industrial sectors continue to see substantial usage growth. Demand growth remains a challenge to the state's transition to renewables.



EMRD Secretary Sarah Cottrell Propst, second from right, and ECMD Director Louise Martinez, right, joined U.S. Senator Martin Heinrich at the unveiling of the Atrisco Heritage High School Solar Power and Battery Storage Project.

Solar and Storage Project

In 2022, Albuquerque Public Schools completed the Atrisco Heritage Academy High School photovoltaic and battery storage project with financial support from ECMD. This is the largest public school clean energy project in New Mexico and represents the latest step in the district’s ultimate goal of safe energy-efficient facilities that will conserve taxpayer resources as well as our region’s natural environment. This is a joint initiative of Albuquerque Public Schools, the New Mexico Energy, Minerals, and Natural Resources Department, Sandia National Laboratories, the U.S. Department of Energy, the Clean Energy States Alliance, and OE Solar, a local solar power design and construction company.

The project includes 2,208 roof-mounted electricity-producing solar panels generating 850 Kilowatts of electric power and a Tesla Mega-pack 2-energy storage system that has an electricity storing capacity of 2,884 kWh. The project has an annual electricity production/storage capacity of 1.3 Gigawatts for Atrisco Heritage Academy High School and will result

in an estimated savings of \$3.5 million over 25 years on the school’s electricity bill. In the future, the project may allow for disconnection from the power grid, making the school a power shelter/resiliency hub and a regional neighborhood power shelter.

Climate Change Action

In January 2019, Governor Lujan Grisham issued Executive Order 2019-003 on Climate Change and Energy Waste Prevention, which created the state Interagency Climate Change Task Force (the Task Force) and included directives for agencies to incorporate climate mitigation and 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.

Early in 2022, the Task Force convened a Technical Advisory Group (TAG) to assess draft climate goals



and implementing actions and offer input on gaps or challenges to implementation. The TAG was brought together to provide a diverse perspective on the draft climate goals and implementing actions. This group included representatives from industry, environment, tribal and environmental justice organizations, and represented different geographic regions of the state, differing areas of expertise and experience in different sectors that contribute to the state's greenhouse gas emissions. The resulting input from this process is being used to inform the final goals of the 2023-2028 Climate Action Plan, which is under development and expected to be released in early 2023.

Transportation Decarbonization

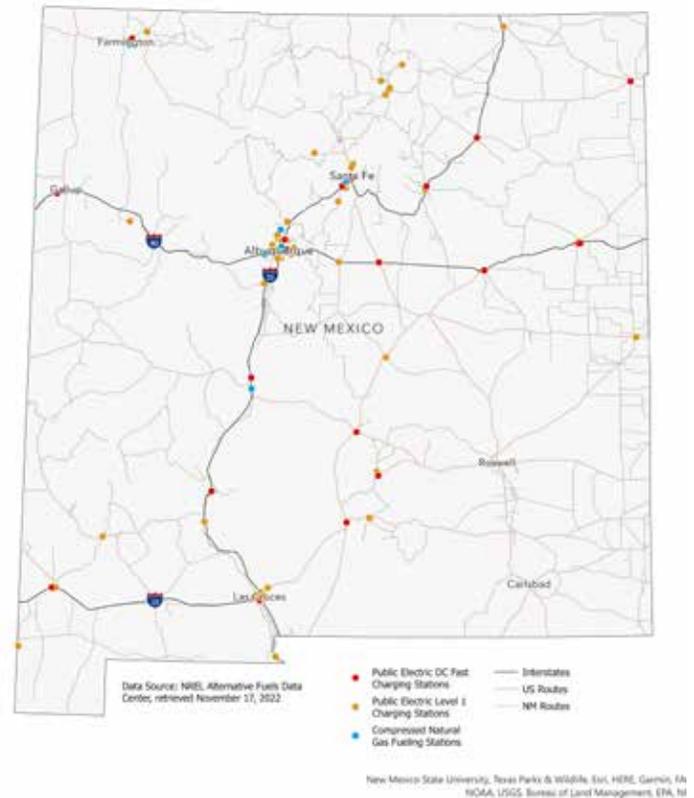
ECMD hosted three conversations with the Transportation Working Group in 2022 to broaden awareness of multi-pronged efforts to decarbonize transportation in New Mexico. The guest speakers at these meetings included: Joseph De La Rosa, Special Projects in the NMDOT Office of the Secretary who spoke on the New Mexico EV Infrastructure Plan; Amy Brown, the Chief Operations Officer who works with Adelante Consulting; Erick Aune, an Officer at the Santa Fe Metropolitan Planning Organization (MPO) who presented the Santa Fe Multi-Modal Update Plans; and David Harris, Director of Transit and Rail at NMDOT who talked about multi-modal transportation. There are over 70 stakeholders in the Transportation Working Group, spanning state and county agencies, Tribes, car dealerships, non-profits and electric utility operators.

ECMD helped develop the New Mexico EV Infrastructure Deployment Plan which was published in July 2022. New Mexico expects to receive approximately \$38 million from the National Electric Vehicle Infrastructure (NEVI) Formula Program, as part of the 2021 federal Bipartisan Infrastructure Law.

For years 1 and 2, the Plan identifies over 50 new State EV charging locations, which prioritize filling in the gaps on the interstate Alternative Fuels Corridors that are not currently within 50 miles of one or more existing NEVI-compliant charging locations. ECMD has also been participating in the RevWest/ChargeWest working group which convenes eight intermountain states to collaborate on EV infrastructure planning and solutions and to complete state and regional Alternative Fuels Corridors. ECMD

will continue to advocate for equitable siting of electric charging stations.

Alternative Fueling Stations



New Mexico Alternative Fuel Stations (For a larger version of this map [click here.](#))

Energy Efficiency

ECMD is leading several major initiatives to improve energy efficiency in the built environment.

Community Energy Efficiency Block Grant

In the 2022 legislative session, the Community Energy Efficiency Development (CEED) Block Grant Act passed. This legislation allows ECMD to issue grants to municipalities, Tribes, Pueblos, Indian Nations and the New Mexico Mortgage Finance Authority for energy efficiency upgrades for low-income residents on a community scale. This program will allow applicants to identify a neighborhood in need, then working with community partners they will identify individual households that meet the criteria and scope of the project. ECMD was allocated \$10M for this program. ECMD is working with stakeholders to finalize the program rules and expects to begin issuing grants early in 2023. ECMD has hired a CEED Block Grant Program Administrator to handle the day-to-day

operations of the grant and be the public face of this new program.

Sustainable Building Tax Credit

The Sustainable Building Tax Credit (SBTC) provides a tax incentive to sustainable and energy efficient green building, both residential and commercial. In 2021 the Legislature amended the SBTC to more accurately reflect the state's intention to incentivize cutting-edge sustainable building practices. The 2021 SBTC went into effect on January 1, 2021, for existing building energy conserving retrofits. On April 1, 2023, it will be effective for the construction of new buildings. The program currently sunsets on January 1, 2028.

A taxpayer may apply for a credit under the 2021 SBTC for investments in constructing or renovating sustainable residential or commercial buildings that meet specific "green" building standards. The 2021 SBTC is available for the construction of a sustainable building in New Mexico, the renovation of an existing building in New Mexico, the permanent installation of manufactured housing that is a sustainable building, regardless of where the housing is manufactured, or the installation of energy-conserving products to existing buildings in New Mexico. To qualify for a renovation under the 2021 SBTC, the building owner must reduce the energy consumption of a residential or commercial building with ENERGY STAR windows, doors and insulation or electrify a building with ENERGY STAR heat pump furnaces and water heaters. The rate of the credit varies with the type of building, the total qualified occupied square footage of the building and the degree of energy efficiency incorporated in the building.

Calendar year 2022 marked the transition from the 2015 SBTC (now concluded) and new 2021 SBTC. The final 2015 SBTCs were certified this year. From January 1, 2022, to December 31, 2022, staff approved 851 Sustainable Building Tax Credit applications, totaling \$4,880,235 for residences and commercial buildings, \$305,464.50 for multi-family buildings, and \$67,215 for manufactured homes.

In 2022, the following benefits were realized:

- Total Energy Saved: 70,575,956.68 kBtu
- Estimated CO2 Avoided: 3,177.70 mmtCO₂e
- Average Energy Saved Per Square Foot: 40,008

In 2022, ECMD established the processes and infrastructure for administering the 2021 SBTC. The 2021 SBTC has five separate types of funding (new commercial construction, new residential construction, manufactured housing, large commercial renovation, energy conserving products), each with its own requirements.

ECMD is working to address each of these as quickly as possible. ECMD developed construction job aids and workflow requirements for the public, per the new law. To better and more efficiently process 2021 SBTC applications, ECMD with the support of EMNRD's Office of Information Technology, has developed a paperless application portal and is encouraging paperless applications. ECMD also implemented environmentally friendly email delivery of Certificates of Eligibility.

Energy Savings Performance Contracts

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.

As of June 2022, the Guaranteed Energy Savings Performance Contracts (GESPC) Program reviewed and certified five projects during the year, totaling more than \$28.6 million in energy efficient upgrades, of which \$2.5 million was financed through the GESPC process. State Energy Program Formula Funds allowed staff time for review, evaluation of energy audits, certification of investment grade audits, and oversight of these projects. The five projects that were certified during the project year will save the public entities more than \$275,000 per year in utility spending. In addition, the staff continues to monitor more than 30 projects that bring the GESPC Program savings totals to 1.2 million therms of gas, 81.3 million kilowatt-hours (kWh) of electricity, and 34.5 million gallons of water annually.

Energy Diversification and Workforce Development

Sustainable Education for Advanced Buildings

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. In 2022,



ECMD staff developed a new program to support the energy efficiency buildings sector workforce. The New Mexico Energy, Minerals and Natural Resources Department is offering free continuing education and training opportunities for construction industry professionals. This initiative is a partnership with Doña Ana Community College, Northern New Mexico College, San Juan College, and Santa Fe Community College, through support by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) under the Building Technologies Office Award Number DE-EE0009739.

The training courses cover aspects of both the residential and commercial energy conservation codes and associated codes and standards. The courses are offered in both live and/or online formats. The courses target the knowledge needs of both design/build industry professionals as well as code officials performing plan reviews and inspections. Professionals can attend trainings to fulfill Continuing Education Credit or Professional Development Hour requirements. Visit ECMD's website for more information.

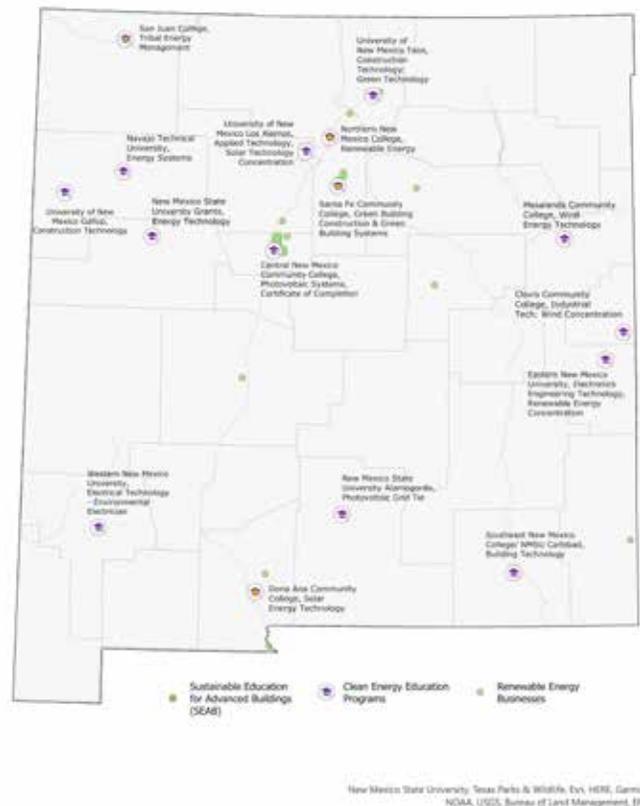
EDA Cares Assistance Assistant Grant

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 engaging stakeholders in the industry to participate in data collection.

At ECMD, the Economic and Energy Diversification Coordinator developed 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

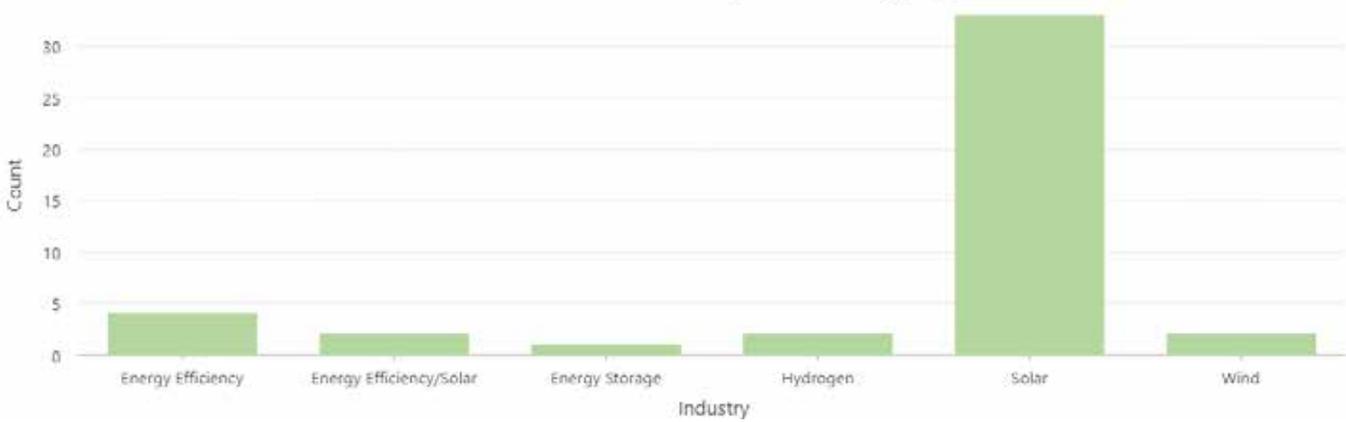
the New Mexico State Land Office, Bureau of Land Management, and the Department of Workforce Solutions we have identified over 1,400 clean energy-related companies and 34 clean energy degree and certification programs around the state. The businesses and educational programs on these inventories will serve as a baseline as ECMD works to support clean energy industry growth in New Mexico. Additionally, the Economic and Energy Diversification Coordinator developed a clean energy data hub which will be housed on the ECMD website. This data hub will compile publicly available data about the clean energy industry as well as serve as a one-stop-shop for resources that can help businesses in the industry and residents interested in the industry.

Clean Energy Economy and Workforce Development



(For a larger version of this map [click here.](#))

Number of Businesses by Clean Energy Type



New Solar Market Development Tax Credit

The Solar Market Development Income Tax Credit provides a tax incentive for residential distributed solar PV and solar thermal generation. From January 1, 2022, to December 31, 2022, there were 2,108 projects, representing \$6,626,682 in credits issued to New Mexico taxpayers

The following benefits were realized under the tax credit in 2022:

- Total Installed Capacity: 14.85 MW
- Estimated Taxpayer Average Annual Energy Produced: 12,193 kWh
- Estimated Taxpayer Average Annual Energy Cost Savings: \$1,463
- Estimated Program Total Jobs Supported: 3,024

Due to the tremendous popularity of the program, the Legislature made statutory changes to the existing law in 2022, increasing the annual cap from \$8 million to \$12 million per year and changing the tax credit incentive to a refundable/transferrable tax credit for tax year 2022 forward. ECMD is currently developing a web portal to better support paperless application submissions.

Renewable Energy Production Tax Credit

The Renewable Energy Production Tax Credit (REPTC) provides a tax incentive for utility-scale renewable energy generation. Wind and solar facilities that were certified prior to January 1, 2018 are eligible to receive a tax credit for electricity generated upon being certified by ECMD.





NEW MEXICO RENEWABLE ENERGY PRODUCTION TAX CREDIT-STATUS-2022			
WIND SYSTEMS			
Tax Credit Status	Capacity (MW)	Annual Production (MWH)	Status/Comments
Post-Eligible Total	746.8	2,123,462	Operating
Certified	881.3	2,000,000	Operating
Waiting List	447.2	1,173,460	Not eligible for tax credit
SOLAR SYSTEMS			
Post-Eligible	137.6	312,455	Operating
Certified	194.6	500,000	Operating
Waiting List	1,265.7	2,761,335	Certified
TOTAL CAPACITY AND ANNUAL PRODUCTION OF OPERATING SYSTEMS IN NEW MEXICO			
Wind and Solar	1960.3	4,935,917	Operating in 2022

Geothermal Power Permitting Program

2022 was a busy year for the ECMD Geothermal Power Permitting Program. In July, ECMD permitted Geothermal Production well 17B-7 at the Lightning Dock Geothermal facility in Hidalgo County. The well is permitted to a maximum depth of 23,000 feet making it the deepest well ever permitted in New Mexico. The targeted bottom hole temperature of 750° F is also the highest temperature well ever attempted in the state.

Drilling of the well began in mid-August and continued into December. In addition, 2022 marks the final year of the 5-year transition between the old Geothermal Conservation Act rules and the new Geothermal Resources Development rules. Therefore, all permits issued under the previous rules must be reissued under the new rules. To expedite this process, the new rules allow a facility to apply for an umbrella facility permit covering all wells and equipment on the site. A facility wide permit is currently in development for the Lightning Dock Facility and should be issued prior to the February 27, 2023 transition sunset date.



Oil and Gas Rig #625 of Drilling Contractor: Helmerich & Payne International Drilling Co., drilling Geothermal Production well 17B-7 near at the Lightning Dock Facility in Hidalgo County. The well, when completed to 23,000 feet, will be the deepest well in New Mexico and potentially the deepest geothermal well on earth.

Sustainability & Resiliency

In 2022, Federal Emergency Management Agency Building Infrastructure & Resilient Communities (BRIC) funding was awarded to ECMD through two subgrants from the New Mexico Department of Homeland Security and Emergency Management. The two grants support climate change adaptation planning and climate awareness outreach respectively. The planning grant will be used to convene state agencies in a planning process to develop a climate mitigation and adaptation annex to the state Hazard Mitigation Plan. The climate change awareness grant will be used to develop partnerships with stakeholders, local governments and Indian Tribes and Pueblos to build their respective capacities to plan for natural hazards exacerbated by climate change.

Communication tools, such as ECMD's Climate Risk [Map](#), help illustrate the hazards exacerbated by climate change. To raise awareness of the resource, ECMD made several presentations to interested groups including students, citizen groups, and professionals. These groups included the New Mexico Geospatial Advisory Council, the New Mexico Climate Masters, the Georgetown Climate Center, and the National Tribal GIS Conference. ECMD continues to respond to Climate Risk Map questions and share data layers with researchers and consultants working on climate related issues in the state.

State Energy Security Planning

In 2022 ECMD concluded the first major update of the [State Energy Security Plan \(SESP\)](#). The SESP is a comprehensive look at state energy sources, infrastructure and uses, and serves as a guide to emergency responders when confronted with an energy disruption event. ECMD is required to submit a plan each year as a condition of receiving funding from the U.S. Department of Energy under the [State Energy Program](#).

In November 2021, Congress passed the Infrastructure Investment and Jobs Act. Section 40108 of the IIJA amended the Energy Policy and Conservation Act (42 USC 6321 et seq), the Act that governs state energy security planning. Pursuant to the amendment, SESP's must now meet the following requirements:

- Address all energy sources and regulated and unregulated energy providers.
- Provide a state energy profile, including an assessment of energy production, transmission, distribution, and end use.
- Address potential hazards to each energy sector or system, including physical threats and vulnerabilities and cybersecurity threats and vulnerabilities.
- Provide a risk assessment of energy infrastructure and cross-sector interdependencies.
- Provide a risk mitigation approach to enhance reliability and end-use resilience.
- Address multi-state and regional coordination, planning, and response and coordination with Indian Tribes with respect to planning and response.

The 2022 New Mexico SESP addresses the first three elements. In late 2022, ECMD began the second major update, addressing the new Act elements detailed above, with an emphasis on the last three elements. To develop the 2023 SESP, ECMD will employ an even more robust stakeholder engagement process. In November 2022, in coordination with New Mexico Department of Homeland Security and Emergency Management, ECMD conducted a table-top exercise to test the robustness of the current SESP. Lessons learned from the exercise will also factor into the 2023 update.

Transuranic Waste Transportation Safety

EMNRD has oversight of the Cooperative Agreement for moving hazardous waste to the Waste Isolation Pilot Plant (WIPP). The parties to this agreement include the New Mexico Environment Department, New Mexico Department of Transportation, New Mexico Department of Public Safety, and New Mexico Department of Health. The US DOE provides annual funding to ECMD to oversee the WIPP transportation program.

The WIPP Transportation Program is coordinating a full-scale exercise with the City of Santa Fe. The WIPP Transportation Exercise (WIPPTREX) is planned for October 2023. Fire service training to include hazardous materials response along with workshops and tabletop exercises will take place in the year leading up to the WIPPTREX. Additionally, we expect to deploy the Law Enforcement Modular Response Radiological Transportation Training (LE MERRTT) developed by the State WIPP Working Group during this period.



Since 2017 the WIPP Program has:

- Trained over 19,000 responders, medical personnel, and volunteers
- Provided over 200,000 radiation and hazardous material training hours
- Funded 250 NMSP officers to be classified as Emergency Response Officers
- Provided funding to certify six officers as trainers in Critical Incident Management (CIM)
- Assisted in training over 800 State Police Officers in CIM
- Provided funding for 39 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 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 the majority coming from Idaho National Laboratory. Shipments from Los Alamos National Laboratory made 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:

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

ECMD continues to work closely with 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 NMDOT and the DOE to determine the safest routes for all radioactive waste transports in New Mexico.



New Mexico Forestry Division

State Forester's Letter



Wildfires in New Mexico affected thousands of people and forever changed communities. First there was the weather. We had no precipitation for more than 90 days—through March, April and May. In addition, from the end of April through May we had 40 days of relentless “red flag” winds. Then came the wildfires.

A prescribed burn on the Santa Fe National Forest in northern New Mexico escaped and trees fell on power lines to start the McBride and Nogal fires in southern New Mexico – all in the first two weeks of April. A few weeks later, a “sleeping” prescribed pile burn on the national forest re-ignited and created the Hermits Peak and Calf Canyon fire—the largest wildfire in New Mexico’s modern history. Other human-caused fires, including the Black fire, Cook’s Peak fire, Cerro Pelado fire, Bear Trap fire and Midnight fire, brought the total acres burned to nearly one million.

Tragically, six lives and more than 700 New Mexico homes were lost in the wildfires or firefighting. Tens of thousands of people were evacuated from their homes, with many being displaced from home for nearly two months. Livestock were moved or lost, crops and vegetable gardens could not be planted, and federal grazing lands were closed for the summer season. Thousands of firefighters and dozens of aircraft were deployed around the clock, braving extreme conditions to contain the blazes. Once the monsoon formed in July, the humidity increased, and the fire activity subsided and moved toward control.

The abundant monsoon rains brought new disaster to communities downstream of burned areas. The daily rains saturated the burned lands and sent ash, rocks and burned logs out of the scorched mountains. Debris-laden floodwaters rushed into arroyos and valleys. Roads, bridges and irrigation diversions washed out, acequias filled with sediment, buildings flooded, and four more lives were lost.

Climate change experts have warned of oscillating and extreme weather for two decades. The rapid shift from exceptional drought and hot, dry winds in May to daily rainfall in August is evidence that scientists’ predictions were correct, and that “extreme” weather events will become our “new” normal. More than ever before, New Mexico has an urgent need to mitigate the changing climate with the tools at our disposal.

The 2020 Forest Action Plan remains our guide to prepare for the future climate. With ten strategies and 192 action items, the plan is based on cutting-edge science including an assessment of current conditions and trends for the future. The solutions require everyone to do their part. The New Mexico Forestry Division contributes by responding to and managing wildfires on 43 million acres of non-federal, non-municipal and non-tribal lands and by planning and implementing fuels reduction projects in 500 watersheds with the highest risk of catastrophic fire. Building resilience is our singular focus, and you will read in this report about the Forestry Division’s progress, despite the difficult conditions this year.

New Mexicans responded to the historic wildfire season with bravery and compassion. Forestry Division employees worked tirelessly to fight fire and support the firefighting efforts. The National Guard helped with fire camps, road closures, sand bagging, firewood transportation and more. Firefighters from Washington, Oregon, Colorado, California, and North Dakota came to assist. Neighbors helped neighbors to evacuate and return home. People from all corners of the state donated generously to those who suffered because of wildfires, providing food, clothing, household goods, feed for livestock, and more.

With gratitude to all who contributed,

A handwritten signature in black ink, appearing to read "Laura 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 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

- 83 staff positions
- 41 staff in fire protection, prevention and communication
- 28 staff in forestry and natural resource management
- 14 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.

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 disease and insect infestations.

- 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.

PRIORITIES

- Use the science-based, collaboratively developed state Forest Action Plan to guide the Division's activities with goals, strategies and actions as the roadmap for forest management across ownership and jurisdictional boundaries.
- Address climate change effects on forest and watershed health by accelerating the pace and scale of restoration projects. These projects 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.

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

The Forestry Division played a lead role in formulating and advocating for the Land of Enchantment General Obligation Bond during the 2022 legislative session. While the effort was not successful in the end, the Division and partner agencies developed a very useful and comprehensive summary of existing conservation programs and gaps. This summary defined the needs for legislators and stakeholders and assisted the Division in supporting the state 30 by 30 Committee established by Governor Lujan Grisham's Executive Order 2022-052, Protecting New Mexico's Lands, Watersheds, Wildlife and Natural Heritage.

ACCOMPLISHMENTS OVERVIEW

During the calendar year 2022, the Forestry Division continued to meet its goals while working through an extraordinary fire season. From the first week of April through the middle of July, Division staff were battling wildfires while also managing the challenges of the ongoing COVID-19 pandemic. Significant drought and extremely strong winds brought an early start to the fire season and increased the number of wildfires on state and private land requiring initial attack. The damaging effects of the Hermits Peak and Calf Canyon fire on private land triggered the need for extensive suppression repair and technical assistance to landowners seeking to rehabilitate their forests. Unprecedented amounts of federal funding provided opportunities for program growth, challenging Division staff to expand their reach and assist more communities with forest and fire management than ever before. Partnerships were reinvigorated with the federal funding to "put gas in the tank" of collaborative groups and cross-boundary projects across the state. The tribal forest working group engaged more tribes than ever before. And this is only a fraction of the Forestry staff's accomplishments this year. The following is a compilation of a wide range of activities completed across the state.

FIRE MANAGEMENT

- 341,474 acres burned in the Hermits Peak and Calf Canyon fire, the largest in New Mexico history; 55% of acres burned were private land.
- 321,049 acres burned in the Black Fire, the second largest fire in state history
- 99,452 acres burned on state and private land by fires that started on state and private land
- 474 wildfires
- 290 human-caused wildfires
- 98 wildfires with undetermined cause
- 86 naturally caused wildfires
- 26 red flag warning days in April 2022

A rapidly changing climate fueled a much earlier start to the 2022 fire season in New Mexico and set the stage for record-breaking wildfires across the state. Statewide, more than 900,000 acres burned, and of this about 10% or 99,452 acres were burned by wildfires originating on state and private land. Human-caused wildfire remains a significant concern, with an estimated 290 wildfires started by people statewide in 2022. More than 90 fires had an undetermined cause, quite likely human-started. Only 18% of wildfires were confirmed to be naturally caused.



An investigation determined a tree falling onto a powerline in 70+ mph wind gusts caused the McBride Fire in Ruidoso. Photo: Scott Chalmers, Lead Investigator, EMNRD, Forestry and State Parks Law Enforcement.



Hermits Peak and Calf Canyon fire burning in the Pecos Wilderness. Note the extent of dead spruce trees and heavy fuels.

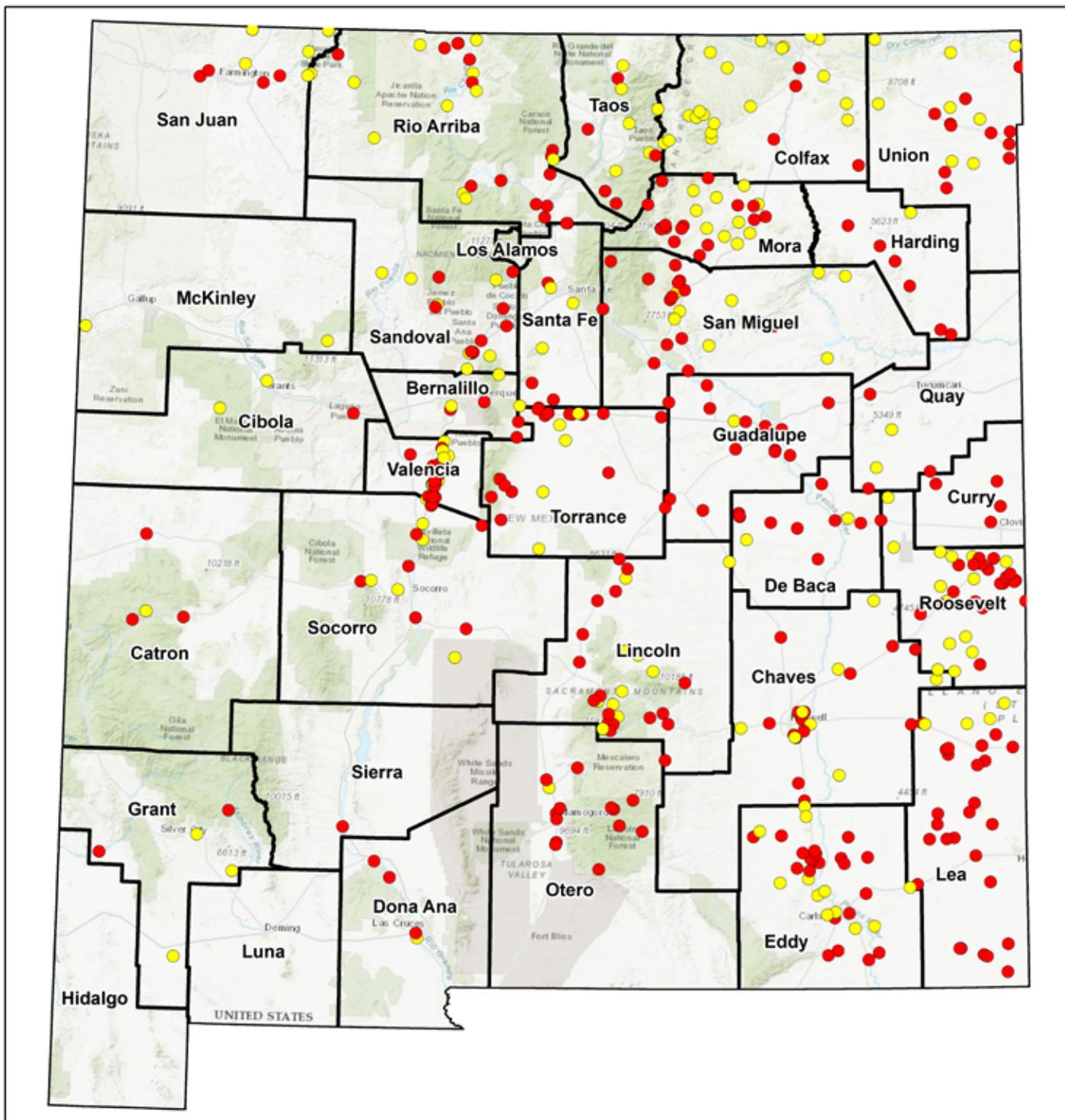
Fire activity on state and private land gained momentum in mid-March, followed by extreme fire conditions that lasted for months. Spring winds were some of the most severe on record for New Mexico, putting fire crews to the test. In the month of April alone, 26 out of 30 days had a red flag fire warning because of warm temperatures, very low humidity and strong wind.

Hurricane-force winds with gusts of more than 70 miles per hour ripped through southeast New Mexico, bringing down a power line that sparked the 6,656-acre McBride Fire in the mountain community of Ruidoso on April 12. More wildfires followed in rapid succession, including two of the largest wildfires in New Mexico history. The federal Hermits Peak and Calf Canyon fire burned 341,474 acres in San Miguel and Mora counties. More than half of those acres (190,262) were on private land. The Black Fire started in the Gila National Forest and became the second largest fire in 2022, charring 321,049 acres and more than 11,000 acres of private inholdings. The maps on the following pages show these fires and other noteworthy incidents that set off one of the busiest fire seasons New Mexico has seen since 2011.



The Hermits Peak-Calf Canyon Fire forced the evacuation of New Mexico State University's Forestry Research Center in Mora. Tens of thousands of tree seedlings and a crucial seed bank were removed.

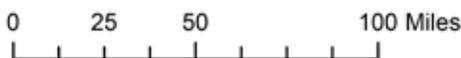
New Mexico Fires Calendar Year 2022



Cartographer: Randall Fowler
 Data Source: NMF
 Coordinate System: NAD 1983
 UTM Zone 13N
 Scale: 1:3,000,000
 Date: 9/26/2022

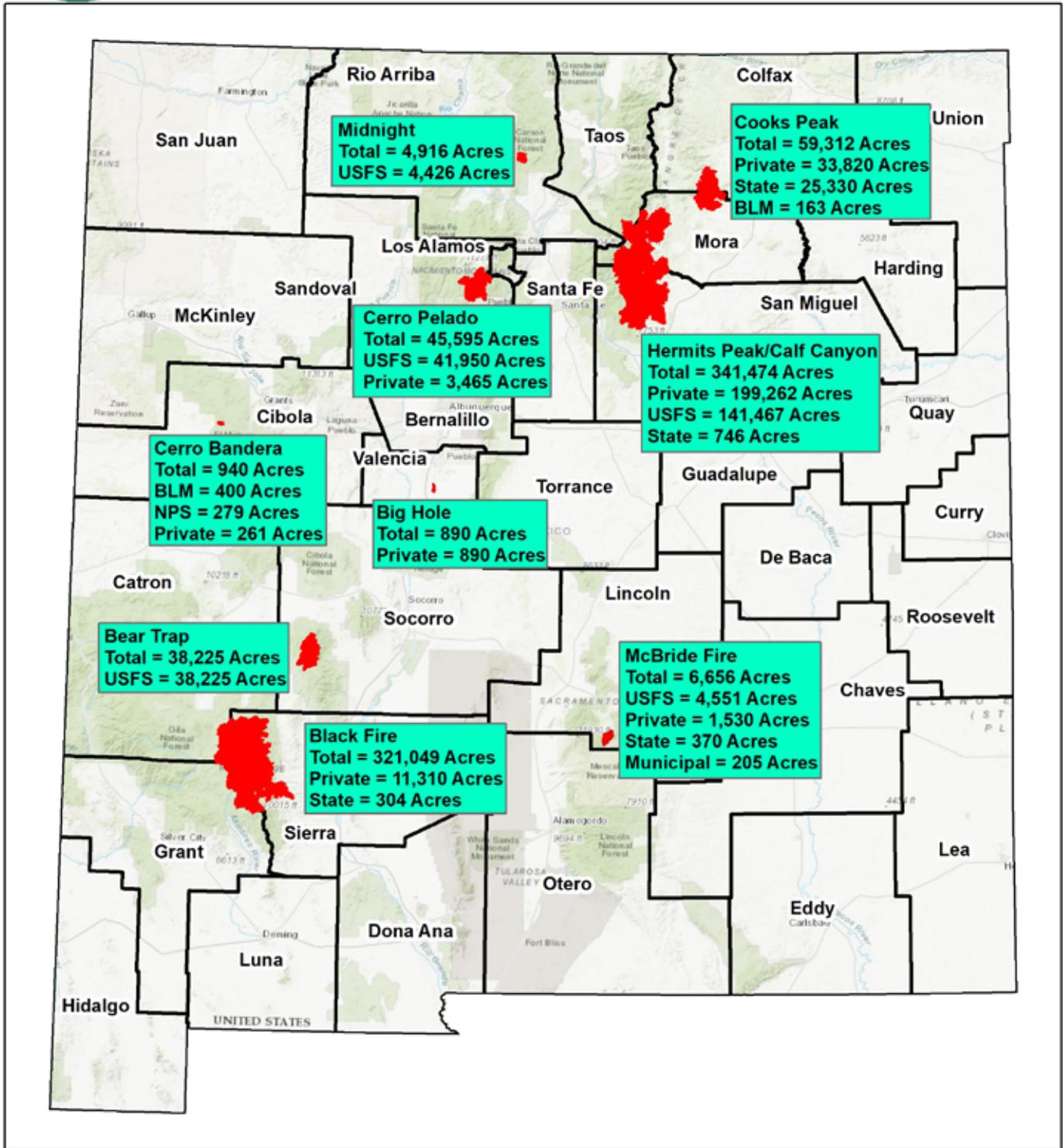
New Mexico Fires Calendar Year 2022 = 465 Fires and 97,443 acres

- Human Cause
- Natural Cause





2022 Large and Significant Fire Data



Cartographer: Randall Fowler
 Data Source: NMF, USFS
 Coordinate System: NAD 1983
 UTM Zone 13N
 Scale: 1:3,090,157
 Date: 10/3/2022





New and returning wildland firefighters train for Pump Operations in Pena Blanca. Portable water containers are a valuable tool that provide a water supply for ground crews and firefighting helicopters in areas without access to a large water source.

FIRE TRAINING AND EQUIPMENT

- 869 non-federal wildland firefighters provided training
- 160 local fire departments and at-risk communities provided with equipment or training
- 147 local firefighters hired for emergency response

The Forestry Division 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-person classroom training was resumed for courses that require field days and testing, and for training in which in-person learning is most effective. Online



Students in the S-339 Division Group Supervisor course learn how to use an interactive Simtable that can map the progression of an active wildfire. Photo: NM Forestry Division, Bernalillo District.

training continued for courses that do not require complex ideas and field components to minimize contact during the pandemic. Local fire cooperators had strong participation in online courses. Physical fitness tests continued to take place in small groups.

The Division completed planning to increase its training capacity for 2022-2023 and offered training earlier in the fall than ever before and will continue course offerings to early spring of 2023. This will allow more wildland firefighters to be educated and qualified across New Mexico. The Forestry Division is also planning with local government and federal cooperators to establish a Wildland Fire Training Academy in north central New Mexico, creating a centralized delivery point and additional training opportunities for new and current fire fighters.

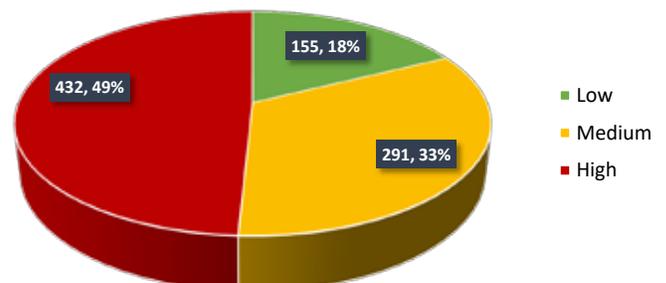
FIRE PLANNING TASK FORCE

- 847 communities at risk
- 69 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.

As of October 2, 2022, 878 communities are listed at risk from wildland fire and 69 CWPPs are complete. Of the communities found at risk, 432 are listed as high risk, 291 are listed as medium risk, and 152 are listed as low risk from wildland fire (*see pie chart*).

Communities at Risk Statewide Totals



WILDFIRE PREVENTION PROGRAM

- \$232,763 invested by communities to reduce their wildfire risk with Firewise USA™
- \$55,311 most significant investment made by a single community in 2022
- 31 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, Set, Go! (RSG), and Firewise USA™. This flagship Firewise USA national recognition program encourages neighbors to act together to reduce the wildfire risk to their communities.

Out of 31 active communities, the Paa-Ko community in Bernalillo County contributed the most significant investment of volunteer hours and money at a total of \$55,311. Other notable communities include Taos Canyon in Taos County, \$38,699 and Monte Sereno in Santa Fe County at \$38,123. Communities have until the end of 2022 to submit or renew their Firewise USA™ application.

WILDFIRE RESPONSE PROGRAM

- 25 emergency wildland firefighters hired by the program
- 23 wildland fire and prescribed fires assignments completed on state, private, and federal land

The Wildfire Response 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 2022 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 Idaho 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 and the Santa Fe National Forest.

INMATE WORK CAMP (IWC) PROGRAM

- 476 acres of prescribed burning on national forests
- 88 acres thinned on public and national forests
- 21 inmates trained
- 5 prescribed fire assignments
- 3 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 until spring of 2022. IWC staff resumed training for inmates and project work accelerated. Deployment of inmates was again restricted due to unforeseen circumstances at the Department of Corrections. IWC staff joined together with the Wildfire Response Program and Districts to fill the state's fire suppression needs during this historic fire season.



An Inmate Work Camp crew clears out invasive trees and other debris in the Socorro-Escondida Wildlife Area, east of Socorro. Photos: NM Forestry Division.

FOREST & WATERSHED HEALTH PROGRAM

- 192 action items in the 2020 Forest Action Plan supporting 10 statewide strategies
- 100% of Forest Action Plan strategies have actions underway
- 60+ agencies and organizations participating in the statewide Forest and Watershed Health Coordinating Group
- 10% of action items in the Forest Action Plan completed
- 23 Pueblos, Tribes, and Nations invited to participate in Coordinating Group meetings
- 4 meetings of the statewide Forest and Watershed Health Coordinating Group held virtually

In 2008, the Forestry Division established the Forest and Watershed Health Office (FWHO) 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 in 2021, 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 Forest Action Plan will guide the restoration and recovery actions following the 2022 wildfire season.

During the 2022 wildfires, FWHO staff immediately identified the risks posed by the pending monsoon season. To help the state and local communities respond to post-fire flooding and debris flow potential, the FWHO coordinated with federal and state agencies to identify the hazards and create short-term mitigation strategies. For example, the FWHO worked with the US Forest Service to ensure that severity mapping for all fires was done for all

landowners regardless of jurisdiction. This allowed the US Geological Survey to establish debris flow potential across the entire fire footprint. By creating wall-to-wall information, we were able to support local emergency managers with early warning systems, installed by the USGS and National Weather Service. In addition, the FWHO worked closely with disaster response agencies to protect, to the extent possible, community infrastructure in areas downstream of severely burned areas. The lessons learned from these efforts will support the state and local leaders as we prepare to respond to flooding during monsoon season 2023.

The FWHO is working on the long-term recovery in communities impacted by wildfires. It will take decades to build back from the economic, cultural, and ecological damage caused by the fires. Several funding sources exist to support this hard work, but capacity is limited to find the funds and implement the projects. The FWHO is working with state, federal, and local partners to find creative ways to increase capacity and support long-term sustainability. The FWHO is engaging with other programs within the Forestry Division to find ways to synergize existing efforts to support recovery from the wildfire while preparing and preventing the next disaster.

The Hermits Peak and Calf Canyon fires that were started by the escaped Las Dispensas and Calf Canyon prescribed burns was the largest of the wildfires this year. President Biden promised New Mexico that the federal government would cover 100% of the wildfire costs, and the Division worked actively with federal agencies to ensure follow up on the President's commitment. The Division engaged primarily with the U.S. Department of Agriculture to enroll New Mexico landowners in the Farm Service Administration's Emergency Forest Restoration Program to restore property damaged by the fire and post-fire floods.



Post-fire flooding near Camp Blue Haven, Las Vegas NM.



Forestry Division staff immediately identified the risks posed by the pending monsoon season to help the state and local communities respond to post-fire flooding and debris flow potential. Photos: Shannon Atencio, NM Forestry Division, Las Vegas District Forester

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 (NWL) 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 Forestry Division received funding through the United States Climate Alliance (USCA) Natural and Working Lands Technical Assistance Fund and United Nations Fund, Inc. (UNF) which emphasizes the development of carbon monitoring capabilities to better understand the role of forests as carbon sinks in New Mexico and the greater southwest region. The Division participated in a panel at a National Aeronautics and Space Administration’s conference in Washington D.C. with Dr. George Hurt, NASA Carbon Monitoring System (CMS) Team Leader. Our presentation explained how New Mexico will use the CMS technology to expand the capacity of the state to meet the goals of Governor Lujan Grisham’s Executive Order 2019-003 and inform efforts to grow the state’s natural carbon sinks.

FOREST AND WATERSHED RESTORATION ACT (FAWRA)

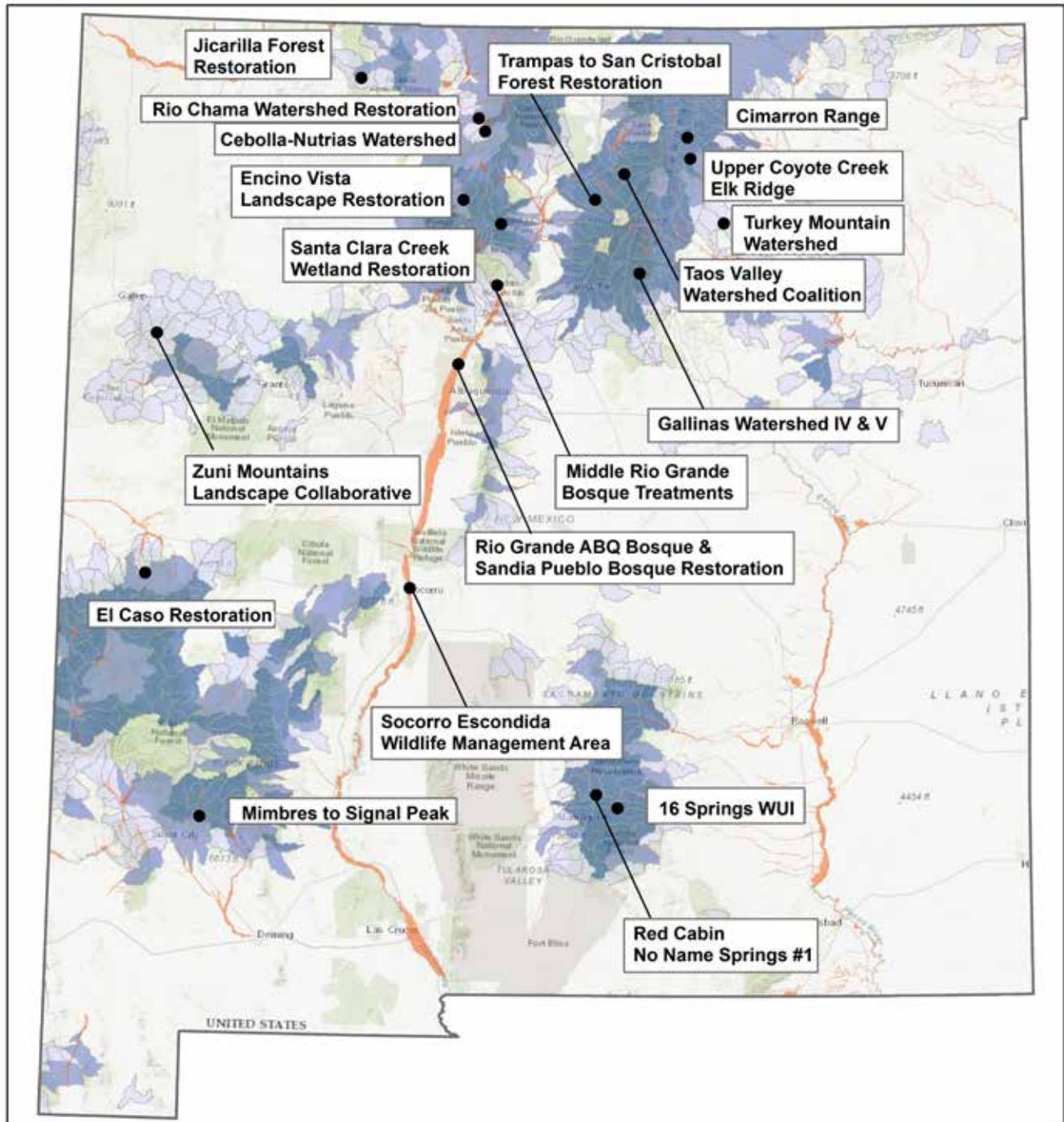
- \$2 million allocated annually
- 5,783 total acres completed with FAWRA funding since Act passage in 2019
- 1,303 acres treated this year on projects receiving FAWRA funding
- 4 projects continued from prior year to expand the acres treated
- 3 new projects selected for funding

The Forest and Watershed Restoration Act (FAWRA) Advisory Board met two times in 2022 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 seven projects recommended for FY2022 funding include the continuation of landscape-scale thinning projects in the Turkey mountains and near Cimarron and Angel Fire; national forest projects near Taos and on the Gila and the Jicarilla ranger district; and a continuing bosque restoration project on Sandia Pueblo.

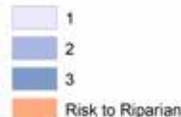
The Advisory Board met a third time in 2022 to develop guidelines for selecting FY2024 projects and those guidelines were issued in October to allow plenty of time for collaborative project development.

Statewide FAWRA Projects



Cartographer: Randall Fowler
 Data Source: NMSF
 Coordinate System: NAD 1983
 UTM Zone 13N
 Scale: 1:3,000,000
 Date: 10/5/2022

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



FOREST HEALTH PROGRAM

- 70,000 acres defoliated by ponderosa pine needleminer (tiny moth larvae that feed inside the tree needles)
- 60 site visits to provide technical assistance to address drought stress
- 4 private landowners provided cost-share grants for forest health treatments

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 persisted in much of 2022 with continued bark beetle-related piñon mortality across municipal and private land in northern New Mexico and yellowing ponderosa pine throughout the state. Extensive bark beetle-related piñon mortality continued for a third year in and around Edgewood and east of Santa Fe. Additionally, a large area of bark beetle-caused piñon mortality continued on private land west of Cuba.

Ponderosa pine needleminer continues to defoliate large swaths of forest (70,000 acres) on the Vermejo Ranch 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.



Image from the Forest Health Survey flight of the Turkey Mountains, near Las Vegas, NM.



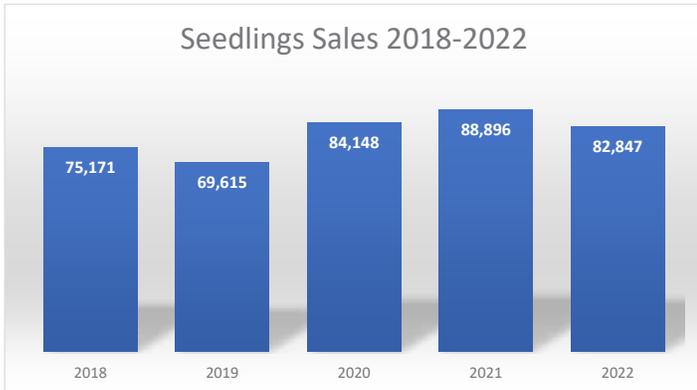
Ponderosa needleminer defoliation damage (yellow-orange crowns), Vermejo Park Ranch.

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
- 2 plants proposed for addition to the state endangered plant list

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's proposed amendment to the Endangered Plant Rule is under review and slated for final issuance in 2023. The rule amendment will align more fully with the statute and will provide increased protection for endangered plants from incidental take.



CONSERVATION SEEDLING PROGRAM

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 at a rapid rate from the Santa Fe tree house, but seedling distribution did not happen at the State Fair due to a lack of seedlings available by that time of the season. Trees, Water, and People, a non-profit foundation based in Fort Collins, Colorado, purchased 4,500 Ponderosa pine and 2,500 Douglas-fir seedlings that were planted on tribal lands in the Jemez Mountains. Seedlings were also sold to many landowners who suffered loss of forest due to the Hermits Peak and Calf Canyon fire.

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

More than half of New Mexico’s population lives in a community that manages or is developing an urban or community forest program. The Forestry Division supports these communities’ efforts to develop and

sustain healthy resilient community forests for the benefit of current and future citizens because the forests have significant, positive impacts on quality of life. The trees in urban and community forests improve the air, soil, and water, mitigate stormwater runoff, enhance energy conservation and property values, and contribute to human health and well-being.

Technical assistance is needed because the trees in urban and community forests are challenged by inhospitable environments, lack of strategic care, drought, climate change, urban heat island effects, the concentration of pollutants, and lack of management or planning. The Forestry Division provided more than 100 technical assists this year.

The Urban and Community Forestry Program is guided by the Forest Action Plan and the advisement of the New Mexico Urban Forest Council. The program achieved collaborations and partnerships by serving on the Urban Waters Steering Committee Board, Arid LID Coalition Board, Let’s Plant Albuquerque Board, Think Trees Board, Western Urban and Community Forestry Secretary position, Western and Urban Forestry Tech Transfer Committee, Urban Wood Network, Arbor Day Foundation’s Tree City Strategic Planning Working Group, and International Society of Arboriculture’s Rocky Mountain Chapter New Mexico Director position. More than 40 organizations participated in the Urban Forestry Advisory Council.



Western New Mexico University celebrates Arbor Day with a tree planting. Photo: NM Forestry Division.

RESOURCE MANAGEMENT PROGRAM

- 200,805 acres total with forest stewardship plans in New Mexico
- 2,461 acres in new or revised forest stewardship plans
- 884 landowners participated in educational programs
- 259 technical assistance requests completed for landowners
- 9 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 isolates and fragments 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 sovereign Tribes, Pueblos and Nations. In 2022 the program supported a variety of projects from tree thinning and timber sales to firewood collection and wetland restoration.

2022 FOREST LEGACY PROGRAM

- 3,040 acres proposed to be conserved in the Brazos Cliffs

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 proposed to be conserved.

2022 LAND CONSERVATION INCENTIVES PROGRAM

- 244,474 acres of forest and rangeland conserved with state tax credits from 2004-2022
- 22,224 acres were conserved with the tax credit program in 2022
- 10 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 2022, four applicants were awarded tax credits ranging from \$ 90,000 to \$250,000.

2022 TRIBAL PARTNERSHIPS

- \$100,000 provided to Pueblo of Acoma for projects on the slopes of Mount Taylor
- 1,200 acres treated for invasive salt-cedar and Russian-olive, including prescribed burning of the Rio Grande Bosque within Santa Clara Pueblo.
- 130 goats to treat salt-cedar and Russian-olive in the Sandia Pueblo Bosque
- 35 Division staff attended the new Cultural Connections training
- 9 tribes consistently attending the Forestry Tribal Working Group
- 5 Memorandum of Agreement completed or in progress with Zuni Pueblo, Jemez Pueblo, Acoma Pueblo, Taos Pueblo and Santa Fe Indian School

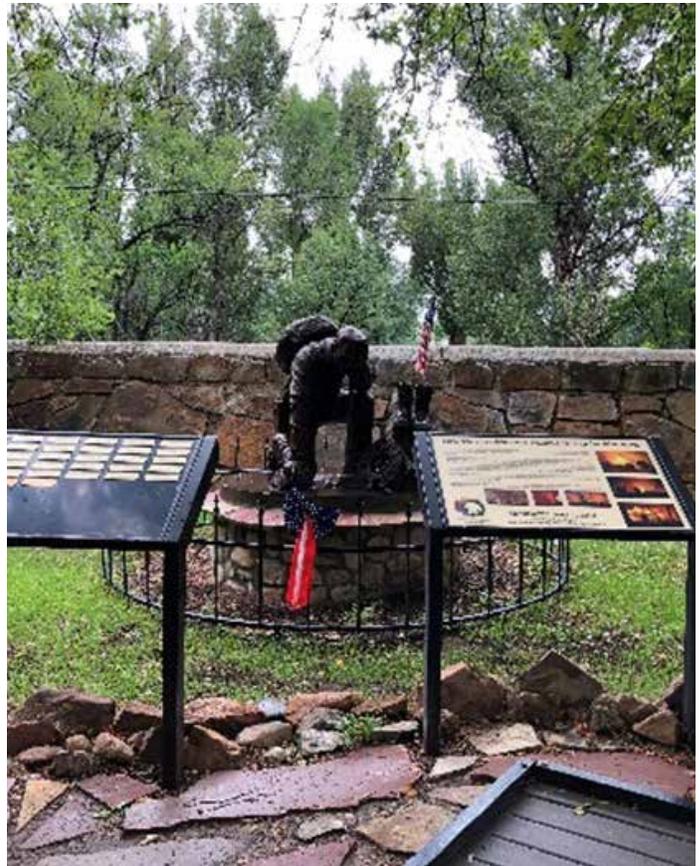
The Division is actively engaging tribes in collaboration and has a designated Tribal Liaison who serves as the focal point for Division-wide initiatives and communication with tribes. The liaison also coordinates activities and communication with the Departmental Tribal Liaison.

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.



Fallen Wildland Firefighter Memorial, Smokey Bear Historical Park, Capitan. Photos: NM Forestry Division.

SMOKEY BEAR HISTORICAL PARK

- 17,189 visitors
- 1,117 public assistance or information requests accommodated

Smokey Bear Historical Park was built in 1976 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 program which continues to educate the public nearly 80 years later. Smokey lived out his life at the National Zoo in Washington D.C. where he was visited by millions of people from all over the world. When he passed away in 1976, he was brought back to New Mexico and buried at Smokey Bear Historical Park. Today, visitors still come from all over the world to visit Smokey's gravesite, learn about his story, forest health, fire ecology, restoration, and the history of fire prevention.

Additional public outreach included participation at the Lincoln County fairgrounds for the Fourth of July rodeo and parade. "The Smokey Bear Stampede



Wildland Fire Leadership Council visits Puye Cliffs with State Forester Laura McCarthy (bottom row center), Santa Clara Pueblo Governor Chavarria, and Santa Clara Forestry staff. Photo: NM Forestry Division.

Rodeo and Parade” draws more than 3,000 people to the Village of Capitan. Staff from the Park and the Forestry Division’s Capitan Office brought Smokey Bear to the event to share the wildfire prevention message with kids and adults alike.

Public fire prevention programs were also presented to Ruidoso Middle School students and staff shortly after the McBride fire in May 2022. Additional education programs were offered to school groups visiting the Park from south-central New Mexico and west Texas as well as a summer program for students through the Capitan Library Kids Book club.

The Fallen Wildland Firefighters Memorial honors those who lost their lives fighting wildfire in New Mexico. Visitors, firefighters, and families of fallen firefighters whose names are inscribed on the Memorial come specifically to the Park to pay their respects.





Mining and Minerals Division

Mining and Minerals Division



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.

In 2022, MMD completed significant work toward mitigating potential hazards posed by mines that had been abandoned before state and federal mining regulations were enacted. For perspective, the federal Surface Mining Reclamation and Control Act (SMCRA) was passed in 1977 to ensure proper operation and reclamation of coal mines and the New Mexico Mining Act was enacted in 1993 to serve the same function in relation to most other hardrock mines in the state.

The U.S. 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 throughout the US. Of these, approximately 67,000 may pose physical safety hazards such as danger of injury or death—and approximately 22,500 may pose environmental risks to human health or wildlife from long-term exposure to harmful substances.

The recognition of the threat posed by these pre-regulatory abandoned mines has risen in the public eye over the years, including in Congress. MMD is also creating a comprehensive inventory of abandoned mines. This project kicked off in the fall of 2022 and will result in a database modeled after our [Uranium Dashboard](#).

Several noteworthy state and federal legislative initiatives will directly affect programs in MMD going forward. Governor Lujan Grisham signed into law HB 164 in March 2022 creating Uranium Reclamation Coordinators in EMNRD as well as in the New Mexico Environment Department (NMED). This provides specific resources to more closely manage and track reclamation of legacy uranium mine and mill sites in New Mexico. On the federal side, the Bipartisan Infrastructure Law (BIL) reauthorized the fee on coal for 13 years and appropriated a one-time infusion of \$11.3 billion to the Treasury which will be distributed to states and tribes based on historical coal production. For New Mexico, this results in an additional \$2.4M/year over 15 years. Both actions fund our AML program which will initially add two new positions to oversee additional projects. The BIL also authorized development of a federal hardrock program but did not appropriate long-term funding.

The AMLP has completed safeguarding construction projects or is planning projects in Gallup, Madrid, Raton, Dixon, and Silver City, and in the Carthage, Rincon, and Oro Grande mining districts.

Continuing its award-winning work, the AMLP was presented with the 2022 National Association of Abandoned Mine Land Programs (NAAML) Hardrock Award in the category of Remediation of Physical Safety Hazards along with the U.S. Bureau of Land Management (BLM). The award recognized a mine safeguard project in an area surrounding Cookes Peak in southern New Mexico.

The Coal Mine Reclamation Program (CMRP) continues to complete an aggressive inspection program which supports an extensive amount of bond release applications for completed reclamation at regulated coal mines. CMRP received applications for partial bond releases and completed inspections for El Segundo Mine Phase I, for 329 acres; Lee Ranch Mine Phase I, for 328 acres; McKinley Mine Phases I, II, and III, for 1,193 acres; and San Juan Mine Phase I, for 618 acres.

The Mining Act Reclamation Program (MARP) is evaluating proposed new mining operations and exploration projects, operational existing mines, and mines in reclamation. MARP is also in the process of updating three guidance documents and anticipates issuance by the end of the calendar year. The three guidance documents are Soil, Self-sustaining ecosystem, and Revegetation guidelines.

And finally, the Mining Registration Reporting and Safeguarding Program (MRRS) pulls it all together, continuing to gather, compile, and provide comprehensive information on mineral resources, mine registrations, reclamation, and safeguarding efforts, and other MMD activities related to New Mexico's mineral extraction industry and mineral resources. MRRS also manages our annual Excellence in Reclamation award. This year's award was presented to Navajo Transitional Energy Company, LLC, for its [Chinde Wash Wetland and Riparian Mitigation project](#).

I hope you enjoy reading the division's descriptions, accomplishments, and mineral resources report in the following sections.

A handwritten signature in black ink, appearing to read "Jerry Schoeppner".

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.

DIVISION OVERVIEW

STAFFING

32 staff positions:

- 2 – Office of the Director
- 13 – Abandoned Mine Land Program
- 5 – Coal Mine Reclamation Program
- 3 – Mine Registration, Reporting and Safeguarding Program
- 9 – 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

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:

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 unreclaimed throughout New Mexico. AMLP will initiate completion of a comprehensive inventory of both coal and non-coal legacy mines in New Mexico this year which will firm up the above estimated number of mine openings and better assess threats.

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 \$2.4 million per year for coal reclamation work above and beyond the money received from the fee on coal production. In addition to OSMRE funding, the Program receives grants from the Bureau of Land Management to safeguard abandoned hardrock mines.

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. This year AMLP completed Environmental Assessments and Categorical Exclusions to abate mine hazards, including coal fire and subsidence issues in Gallup, Carthage, Bonito Lake, and Silver City.



Left to Right: Jeff Graves (NAAMLPL President), Meghan McDonald and James Hollen (MMD), Steve Fluke (NAAMLPL Hardrock Committee Chair), Laurence D'Alessandro (MMD), Chris Teske (BLM), Leeland Murray, Lloyd Moiola, Mike Tompson, Yeny Maestas (all MMD)

AMLPL was presented with the 2022 National Association of Abandoned Mine Land Programs (NAAMLPL) Hardrock Award in the category of Remediation of Physical Safety Hazards. This was a joint award with the U.S. Bureau of Land Management (BLM) that recognized a mine safeguard project conducted in phases in southern New Mexico in an area surrounding Cookes Peak. AMLPL and the Las Cruces office of the BLM cooperated in multiple ways, often splitting NEPA clearance and construction duties to safeguard over 291 abandoned mine openings in very steep and challenging terrain. Great care was taken to protect bats, birds, and other wildlife inhabiting the mines. The award was presented to the AMLPL team at the 2022 NAAMLPL Annual Conference held in Grand Junction, Colorado, in October.



Gallup Dog Park safeguarding and drainage project, March 2022



Gallup Mine fire investigative drilling, October 2022

Coal Mine Projects Completed by AMLPL:

AMLPL completed one construction project in Gallup. The Gallup Dog Park/Laguna Circle Adit Safeguarding Project was completed in March 2022 and involved improving a drainage channel that ran over a reclaimed coal mine. A channel was excavated, and large rocks were positioned to retain the water as long as possible as it ran down the slope. The rock structures are referred to as Zuni Bowls. An exploratory cavity in the coal seam was backfilled in the process. Disturbed areas were subsequently seeded with a native seed mix.

AMLPL is completing investigative drilling work on the Enterprise-Brown Coal Fire and Navajo Mine Coal Fire in the vicinity of Gallup (McKinley County) to plan for coal fire extinguishment projects in 2023.



A reclaimed coal mine west of Raton on Vermejo Park Ranch. Staff have been monitoring wildlife use of the project area, and the elk seem to agree that it is a great place to hang out

AMLPL continues subsidence abatement work in the community of Allison (McKinley County). An Environmental Assessment has been completed and investigative drilling work was expected to begin before the end of 2022 to define and remediate hazardous conditions subsidence in an abandoned underground coal mine underneath a residential community.

In Madrid, AMLPL is working on designs and environmental compliance for the Madrid Stormwater and Erosion Safety Project that will address property damage, flooding, sedimentation, and fire safety issues resulting from historical coal mining. One important component of the project is the construction of a new water tank that will supply the town fire suppression system. Santa Fe County, the Madrid Landowners Association, and AMLPL are combining state capital outlay funds and OSMRE grant money to design and construct the new system, which is anticipated to happen in 2023.

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

Non-Coal Mine Projects Completed by AMLPL

Construction services for the Harding Pegmatite Mine Safeguarding Project – Phase II were procured in fall 2022. The project addresses subsidence issues at the geologically important mine near Dixon.

The Boston Hill Mine Safeguard Project in the town of Silver City is another project with construction services procured in the fall. This first phase of the project addresses dangerous abandoned mine openings on private patented mining claims and BLM land on the north end of the Boston Hill Open Space Trail System.

AMLPL has been working jointly with the New Mexico 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.

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.



Badger habitat at Lee Ranch Coal Mine



San Juan Coal Mine reclamation, 2022



San Juan Coal Mine, 1999



McKinley Coal Mine, 1999

Evaluation of bond release applications continues to be a significant part of CMRP's workload. 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).

All current bond release applications are posted and available to the public on MMD's [website](#). Applications for partial bond releases were received and inspections completed for El Segundo Mine Phase I, for 329 acres; for Lee Ranch Mine Phase I, for 328 acres; for McKinley Mine Phases I, II, and III, for 1,193 acres; and San Juan Mine Phase I, for 618 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 2021 (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.

In addition to making data and web applications available to the public, another important outreach component is the program Excellence in Reclamation Award which 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.

The 2022 award was presented to Navajo Transitional Energy Company, LLC, (NTEC) for its Chinde Wash Wetland and Riparian Mitigation project.

These two mitigation efforts involved the Upper Chinde Wetland Complex and Lower Chinde Wash Wetlands and required a combination of wetland preservation, wetland enhancement, and establishment of additional wetland and riparian habitats. In support of its overarching goal of returning the land to its original steward, the Navajo People, NTEC is excelling in using a balanced approach to reclaiming mined land with stunning results despite challenges beyond their control. The challenge included a canal rupture that left no water available to agricultural fields and resulted in dry conditions in Chinde Wash. In addition, increased springtime flows enticed beavers to move into Chinde Wash and build numerous dams and a lodge that detained water in the channel and adjacent wetland areas. The most recent challenge is the extreme drought and high heat index in the region of the reclamation project.

This project demonstrates the long-term beneficial impacts of planting native riparian species in a diminished open water system; establishing and preserving riparian systems and existing wetlands; rehabilitating reclaimed ephemeral channels; and preserving existing wetlands. NTEC continues to honor its stewardship responsibilities to protect the natural resources using effective wetland and riparian restoration techniques coupled with geomorphic approaches to increase the overall ecological value for continual use. NTEC also received praise and written recognition from the U.S. Army Corp of Engineers, a regulatory partner, in this project. The presentation slides, notes, and short videos are viewable [here](#).



Upper Chinde Wetland – pre-reclamation



Upper Chinde Wetland – post-reclamation



Lower Chinde Wash Wetlands – pre-reclamation



Lower Chinde Wash Wetlands – post-reclamation

[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 mining and exploration activities, excluding coal, potash, and aggregate mines. As of the end of 2021 (the latest data available due to operator reporting requirements), MARP has permitted approximately 662 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 26,886 acres as of December 2021, and the total number of acres reclaimed since 1994, when the program started, is approximately 7,567 acres. MARP permits and regulates new mining operations, exploration projects, and existing mining operations (both active and reclaimed).

Proposed New Mining Operations and Exploration Projects

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 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. Other proposed new projects are La Jara Mesa Mine, and Tererro (aka Jones Hill) Exploration Project.

Roca Honda Mine

Permitting actions related to earlier uranium mine applications have waned in recent years due mostly to low prices for uranium. The proposed Roca Honda Mine by Energy Fuels, Inc., is in McKinley County on Cibola National Forest, private, and state trust lands. Energy Fuels 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 in 2015 and 2016 had to be reassessed under public scoping by the USFS 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. Energy Fuels submitted several technical documents to MMD throughout 2022 including addendums to the Baseline Data Report and responses to technical comments. During 2022, Energy Fuels provided some responses to technical comments as well as a report for characterization of the Rio San Jose. Permit processing has slowed due to lack of activity from Energy Fuels.

Copper Flat Mine

New Mexico Copper Corporation (NMCC) proposed a new regular copper mine in Sierra County near Hillsboro in 2010. The mine is proposed to be an open-pit, truck and shovel operation with onsite processing facilities including crushing, milling, floatation concentration, and tailing deposition. The mine is projected to have a 12-year mine life at a proposed processing rate of 30,000 tons of ore per day. After issuance of the Final EIS in April 2019, a Record of Decision approving the 30,000 ton per day alternative was issued by the BLM in August 2019. To operate and reclaim the mine, NMCC must secure approximately 6,100 acre-feet of groundwater rights and approximately 16,382 acre-feet of surface water rights to offset anticipated depletion of water from the Rio Grande/Caballo system. NMCC's vested water rights portfolio for the Copper Flat Mine is currently less than that required to operate and reclaim the mine, although litigation is ongoing. MMD will evaluate the mining permit upon NMCC's demonstration that the total water rights required have been secured and upon NMCC providing financial assurance for



reclamation of the mine. As of 2022, MMD continues to review financial assurance calculations from NMCC.

La Jara Mesa Mine

After many years of dormancy, Laramide Resources Inc., approached the USFS and MMD to reinitiate the permitting process for this New Mining Operation to mine uranium in the Grants Mineral Belt. The original permit was submitted in June 2009. MMD is currently determining what information still needs to be submitted and reviewed as part of the initial permitting process. The USFS will continue to work to develop the project under the NEPA process. MMD continues to collaborate with the USFS, NMED, and the operator on this mine. Laramide Resources submitted several technical documents to MMD throughout 2022 including an update to the Baseline Data Report and responses to technical comments. MMD will develop a Memorandum of Understanding with the USFS and NMED to coordinate federal and state permitting of the La Jara Mesa Mine. Coordination and resumption of review of the permit application was begun in the summer of 2022. The site is proposed as an underground uranium mine with above ground storage facilities and staging area comprising approximately 25 acres of surface disturbance.

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 2022. 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 the determination under NEPA, MMD will hold a public hearing on the application as part of the review process under the regulations. To date, the draft Environmental Assessment (EA) has not been published by the USFS.

Operational Existing Mines:

MARP is processing permit applications for expansion and revised closeout plans at the state's four largest copper mines in Grant County. Freeport-McMoRan Inc. (FMI) proposes expansions at four of its New Mexico operations. Applications for Chino, Tyrone, Little Rock, and Continental mines include expansions, continued operation, and reclamation. As these existing mines expand, they must comply with new regulatory standards designed to address new mining impacts.

Continental Mine

Mining at the Continental Mine continued in 2022 with much of Hanover Mountain removed and about 20 percent remaining of its original size. In 2022, the Continental Mine drilled exploratory holes for mining expansions at the Hanover Mountain and Continental Pit and constructed new test plots in 2022 with waste rock and tailing blends to evaluate performance of vegetation establishment over the next several years.

Tyrone and Little Rock Mines

MMD was expected to complete its review of a revision for the Little Rock Mine expansion from approximately 468 acres to 688 acres, including an updated Closeout Plan, by the end of 2022. MMD is also processing a revision for the proposed approximately 337-acre Tyrone Mine Emma Project mine expansion. A public hearing was held in Silver City on August 16, 2022, where MMD received comments from the Gila Resources Information Project (GRIP) and the public. The public voiced concerns over impacts of the proposed Emma project on private wells, noise, dust, and viewshed impairments. The proposed Emma Project must meet Part 508 requirements for New Units that include more comprehensive operational and reclamation requirements than for the existing Tyrone Mine areas. MMD expects to complete its review of the Emma

project application and closeout plan in early 2023. In August 2022, the Tyrone Mine applied to MMD for approval of the Precambrian granite waste rock excavated at the Little Rock Mine as Reclamation Cover Material (RCM) at both the Tyrone and Little Rock mines. MMD is reviewing vegetation monitoring data provided by Tyrone from the test plot study that Tyrone has performed over the last seven years in support of the application.



Little Rock Open Pit, 2022



Regrading the Tyrone Borrow Area, 2022



Test plots to test Little Rock Precambrian granite cover material at Tyrone Mine, 2022

Mines in Reclamation:

MARP oversees reclamation in all stages, including planning, construction, monitoring/maintenance, and final release. MARP is also examining some of the state's older mine sites that have been under reclamation for over 12 years for reclamation release.

Mt. Taylor Mine

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 restarting 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 2022 to closeout and reclaim the former mine. The removal of the approximately 65,000 ton low-grade ore pile, excavation of contaminated sediments from the water treatment system ponds, the construction of a lined and capped contaminated waste disposal cell, and the demolition of the 14-foot diameter manway shaft headframe and several mine buildings was completed in 2022. RGR submitted an updated and revised Closeout/Closure Plan (CCP) in June 2022 to address the completion of reclamation at the site including an expansion of the waste disposal cell. MMD is processing the updated CCP under Revision 22-1. A public hearing was requested by the Multicultural Alliance for a Safe Environment (MASE) and Amigos Bravos. The public hearing is anticipated to be held in early 2023.



U.S. Hill Mica Mine reclamation, 2022

U.S. Hill Mine

This mica mine, located on Pueblo of Picuris land, was recently transferred into tribal trust land status. The mine was reclaimed in 2008, and the Pueblo of Picuris received an Excellence in Reclamation award in 2020 for the aggressive furrowing technique and overall reclamation design and implementation. MMD inspected the site in September 2022 to do a qualitative assessment of the reclamation, which appears to be successful, both in terms of site stability and reaching a self-sustaining ecosystem. MMD and the Deputy Cabinet Secretary, Todd Leahy, met with the Governor and council members of the Pueblo of Picuris to discuss the reclamation at the site. MMD will conduct vegetation surveys in 2023 on the site as a record of revegetation success, in addition to providing the Picuris with more information on the history of the site for use in the U.S. Hill Mica Mine Exhibit in their future planned museum.

Cunningham Hill Mine

LAC Minerals LLC (LAC) has been reclaiming and monitoring the Cunningham Hill Mine since the early 1990s. LAC started permitting under the New Mexico Mining Act in 1996 when the mine site was already under reclamation. Portions of the mine have been released from the New Mexico Mining Act while other portions are still under permit and reclamation. MMD is processing Revision 20-1 to update the Closure Closeout Plan (CCP) which includes a pit waiver for the site. LAC held a public meeting/open house at the site in August 2022 to allow members of the public to tour the site and ask questions of the operator, MMD, and NMED. A public hearing was held in early November on the proposed CCP and pit waiver. Representatives of MMD, LAC, and the



Headframe at Mt. Taylor Uranium Mine



Cunningham Hill Mine open pit, 2022

Friends of Santa Fe County made presentations with approximately 25 attendees present. Most questions/comments were related to water quality and permits, erosion, acid mine drainage, and financial assurance. The public expressed support of the pit waiver but want conditions outlined in the regulations.

Questa Mine

In 2022, reclamation and remediation continued at Chevron Mining Inc.'s (CMI) permanently closed Questa Mine in Taos County, a listed Superfund site. Three agencies, MMD, NMED, and the 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. Other reclamation and remediation work will be implemented over decades. Completed projects 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.

At the Questa Superfund site, 2022 marked the second growing season of a six-year monitoring program for the tailing facility cover demonstration project to

evaluate a store- and-release cover of alluvial material placed over 275 acres of the 1,000-acre tailing facility. Soil cover performance evaluates vegetation success, soil chemistry, and water movement. The tailing pilot project results will shape the design and reclamation for the remaining unreclaimed tailing acreage.

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. CMI continues operating a water treatment plant that decreases contaminants from the underground mine water, bedrock aquifers, alluvial aquifers, and impacted stormwater. Impacted water captured flow rate increased by about 100 gallons per minute in 2022 with additional improvements through installation and repair of collection systems at Spring 13 and Southeast Groundwater collection system.

In the spring of 2021, CMI began construction 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. By the fall of 2022, the pushdown of Capulin was nearly complete with plans to cover and seed Capulin in 2023. The constraints of accessing a narrow canyon and summer rainy season resulted in construction delays for the installation of the Goathill North underdrain. CMI anticipates submittal of a revised construction schedule that will delay the Group 1 WRP pilot project beyond its original 2024 completion date by two or three years.

EPA and MARP along with NMED are working toward a fourth amendment to the design administrative order on consent (4th Amendment-Design AOC). Once signed, the 4th Amendment-Design AOC will initiate submittals by CMI for agency review for areas not included in the existing pilot studies. These areas include the Dam 4 tailing regrade, soil contamination area south of the tailing facility, the long-term sludge repository, and the Group 2 Waste Rock Pile areas. The review of designs will start in late 2022 or early 2023.



Questa Mine Group 1 waste rock piles, beginning of pushdown construction, August 2022



Questa Mine Group 1 waste rock piles during construction, September 2022 Questa Mine Group 1 waste rock piles, beginning of pushdown construction, August 2022

MINERAL RESOURCES: CY2022

New Mexico Statute 69.26.2 states that mine operators shall submit an annual report to the Mining and Minerals Division regarding the previous calendar year's mine activities.

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 2021.

Mine operators reported mineral production value of more than \$1.7 billion extracted from New Mexico mining sites, a nearly 12 percent increase from 2020.

TABLE 1 New Mexico Summary of Commodity Production, Production Value, Employment, Payroll, Revenue. and Ranking: 2021

Mineral	Production ¹	Production Rank ²	Production Value \$	Employment ³	Reclamation Employment	Payroll \$ ⁴	Revenue Generated \$ ⁵	
							State	Federal
Coal	9,234,395	12	\$ 430,383,525	837	101	\$ 86,860,759	\$ 11,959,817	\$ 3,303,662
Copper	178,358,035	6	\$ 756,782,060	1,076	8	\$ 87,971,327	\$ 6,656,478	\$ -
Gold ⁶	5,720,198	-	\$ 10,294,240	-	-	-	\$ 84,398	\$ -
Industrial Minerals ⁷	2,142,334	-	\$ 136,821,367	173	6	\$ 8,115,753	\$ 152,423	\$ 503,307
Aggregates ⁸	14,619,904	-	\$ 116,904,443	1,004	49	\$ 30,764,526	\$ 5,590,529	\$ -
Other Metals	-	-	-	-	-	-	\$ -	\$ -
Molybdenum	-	-	-	-	-	-	\$ -	\$ -
Potash	447,740	1	\$ 291,309,832	640	14	\$ 56,290,287	\$ 3,725,124	\$ 5,237,678
Silver ⁶	123,888	-	\$ 3,117,603	-	-	\$ -	\$ 21,767	\$ -
Uranium ⁹	-	-	\$ -	27	9	\$ 992,689	\$ -	\$ -
TOTAL			\$ 1,745,613,070	3,757	187	\$ 270,995,341	\$ 28,190,536	\$9,044,647

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

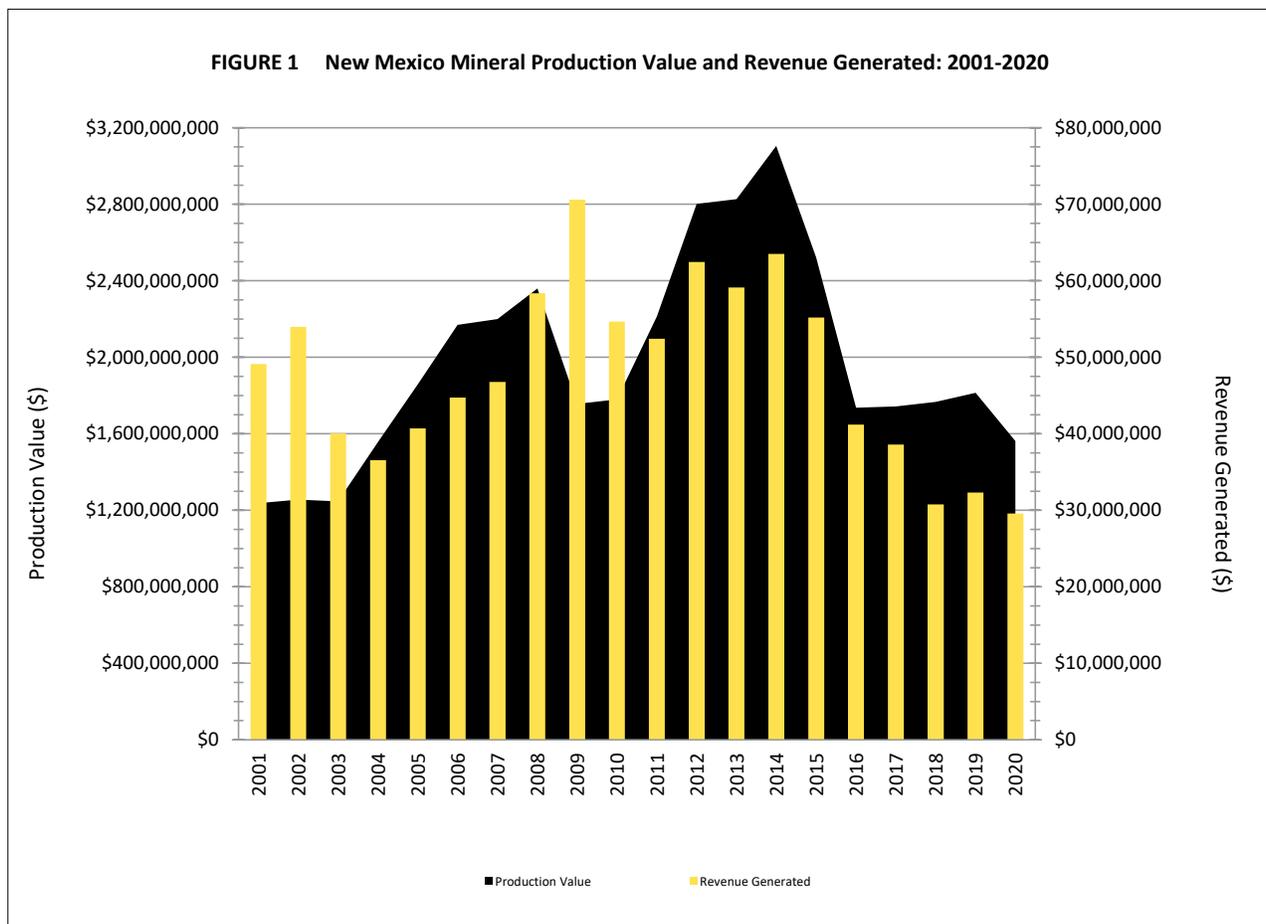
Federal data: Office of Natural Resources Revenue

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 reclamation activities/maintenance at closed mines and mills.



New Mexico remains a leading United States mineral producer in the 2021 commodity rankings provided by reports from the U.S. Geological Survey (USGS) and U.S. Energy Information Administration (coal):

- Potash: 1st (used primarily in fertilizer, and in lesser amounts for chemical and industrial applications)
- Perlite: 1st (used in building construction products, horticultural aggregate, and fillers)
- Zeolite: top 5 (used primarily in animal feed, odor control, and water purification applications)
- Copper: 6th (down from 2nd in 2020; used primarily in building construction, transportation equipment, and electrical and electronic products)
- Coal: 15th
- Nonfuel Mineral Production: New Mexico ranks 23rd among the states, producing 1.43 percent of the U.S. total

Total federal and state revenues generated by 2021 mineral production in New Mexico increased 26 percent from 2020 levels, to \$37.2 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 operations. Reported industry payroll (excluding benefits) decreased almost 7 percent from 2020 to \$271 million. Overall, reported employment decreased in 2021. By category, compared to 2021, direct employment decreased 15 percent from 3,971 to 3,365 employees; contract employment decreased 26 percent from 529 to 392 employees; and reclamation employment decreased 12 percent from 214 to 187 employees.

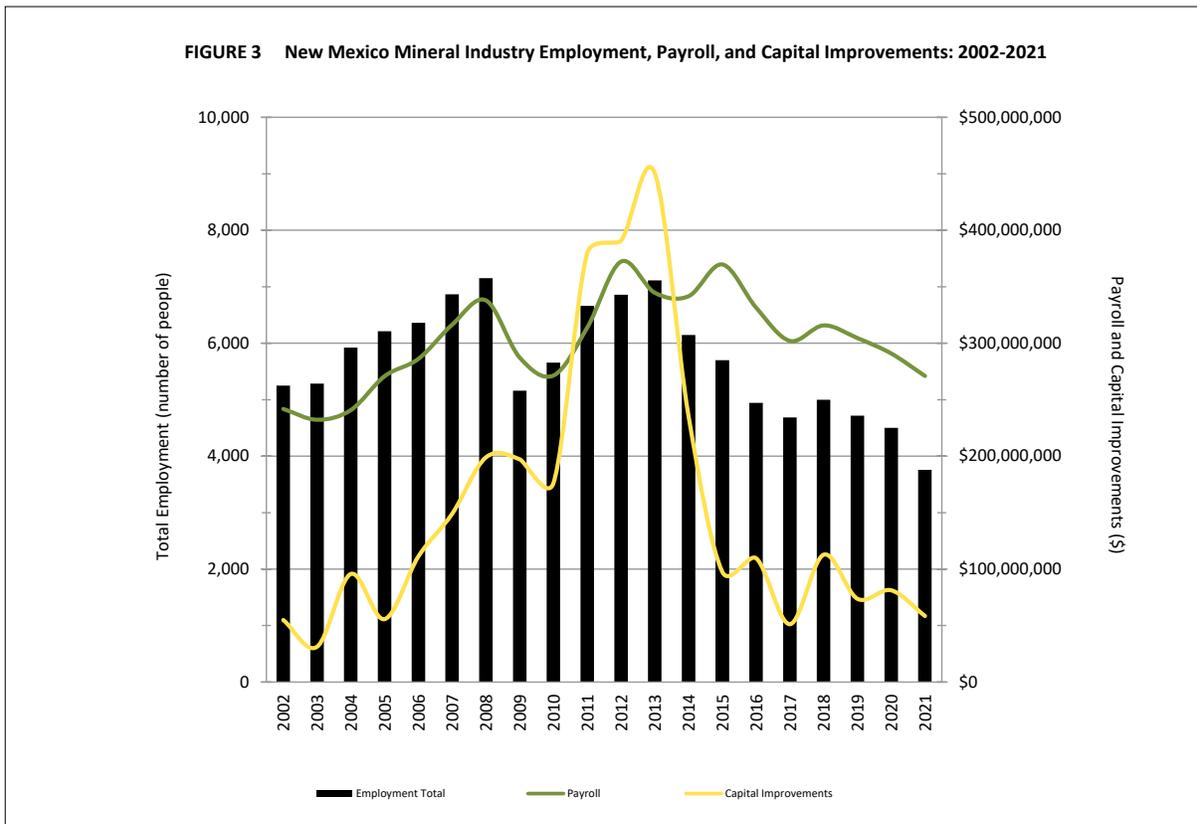
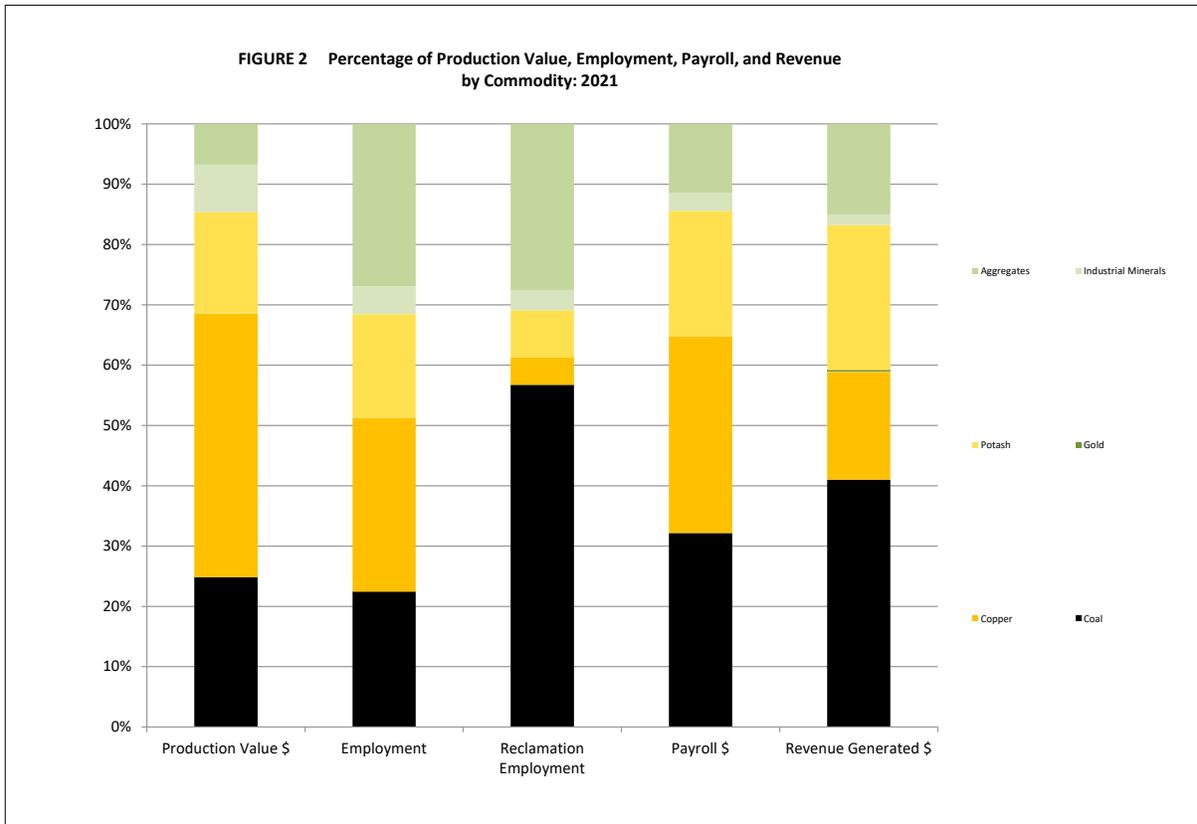
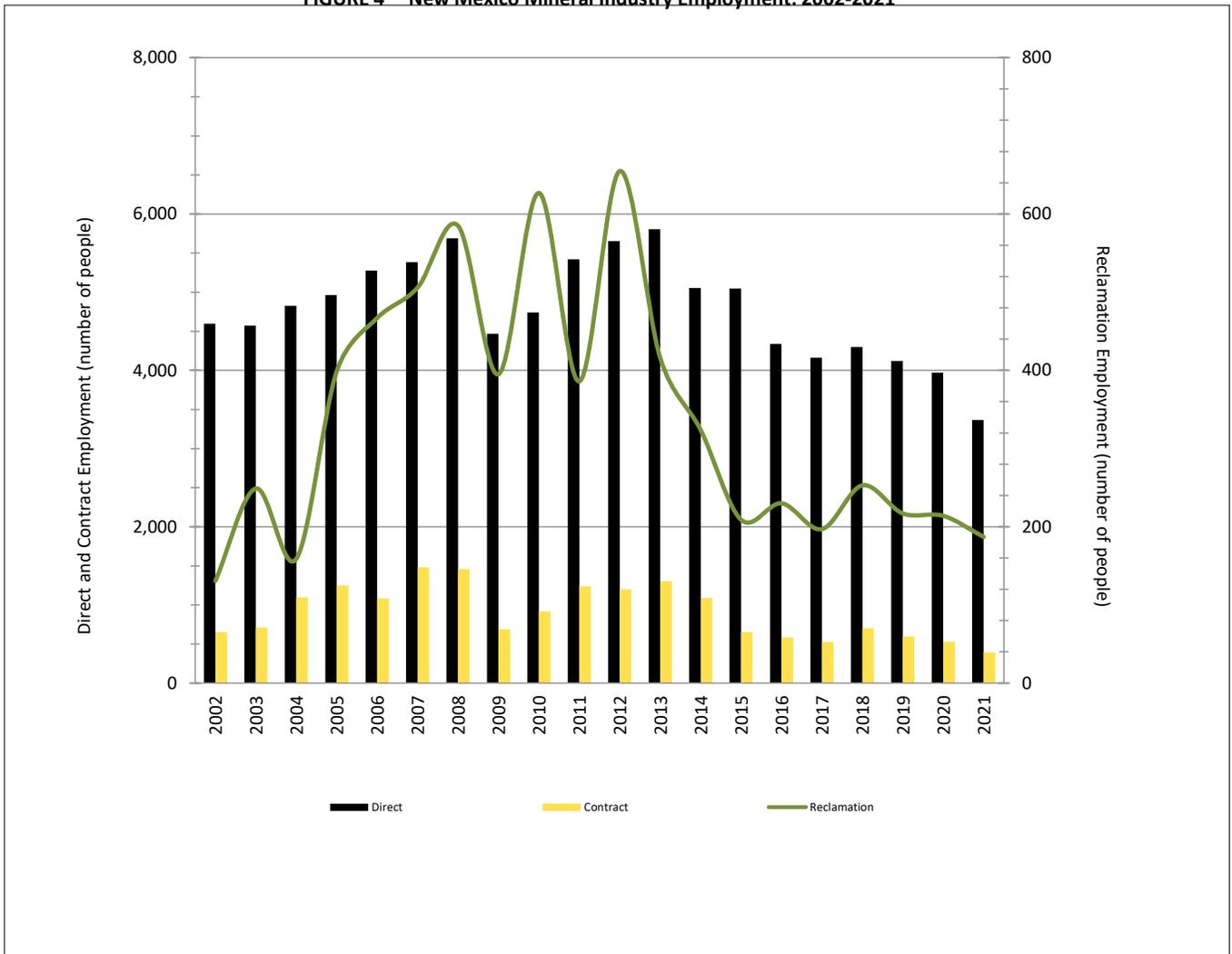


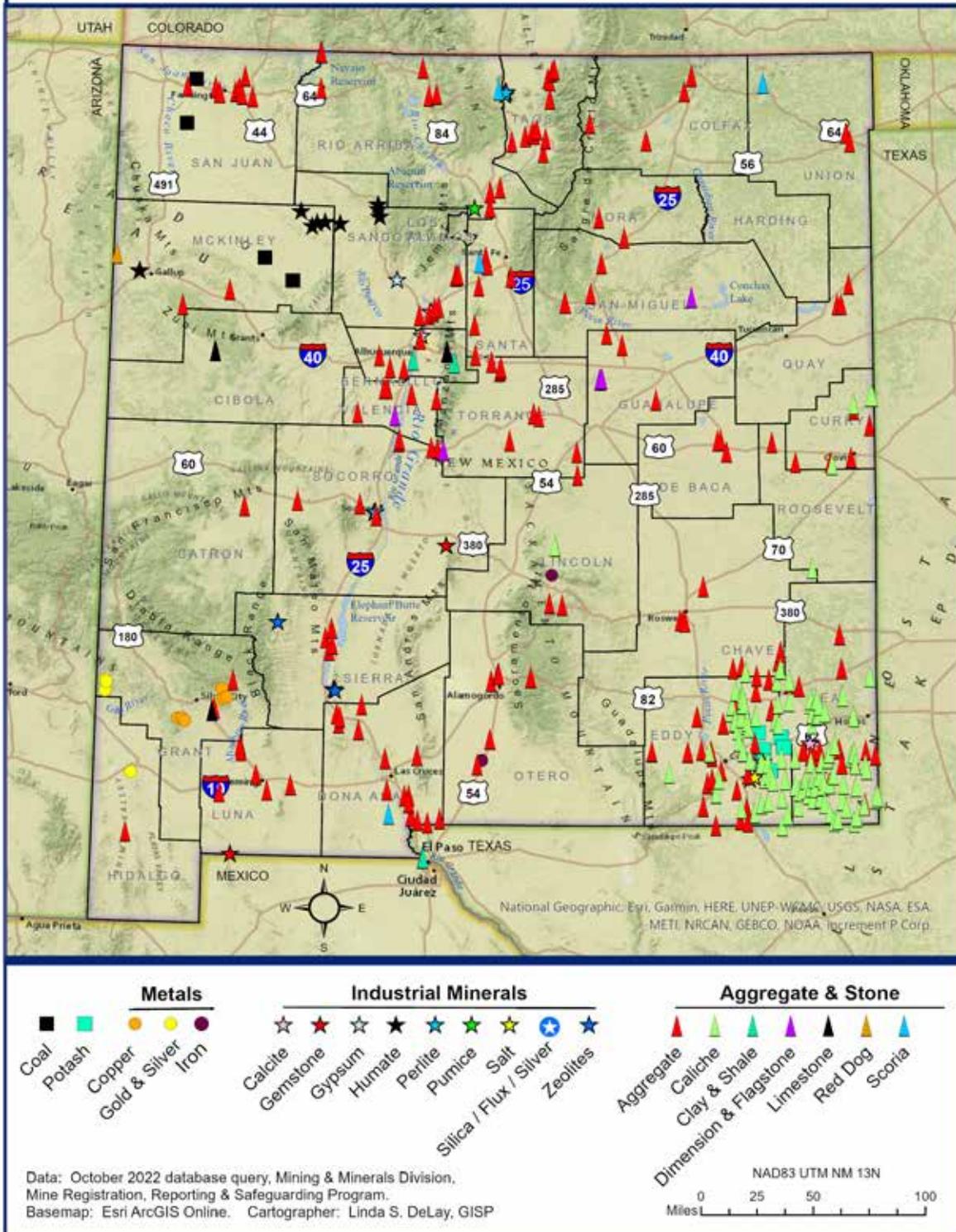


FIGURE 4 New Mexico Mineral Industry Employment: 2002-2021



Active mining and active reclamation-only operations in New Mexico in 2021 numbered approximately 385 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.

Active Mines in New Mexico, December 2021



Figures 6 through 10 provide 20-year snapshots of production amounts and sales values for coal, copper, potash, aggregate (base course, caliche, clay and shale, crushed rock, flagstone, fill dirt, gravel, limestone, red dog, riprap, sand, scoria, and topsoil), and industrial minerals (brick clay, calcite, dimension stone, gypsum, humate, perlite, Portland cement, pumice, salt, silica, and zeolite), respectively.



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

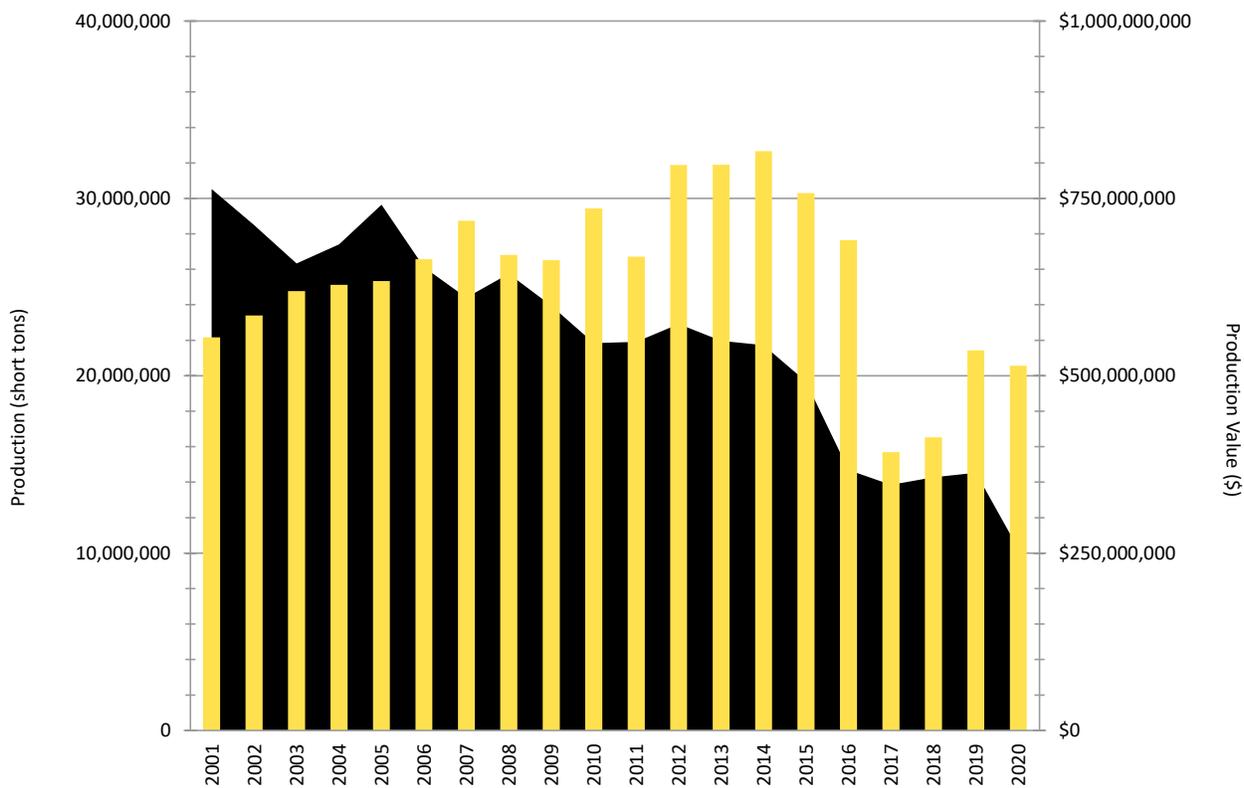


FIGURE 7 New Mexico Copper Production and Value: 2001-2020

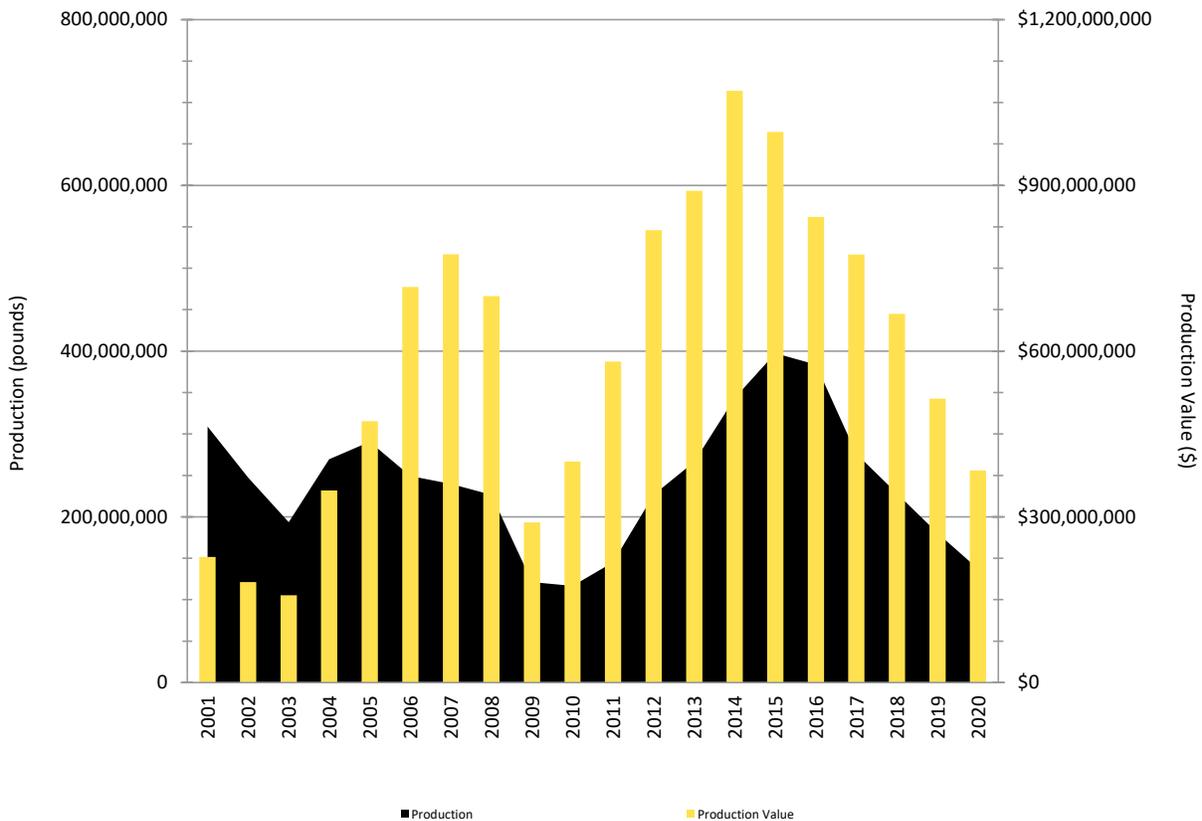


FIGURE 8 New Mexico Potash Production and Value: 2001-2020

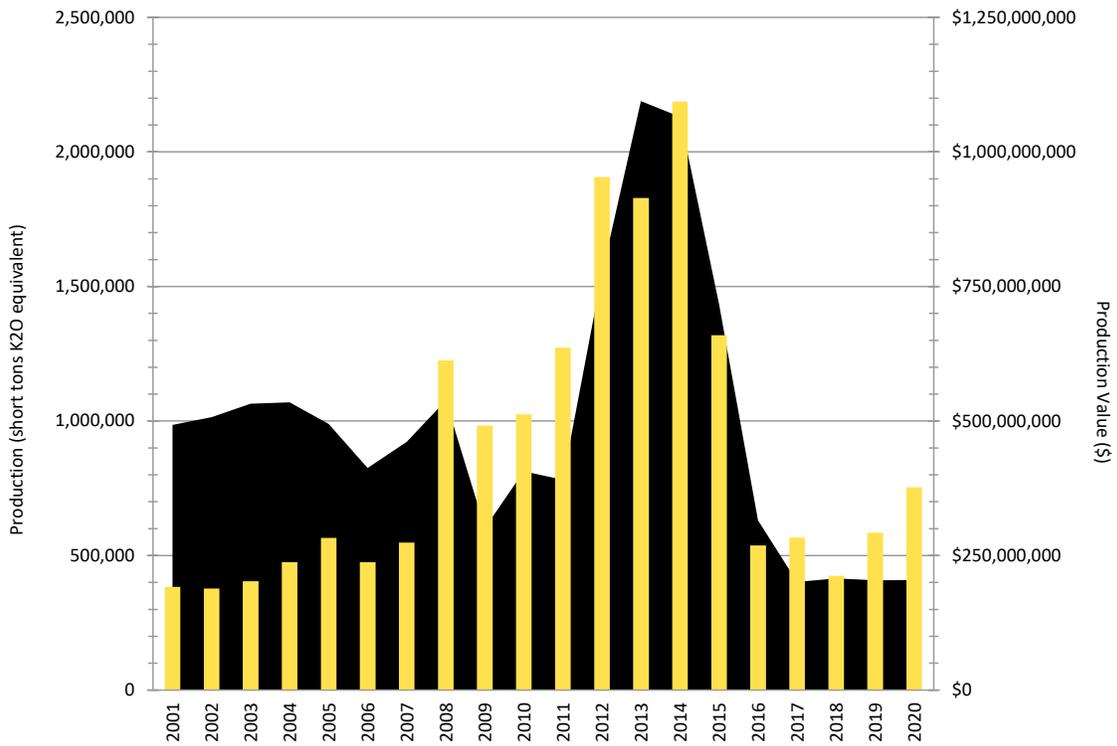


FIGURE 9 New Mexico Aggregate Production and Value: 2001-2020

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

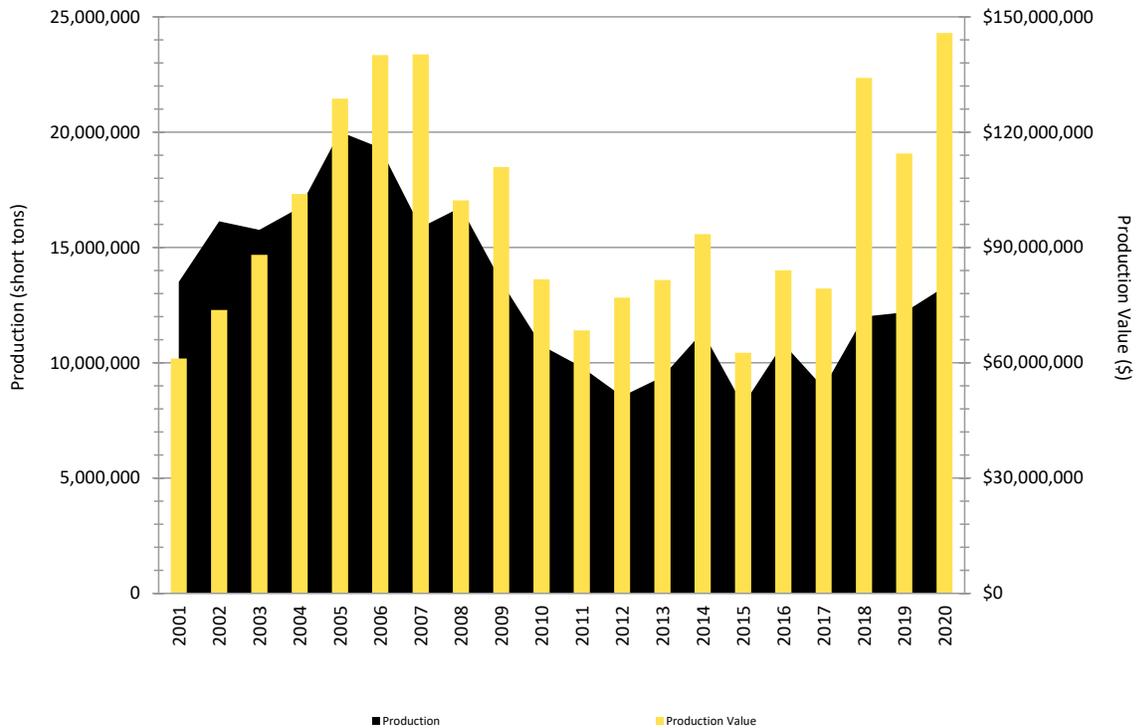
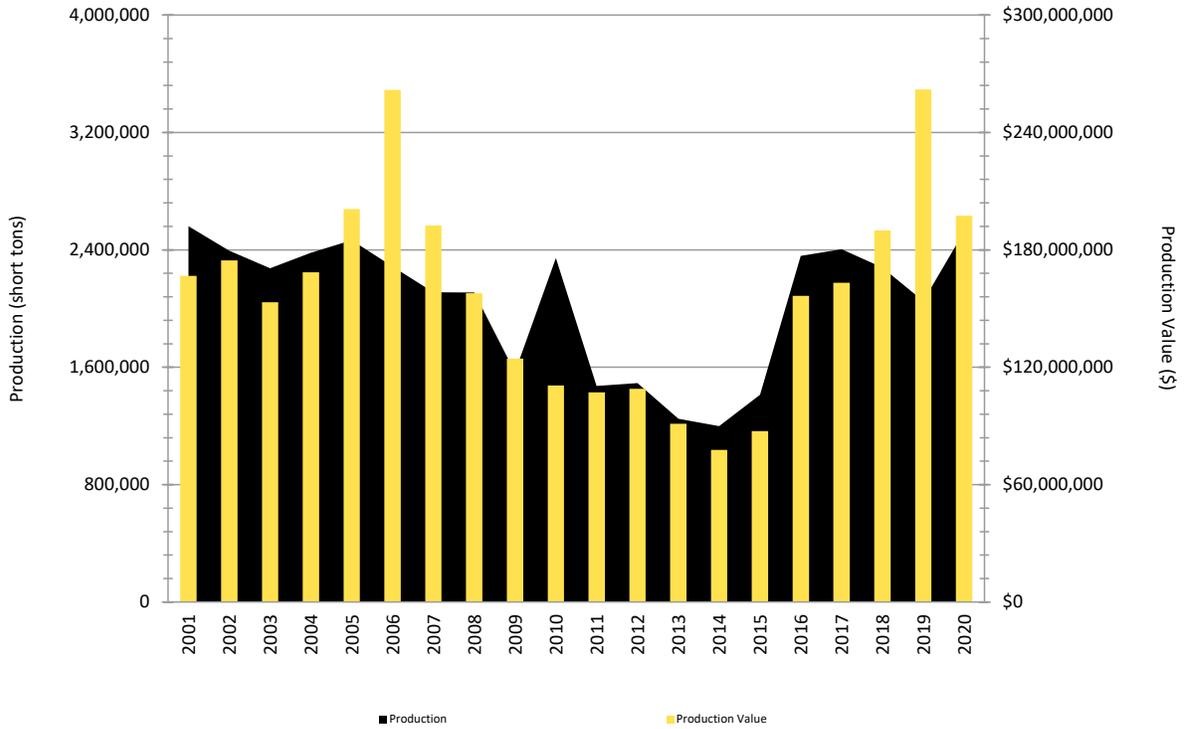




FIGURE 10 New Mexico Industrial Mineral Production and Value: 2001-2020

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 has 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's natural gas waste rules 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 2022 the OCD has done immense work to implement those rules in a manner that leverages technology and makes the data usable for the Division and the public.

Since the rules went into effect the division's work has been showcased on the international stage with Governor Michelle Lujan Grisham highlighting our natural gas waste rule at the United Nations Climate Conference – COP 27 – in Egypt. Ali Zaidi, 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.

In June of 2022, OCD substantially completed the years-long Carlsbad Brine Well Remediation Project. Working with engineering firm WSP, OCD managed to stabilize this cavern that had formed underground near a major transportation intersection within Carlsbad's city limits in Eddy County. The cavity was the result of activity from a brine well—a well that produced salt-laden water for use in oil drilling operations—that had operated in the area from 1978 to 2008.

Stabilizing the cavity alleviated potential damage of more than \$1 billion because of its proximity to a main irrigation canal, a major highway intersection, a rail line, and numerous businesses and residences. With the stabilization work substantially complete, OCD and WSP will continue monitoring the site for two more years to ensure no other complications arise. This successful project gained global recognition, with representatives from global petrochemical company Braskem flying in from their Brazilian headquarters to tour the site and seek tips on remediating their own underground brine well cavities.

2022 has also brought incredible opportunities to plug and remediate orphan wells and associated facilities. The federal Infrastructure Investment and Jobs Act (IIJA) included funding for states to clean up orphan oil and gas sites. New Mexico received a \$25 million initial grant on October 1, 2022. Thirty days later, OCD staff and contractors started the first well-plugging project using these funds, at a site just outside of Hobbs in Lea County. OCD expects the \$25 million initial grant to fund plugging and remediation at 200 wells sites over a twelve-month period. The division also expects to receive an additional \$75-100 million over the next several years. This funding not only facilitates high-paying jobs in the oil and gas industry but also protects ground water and prevents methane from being released.

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 2022 accomplishments.

A handwritten signature in black ink, 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's 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.

DIVISION OVERVIEW

The OCD is organized into five bureaus responsible for different aspects of regulating the oil and gas industry and its over 60,000 active wells in New Mexico. Over the past several years oil and gas production within the state has increased. In 2021 New Mexico saw record high production levels and that trend continued through 2022. The five OCD bureaus are:

- Engineering
- Environmental
- Hearings
- Projects
- Administration

Number Of Wells		
Well Type	Approved Permits	Completed Wells*
Carbon Dioxide	737	733
Gas	29,006	26,908
Injection	3,231	3,183
Misc	136	114
Oil	35,846	28,245
Salt Water Disposal	939	841
Water	44	44
Total	69,939	60,068
*Active, approved temporarily abandoned, expired temporarily abandoned, and plugged not released status		

Number Of Wells by Land Type		
Land Type	Approved Permits	Completed Wells*
Federal	39,992	31,669
All Tribal	2,785	2,713
Private	10,846	10,517
State	16,316	15,169
Total	69,939	60,068
*Active, approved temporarily abandoned, expired temporarily abandoned, and plugged not released status		

Oil & Gas Sold by Volume by Calendar Year		
Year	Gas Sold*	Oil Sold**
2014	1,155,354,565	124,858,909
2015	1,172,993,145	148,336,586
2016	1,177,388,904	146,717,323
2017	1,232,009,422	172,319,028
2018	1,418,383,888	249,181,165
2019	1,691,870,443	335,459,797
2020	1,965,627,653	375,602,691
2021	2,247,831,695	454,608,111
	*measured in MCF	**measured in BBLs

OCD BUREAUS

The **Engineering Bureau** manages the administrative permitting program, Underground Injection Control (UIC) program and inspections programs. The bureau provides 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 inspecting 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 Inspections group 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 Act 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** plans, coordinates, and evaluates the day-to-day operational and administrative activities of multiple defined, funded OCD programs. Current projects this bureau is managing include the Carlsbad Brine well remediation project, implementation of the federal Infrastructure Investment and Jobs Act grant programs and the projects assigned to the Engineering and Environmental Bureau Program Coordinators. 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 upon 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. Governor Lujan Grisham's Executive Order 2019-003 charged the OCD and the New Mexico Environment Department with developing a comprehensive 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 2022 the OCD has continued to work 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 2022, to enhance public transparency, the OCD published an online public portal to provide access to all data associated with the waste rule.

In June 2022 the OCC heard a petition from the OCD to update 19.15.2 and 19.15.7 NMAC. The petition continued the OCD's modernization push by aligning the rules with the new online IT systems that were developed to submit applications, forms, etc. The OCC voted to unanimously approve the rule which went into effect on August 23, 2022.

Oil and Gas Inspections by Year			
	2022	2021	2020
Quarter 1	5,863	13,256	10,050
Quarter 2	7,199	6,753	6,356
Quarter 3	8,273	6,868	6,350
Quarter 4	9,578	7,333	14,168
Yearly total	30,913	34,210	36,924

OCD PERFORMANCE

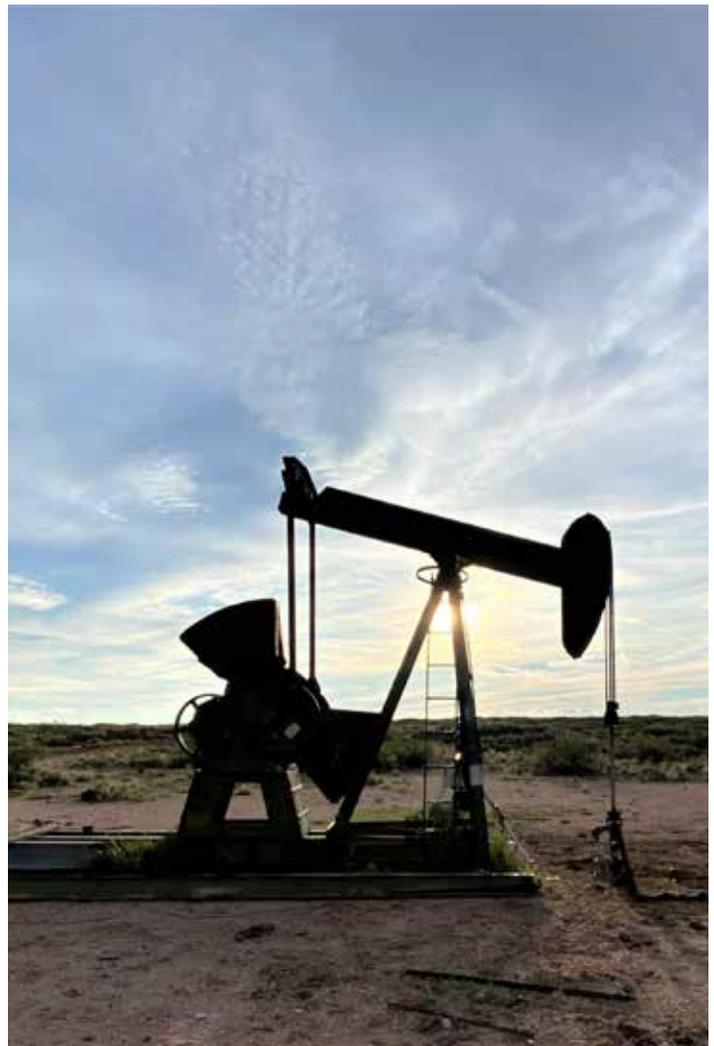
Inspection & Plugging

In fiscal year 2022 the OCD performed 30,917 inspections on oil and gas wells and facilities out of 60,160 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 3,464 compliances issued to operators in fiscal year 2022 which is an increase of 23.8% over the 2,640 issued in fiscal year 2021. This increase in compliances has created substantial strides in protecting the resources of New Mexico.

In FY22 the OCD plugged 49 abandoned oil and gas wells, effectively meeting the legislative goal of 50 wells during the fiscal year. OCD expects to accelerate that pace in the coming year, thanks to a \$25 million grant from the federal Infrastructure and Investment

and Jobs Act. New Mexico received those grant funds on October 1, 2022. Thirty days later, OCD staff and contractors started the first well-plugging project using these funds, at a site just outside of Hobbs in Lea County. OCD expects the \$25 million initial grant to fund plugging and remediation at 200 wells sites over a twelve-month period.





Applications for Permit to Drill (APDs)

In FY22, the OCD approved 87.70% 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 agency in characterizing and monitoring a large and unstable brine well cavern that had threatened 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 was 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 chair.

The WSP engineering firm was contracted in 2018 to design and implement an in-place remediation 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.



The successful remediation of the Carlsbad Brine Well garnered international recognition.

This approach proved very successful in the southern portions of the cavern, alleviating risk to the Carlsbad Irrigation District's main canal, as well as nearby residences and a church.

However, as the drilling program extended into the northern portions during December 2019, an unexpected, large void was encountered that was the result of significant undetected roof failures occurring over the prior 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 was not cost-effective so WSP determined that the backfilling material should be changed to sand which provides equivalent stability at a lower 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 was 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. WSP was directed to proceed with remobilization and by mid-September 2021 the driller had re-entered and cleared the sand injection/brine extraction wells. Pumping equipment and crews arrived at the site in early-October and the injection of sand resumed.

Sand was injected at a rate exceeding expectation along with the use of hydraulic jetting to spread sand evenly across the void and avoid the accumulation of sand into piles beneath the injection points, allowing

for a much higher percentage of backfilling. By February 15, 2022, the void was effectively filled after injecting a total of 165,177 cubic yards since January of 2020. This work was completed ahead of schedule with a projected cost savings of approximately \$6M. This will allow for two years of post-backfill monitoring while still remaining within budget. Traffic modifications remained in place while the remaining void was gradually depressurized. The design and implementation of the stabilization effort has cost approximately \$65M to date.

The injection contractors were demobilized from the site and the private properties that were leased to facilitate the remediation effort have been restored to their previous conditions and returned to their owners. The injection wells which were installed in the traffic lanes have been plugged, contingent upon weather, once the roadway is re-paved, traffic flow in the area can return to normal.

Plugging of Abandoned Wells

Unplugged and improperly plugged oil and gas production wells which are no longer in use can be a source of methane emissions into the atmosphere and potentially impact groundwater. Methane is a potent greenhouse gas adversely contributing to climate change. The OCD requires the operators of idle wells to either properly maintain them or plug them. Unfortunately, a significant number of wells have been abandoned by operators after becoming financially insolvent.



Thirty days after OCD received funds from the federal Infrastructure Investment and Jobs Act, crews began plugging an abandoned well just outside of Hobbs in Lea County. This funding will pay for plugging and remediation at 200 well sites across New Mexico over a twelve-month period.



The OCD can then step in to plug abandoned wells using the financial assurance that is available along with a portion of the state production severance that is provided to the OCD's Reclamation Fund which was specifically created for this purpose. The OCD has been able to plug about 50 wells each year using the Fund at a current cost of approximately \$72,000 per well.

In the Fall of 2021, the federal Infrastructure Investment and Jobs Act was enacted which will provide New Mexico and other states with a significantly greater amount of funding with which to plug abandoned wells and to remediate and restore associated facilities. The value of the initial grant to the State is \$25M with more to follow in the coming years. OCD expects to plug 200 orphaned wells in the next 12 months and make significant progress cleaning up legacy pollution at many of these sites as well as reclaiming and restoring the surface. The division currently estimates there are more than 1,700 abandoned wells located on state-owned or private surface.

PARTNERSHIPS AND COLLABORATION

New Mexico Produced Water Research Consortium

The New Mexico Produced Water Consortium is an effort with New Mexico State University, the New Mexico Environment Department (NMED), other state and federal agencies, our national labs, and the private sector to develop a basis for regulating the reuse of 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 the Consortium's research and outreach. The Consortium is in its third year of operation and in February of 2022 published its [Research Plan and Gap Analysis for Produced Water Reuse in New Mexico](#). The plan discusses current needs and challenges in infrastructure planning and development, the collection of water quality data, toxicology, treatment technology performance, cost/benefit analyses, and public outreach. The New Mexico Produced Water Act (Chapter 70 NMSA 1978) requires a person to obtain a permit from the NMED prior to using produced water, even if treated, for activities unrelated to the production of oil and gas. Produced water utilized for completions operations within the oil and gas industry is allowed and regulated by the OCD.



Data in the chart on page 66 represents the amount and types of water that are being used within oil and gas completions operations in New Mexico. Produced water reuse has steadily increased since tracking began.

Collaboration with the New Mexico Bureau of Geology and Mineral Resources

The OCD provides funding to the New Mexico Bureau of Geology and Mineral Resources for a variety of projects that assist the OCD. These projects include:

- Development of a 3-dimensional model in ArcGIS of the Pecos Slope and Delaware basin aquifers containing information on the depth to groundwater, water quality, and volume. One of the benefits of this work



Oil and Gas Water Usage Summary					
Year	Produced Water	Water TDS < 1K mg/L	Water TDS 1-10K mg/L	Water TDS > 10K mg/L	Total Water
7/1/2022-current	1,399,075,010	53,436	381,736,250	444,209,561	2,225,074,257
7/1/2021-6/30/2022	9,272,429,571	882,188,670	4,231,196,352	1,076,207,857	15,462,022,450
10/01/2020-06/30/2021	4,699,268,611	1,627,809,162	3,206,465,723	357,165,138	9,890,708,634
TDS = Total Dissolved Solids Volume Reported in Gallons					

is to reduce possible interference by the oil and gas industry with freshwater 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 the online library of well logs.

- Mapping of the stratigraphic intervals from the Siluro-Devonian to crystalline basement in the NM portion of the Delaware Basin. This task is achieved through analysis of formation tops interpreted from OCD well logs and completion reports. The project supports the OCD in evaluating and minimizing the potential for induced seismicity.
- A spatial analysis of produced water injection. This project is a companion to the Siluro-Devonian mapping effort and aids in the OCD's ability to quantify and evaluate and further make decisions regarding disposal in the Delaware basin.
- The Bureau's Seismological Observatory for the monitoring and analysis of seismicity and induced seismicity in the NM Permian Basin. Additional seismic monitors have been installed to provide better fidelity of data within specific areas of interest.
- The scanning, cataloguing, and archiving of the OCD's legacy hearing orders dating back to the formation of the division.

Ground Water Protection Council

The Ground Water Protection Council (GWPC) is a non-profit organization whose members consist of state regulatory agencies working together for the protection and conservation of groundwater. The GWPC 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 New Mexico on the Interstate Oil & Gas Compact Commission (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.

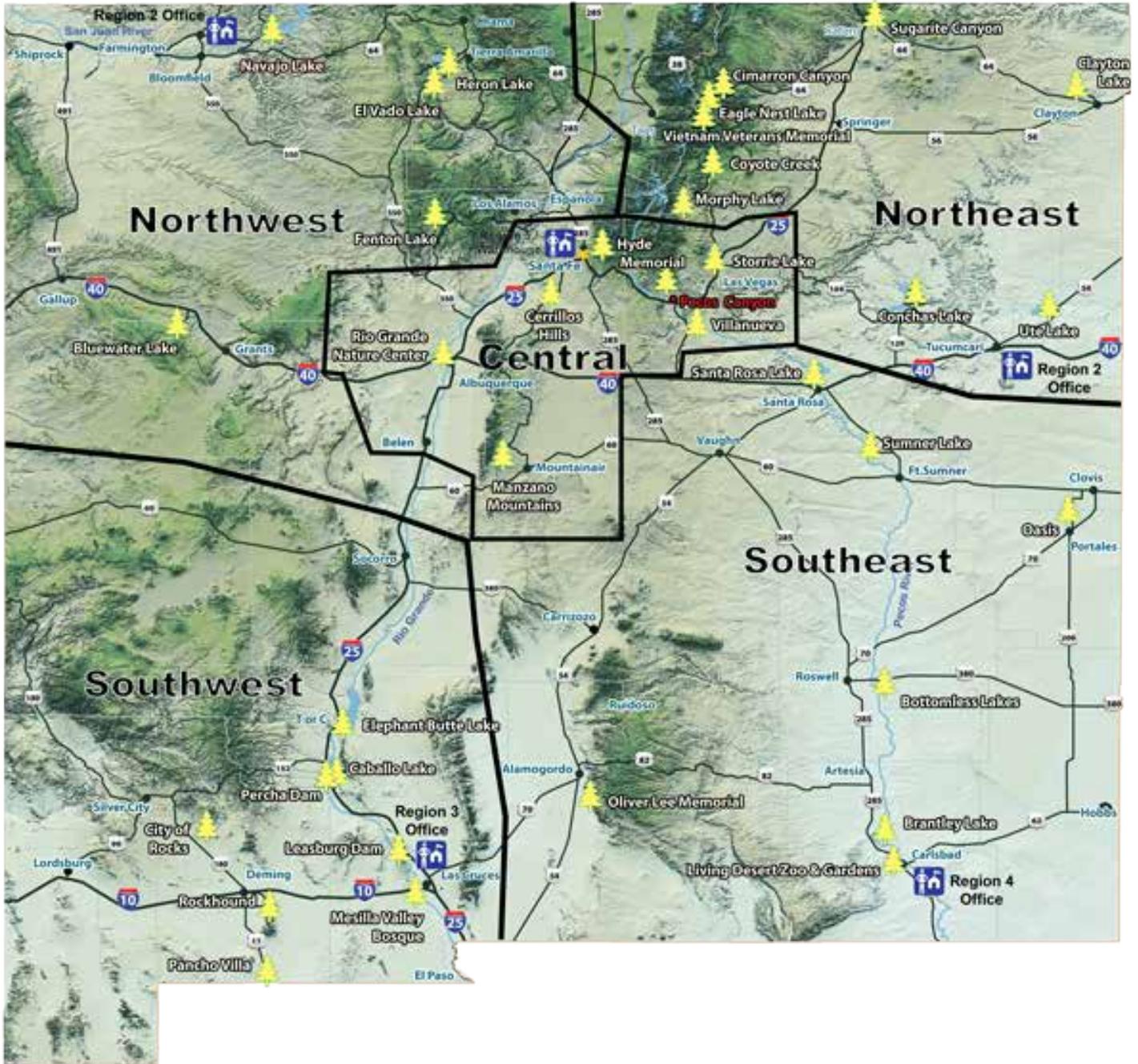
Native American Communities

When requested, the OCD assists 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



Message from New Mexico State Parks Director



To Our Visitors and Citizens of New Mexico:

This year New Mexico experienced a devastating and historic fire season resulting in two of the largest fires in state history. For me, this year's fire season was exceptionally challenging both personally and professionally. I am a native of the Mora Valley, and my career started there as a seasonal laborer at Coyote Creek and Morphy Lake State Parks in the early 1990's. This year I can account for over 24 outstanding years working in support of State Parks, and it was heartbreaking to watch my ancestral lands and several state parks being threatened, evacuated, and burned by wildfire.

The impacts of climate change and associated drought conditions continue to test the resiliency of your State Parks and the people dedicated to managing them. In these difficult times, and despite the challenges posed by extreme drought conditions, wildfires and flooding, and high gas prices, State Parks provided outdoor recreation opportunities, protected natural and cultural resources, continued to educate, bolstered partnerships, and maintained access and safe conditions for the public and our employees. During fires and flooding, State Parks reached out to and embraced fire evacuees and provided free camping to displaced individuals and families. Connected to their parks and communities, our amazingly dedicated State Park employees remained committed to their mission and served approximately 5.2 million visitors this year.

The public's response during and after fire season emphasized their love for their 35 State Parks, their rural communities impacted by fires, and their vast public lands. The following report reflects State Parks accomplishments this year and recognizes the people, partners, and programs dedicated to protecting and enhancing natural and cultural resources, providing first-class recreational and education facilities and opportunities, and promoting public safety to benefit and enrich the lives of visitors.

Sinceramente,



Toby Velásquez, Director
New Mexico State Parks



Morphy Lake State Park (During the Calf Canyon/Hermits Peak Fire – May 2022)



Morphy Lake State Park (After the Calf Canyon/Hermits Peak Fire – September 2022)

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.

DIVISION 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. We fulfill this mission by 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.

State parks can be found in 25 of New Mexico's 33 counties where outdoor recreation is a driving force in New Mexico's economy. Connected to communities statewide, our 35 state parks attract on average 4.75 million visitors each year and are essential economic drivers for local businesses, towns, and cities. Many rural communities rely on a state park as a major source of economic development.

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) state parks
- 45 Field Operations positions that support up to 137 seasonal hires system wide



Southwest Regional Manager Evaristo Giron (Retired after 25 years of dedicated state park service)

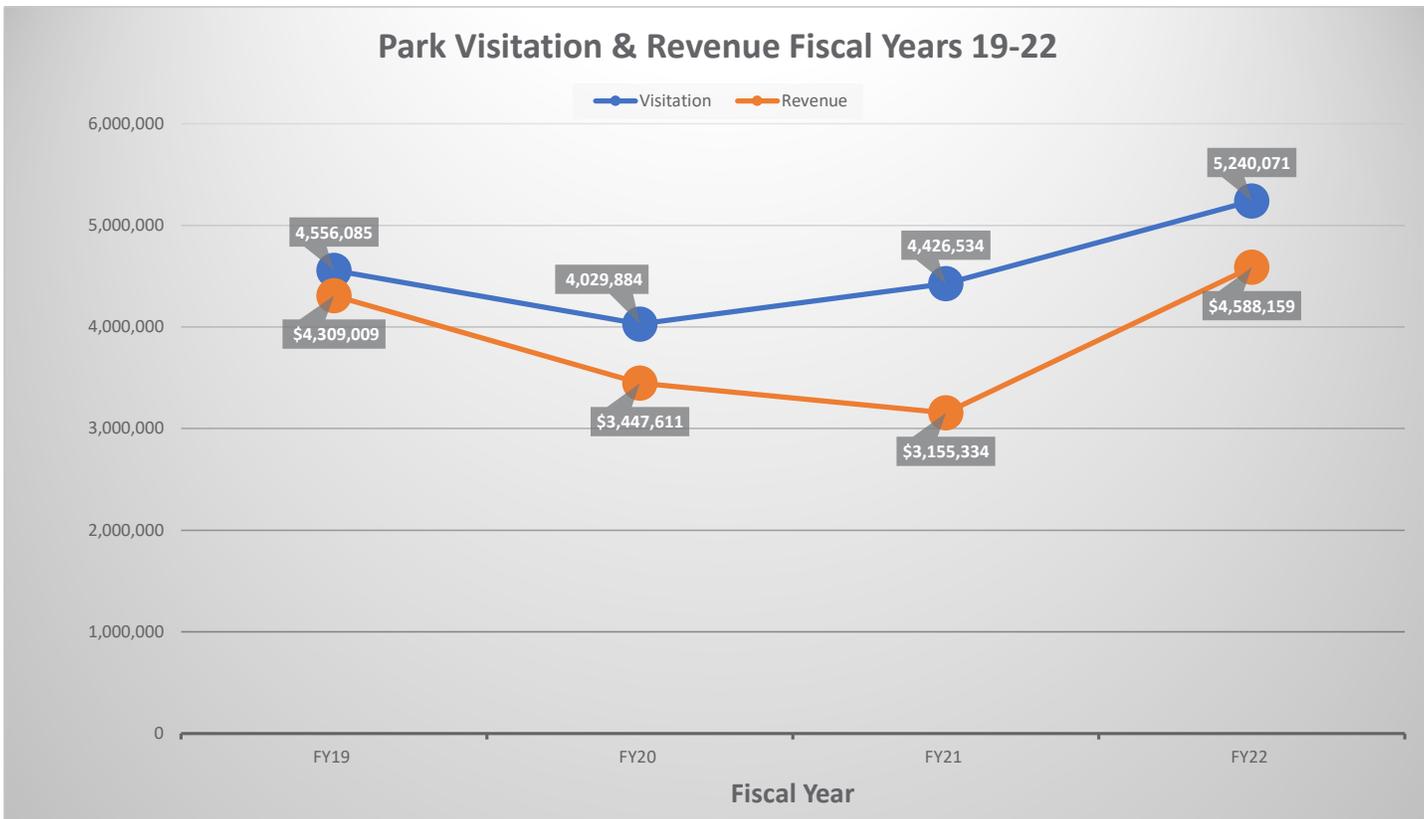


Tree shaped symbols represent locations of 35 State Parks across 25 of 33 counties

ADMINISTRATIVE SERVICES 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 coordinate personnel procedures, 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 State Parks Division 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 were negatively impacted by extreme fire conditions and several wildfires resulting in full or partial closures of nine state parks this summer. The highest level of statewide fire restrictions was implemented across all state parks, national forests, and other public lands during the peak outdoor recreation season. In addition, State Park lakes and locations were essential in supporting fire suppression efforts. However, by September, all state parks were open and operating at normal capacity.

Despite these circumstances, State Parks saw a significant rebound in visitation and revenue. Visitation rebounded to over 5.2 million, a 15% increase from fiscal year 2019, our last normal year of park operations



State Park Instructors and Park Staff Ice and Cold-Water Rescue Training (Eagle Nest Lake State Park)

prior to the COVID-19 pandemic. Revenues rebounded to over \$4.5 million, a 7% increase from fiscal year 2019. The following are additional highlights from the past year:

- Generated over \$2.3 million in camping revenue through the reservation system. This is a 130% increase from fiscal year 2019. This reduced the amount of cash that Parks staff was required to handle by \$1.3 million, giving that staff more time in the field supporting visitors and managing resources.
- Increased concession revenues by 15% since fiscal year 2020, the peak of the pandemic.
- Invested over \$5.5 million in capital improvements at eight state parks.
- Initiated over \$23 million in capital improvements through our federal partnership with the Bureau of Reclamation at three state parks.
- Initiated statewide marketing and outreach programming with a focus on rural markets and leveraged the national reach of our reservation system marketing platform.
- Significantly reduced the high full-time equivalent position vacancy rate and will continue to recruit and retain permanent, temporary employees, and volunteers to ensure that state parks are managed safely and effectively to meet and exceed visitor expectations.

LAW ENFORCEMENT AND BOATING SAFETY BUREAU

This year, our Law Enforcement and Boating Safety professionals remained committed to providing outstanding service to park visitors, maintaining compliance with laws and regulations, and improving the overall visitor experience. As we entered the peak season, we increased our efforts to provide in-person boating safety courses statewide, hosted the nationally accredited National Association of State Boating Administrators Boating Under the Influence



San Juan River Boating Safety Patrols – Navajo Lake State Park

course, and instructed our state accredited Marine Enforcement Officer course.

State Parks has eighty-two park law enforcement officer positions distributed across the system. During the pandemic, we experienced high employee attrition resulting in nearly a 50% vacancy rate for law enforcement positions. Recruitment remained difficult as fewer people are applying for law enforcement positions across our state. However, recruitment efforts have increased interest, and we have several new officers scheduled to attend police academies. We also have newly hired officers in positions that haven't been occupied in 18 months, which is providing needed relief to staff who have been covering those parks. The Division also hired a new Law Enforcement Program Manager, who will oversee our future recruitment efforts. In 2023, our recruitment efforts will include attending job fairs at various colleges and universities across the Southwest as well as efforts to bring currently certified law enforcement officers to our team.

Some notable accomplishments this year include:

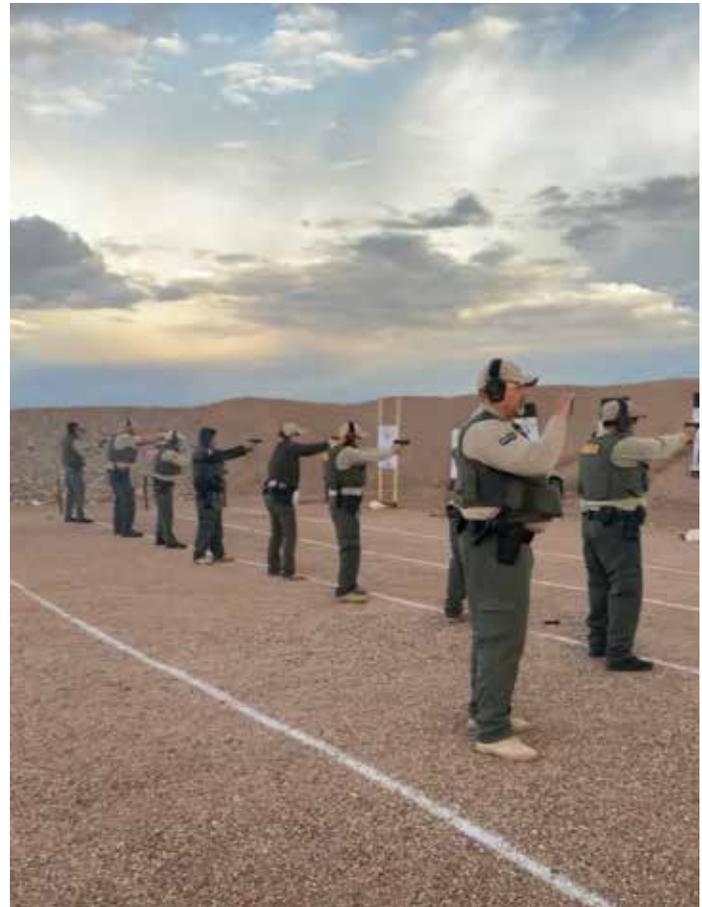
- Distributed new Digital Trunked Radio System (DTRS) radios across the system.
- Established emergency dispatch contract with Department of Public Safety Emergency Communications (New Mexico State Police Dispatch).
- Certified three new Boating Under the Influence (BUI) instructors; five new firearms instructors; five new general police instructors; one new Master Firearms instructor.
- Initiated law enforcement policy revision through professional services contractor.
- Replaced weapons platform and initiated body worn camera acquisition.

Lastly, due to the dedicated support and assistance of our administration, we worked extensively with the New Mexico State Personnel Office on a law enforcement agency position class study initiative to reclassify our State Park law enforcement positions. The results of this effort are:

- Recognition as law enforcement officers written into our park ranger job descriptions. The law enforcement component of our park ranger positions is a large part of their responsibilities and is now the core of the job description.
- Clear descriptions of the duties and responsibilities of the various levels of law enforcement positions within the agency.



Park Manager Ofc. Erica Baker on Boating Safety Patrol – Elephant Butte Lake State Park



Park Law Enforcement Officers Conducting Annual Training

- More competitive requirements to be employed as a State Park Ranger.
- The recognition and establishment of a “market rate” recognizing the specialized skills, responsibilities, and expertise of state certified and department commissioned law enforcement professionals.
- A new position and salary schedule that will better compete with other law enforcement agencies in the areas of recruitment and retention.

State 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. As we recover from the circumstances faced over the last year, we continue to reach out to our law enforcement and community partners to foster new and old collaborative efforts and relationships. Our footprint isn't just within the confines of the park, it extends into the community, reaching a greater number of people than those we serve within state parks. State Park officers will continue to lead by example and continue to recruit and retain the next generation of park rangers.



Park Superintendent Rick Martin presenting boating safety education class to local students.

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 last year.

Bluewater Lake State Park

Access Road and Boat Ramp

Description: Construction of a two-lane concrete access road from the main boat ramp to the low water boat access and install a new boat ramp to improve boating access when the water level is low.

Total project cost \$780,440 (\$585,329.65 USFWS-Wildlife and Sport Fish Restoration Program (Dingell-Johnson) with 25% State match)

Bottomless Lakes State Park

Lea Lake Recreation Area Renovations

Description: Renovations included redevelopment of the day-use area including new picnic sites, upgrades to the group shelter, installation of a vault toilet, trail development, and accessibility improvements. Upgrades also included improvements at both comfort stations including new fixtures, finishes, and lighting. Also, a new entrance station was constructed.

Total project cost \$1,613,793 (Land Water and Conservation Fund with 50% State match)





Clayton Lake State Park

Visitor Center Roof Replacement

Description: The existing synthetic shingle roofing was twenty years old and had warped over time with sun exposure and changes in temperature. The roofing was replaced with metal shingles meant to mimic the aesthetics of the existing roof with a material that is expected have better longevity in this environment.

Total project cost \$58,428



Hyde Memorial State Park

Replace Primary Electric Line

Description: Installation of a new primary underground electric line within the park to replace the old electric line along Hyde Park Road and connect the recently completed solar microgrid with the park facilities.

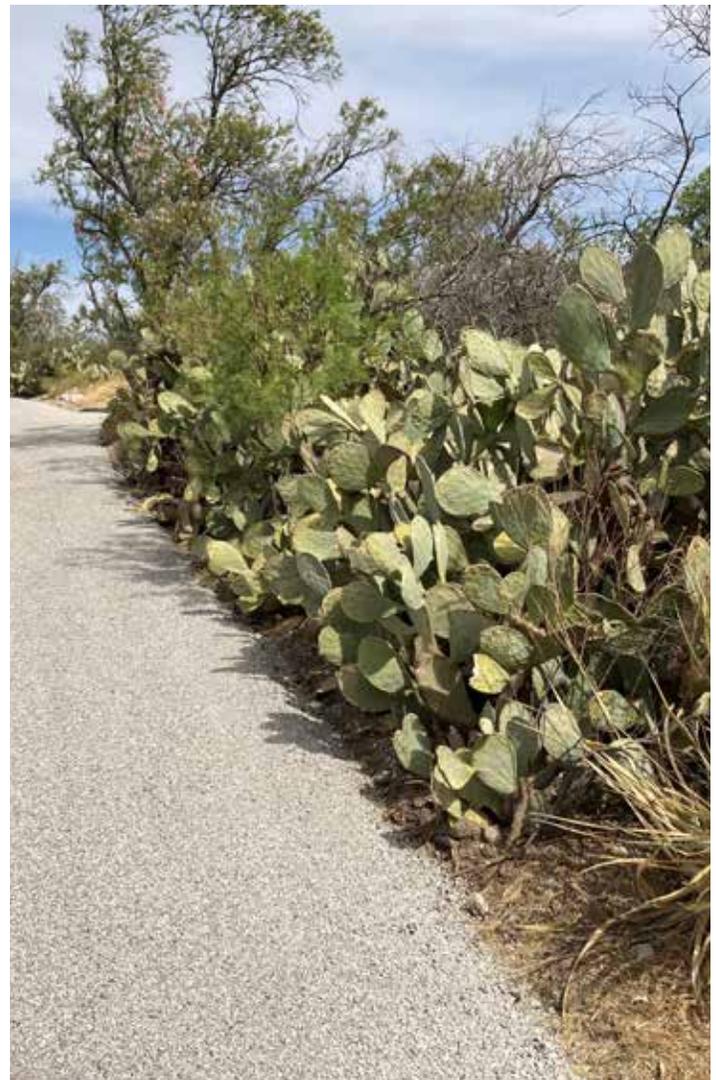
Total project cost \$435,899

Living Desert Zoo and Gardens

Walking Path Rehabilitation

Description: Rehabilitation of an existing 1.3-mile pathway that leads visitors from the Visitor Center through the Park's zoological and botanical exhibits. Park vehicles also use the pathway to access facilities for maintenance. Proposed construction will include the demolition of the existing pathway and the installation of a new chip seal asphalt layer to provide improved accessibility and a safe and consistent walking surface. The path will be re-graded to direct stormwater off the trail where it will be collected in a series of swales with turnouts to disburse the water across the adjacent landscape and passively irrigate the native vegetation. New handrails will also be installed along select portions of the path for additional safety.

Total project cost \$141,483 (\$100,000 Chevron donation and State Appropriation)



Navajo Lake State Park

Rehabilitate Vault Toilets and Comfort Stations

Description: Renovations were to finish upgrades at all the comfort stations and vault toilets within the park that have been ongoing over the past few years. Upgrades in 2022, included installation of new toilet partitions and replacement of the hardware at all the facilities.

Total project cost \$173,934



Oliver Lee Memorial State Park

Shelter for Historic Wagon Exhibit

Description: Installation of a new metal shelter and concrete pad located near the visitor center. The shelter will house an historic wagon that was used by Oliver Lee to haul water pipe for a reservoir project just south of the park’s location. The project also includes the construction of an accessible parking space and concrete pathway to the shelter

Total project cost \$121,356



Pecos Canyon State Park

Jamie Koch Pavilion Renovation

Description: The pavilion at the Jamie Koch Recreation Area was renovated including structural rehabilitation, finish upgrades, accessibility and parking improvements, and a new vault toilet.

Total project cost \$619,979

Terrero Ranch Road Bridge Repair

Description: Repair of the vehicular bridge deck across the Pecos River on Terrero Ranch Road at the Willow Creek Recreation Area.

Total project cost \$65,831



Rio Grande Nature Center

Solar Carport

Description: In partnership with the Energy Conservation and Management Division, the State Parks Division installed a carport with a 40.05kW grid tied photovoltaic system at the park maintenance yard, along with electrical conduit to connect the system to the Visitor Center. The solar system will offset the cost of the electricity for the Visitor Center and provide renewable energy. The carport will also protect the park's maintenance equipment from weather.

Total project cost \$164,410 (\$67,683.38 from the Department of Energy, State Energy Program and State funding)



Storrie Lake State Park

Comfort Station Renovation

Description: The comfort station at the recreation area near the park entrance was renovated including plumbing, electrical, finish, and skylight upgrades. Total project cost \$153,396 (Land Water and Conservation Fund with 50% State match)

Santa Fe Office

Front Office Remodel

Description: Work included remodeled headquarters offices, remodeled conference room, new reception area with built-in desk, new reception area built-in storage cabinets and workspace, two new staff offices, and all necessary new electrical, mechanical, ceiling and floor upgrades.

Total project cost \$168,521



PROGRAM SUPPORT BUREAU

The Program Support Bureau consists of five primary areas of expertise that provide statewide support to our parks, regional, and Santa Fe offices. Those areas of support focus on volunteer engagement, natural and cultural resource protection and compliance, outdoor education, business enterprises, and workplace safety and loss control.

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.

This year 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.

RESOURCE PROTECTION

As part of its mission, State Parks documents and preserves the unique cultural and natural resources within its park system. This year, much of the focus was on a series of maintenance and repair projects. State Parks staff and contractors 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.

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, State Parks 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 sites they oversee and pass that information on to the State Historic Preservation Division and State Parks.

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.

OUTDOOR EDUCATION PROGRAM

State Parks provides quality outdoor interpretive experiences and educational programming for visitors. Live programming was curtailed during the pandemic but returned in 2021 with approximately 170 formal programs presented to 3,350 park visitors. However, this year, State Parks expanded live programming and educational events with 439 formal programs presented to over 5,800 park visitors. School groups also returned to their state parks this year with approximately 400 classes comprising just over 7,000 students attending educational programs at their state parks. In addition, over 800 students successfully

completed our nationally certified and accredited 8-hour Boating Safety Education Course online or in person. The following information highlights just a few of the many special state park outdoor interpretation and education programs that occurred this year:

Living Desert Zoo & Gardens State Park

- Dragonfly Festival at Bitter Lake National Wildlife Refuge
- National Wolf Awareness Week

Rio Grande Nature Center State Park

- The Nature Discovery for Kids Program

Clayton Lake State Park and Dinosaur Trackway - *

- Night Sky certified Star Parties

Sugarite Canyon State Park

- Migratory Bird Day
- Bodacious Butterfly Festival
- Pollinator Programming
- Coal Camp Tours

State Parks was proud to provide the fifteenth year of Kids 'n Parks Transportation Grants, a component of the highly successful New Mexico Outdoor Classroom Program (OCP). Kids 'n Parks gives teachers the opportunity to take their students on field trips to a state park, where hands-on, minds-on experiences introduce and reinforce the standards and benchmarks being taught in the classroom. State Parks pays the transportation costs of such field trips, fully or in part through an outstanding partnership with the New Mexico Museum of Natural History and Science Sandia Mountain Natural History Center. These grants result in lasting partnerships with schools and teachers providing teachers with consistent program planning support and to continue to evaluate the benefits of the OCP. In 2022, the Kids 'n Parks Transportation Grants program awarded all available grant funds to twenty-five school districts with awards ranging from \$200-\$1,000 per district for a grand total of just over \$11,000.

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 4th Annual Girl Scouts Love State Parks event highlighting the importance of young people connecting with the outdoors. This year's theme was again "Stewardship" and approximately 110 Girl Scouts and their families participated in outdoor educational activities as well as camping and taking

advantage of day-use visits to several of our parks. A total of four parks participated in the program.

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.



BUSINESS ENTERPRISE

State Parks had another successful fiscal year working with ReserveAmerica (RA), our online reservation system. State Parks 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 customer demand for making 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 their state parks.

State Parks saw a large increase in the number of reservations made on RA with a total of 87,126 transactions in fiscal year 22 compared to 59,511 reservations made in fiscal year 21, much of it because of the easing of restrictions due to the pandemic. RA accounted for 129,588 resident visitors and 18,904 non-resident visitors, which shows parks remain a very attractive destination. This also includes international visitors from Germany, Canada, Mexico, Denmark, and many other countries around the world. Revenue from online reservations and pass sales for fiscal year 22 was \$3.4 million compared to fiscal year 21 which was \$2.1 million. Donations to State Parks through RA were also up this year, RA collected \$40,388 in donations in FY22 compared to \$33,753 in donations in FY21. 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, Caballo Lake, Bottomless Lakes, and Heron 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 agency. 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 fiscal year 22 was \$5.9 million compared to \$2.4 million in fiscal year 21.

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. Testing, reporting, and tracking Covid infections has become a central pillar of our 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

The Division received its Annual Stateside Apportionment from the Land and Water Conservation Fund (LWCF) administered by the Department of the Interior and the National Park Service for federal fiscal year 2022 in the amount of \$3.0 million. Park system infrastructure projects, such as adding trails, construction of new playground areas, new parking areas, and renovation of existing parks are among the proposed uses for these funds. In addition, these funds will be used to support the re-establishment of New Mexico’s annual LWCF Local Assistance Program. The State Parks Division has solicited proposals from eligible entities (state subdivisions and tribes) for federal fiscal year 2022. As of this report, with one month remaining before application deadline, we have received a total of \$1.3 million in grant award applications and six proposals that are currently under review.

A small grant category and a large grant category have been created to provide funding for a wider array of applicants. Applicants for federal fiscal year 2022 include, as of the date of this report, the following entities:

- City of Albuquerque
- Village of Cimarron

- City of Las Cruces
- City of Las Vegas
- Grant County Town of Red River

MARKETING & COMMUNICATIONS BUREAU

The Marketing and Communications Bureau is responsible for increasing awareness about preservation, conservation, park amenities, and programming, and boosting public engagement with the 35 Parks across the Land of Enchantment. This is accomplished through various platforms including television, print, web, social media, special events, and other electronic and interactive mediums.

As communities were still recovering from the aftermath of the COVID-19 pandemic, New Mexico was hit with a record-breaking wildfire season. The fires destroyed hundreds of homes, forcing thousands to flee. The extreme fire danger forced full or partial closures of multiple parks in northern New Mexico, some due to the proximity of the wildfires and others to assist with providing water for firefighting aircraft. Cimarron, Coyote Creek, Eagle Nest Lake, Elephant Butte Lake, Fenton Lake, Hyde Memorial, Manzano, Morphy Lake, Pecos, and Storrie Lake State Parks were all affected. Visitors could not use the lakes or stay at some of these parks for several weeks while firefighting efforts continued. During this time the Marketing Department worked hard to promote the 26 other State Parks still in operation. While traditional advertising through television, radio, and print continues to be a staple for the Marketing Department, electronic resources such as email blasts and social media are also a driving force in reaching audiences beyond state boundaries.



Social Media

- 68,594 total followers
- 38,012 Facebook
- 28,100 Instagram
- 2,482 Twitter

State Parks social media accounts remain strong with more than 68,000 followers combined on the top three social media platforms – Facebook, Instagram, and Twitter. Social media is an important communication tool because it allows us to reach our target audience no matter where they are located.

We use social media advertising to cultivate, nurture, and engage with a large number of people within a short period of time. This cost-effective digital strategy attracts the right customers through consistent posting of interesting and relatable content far more frequently than television, radio, or print. An added bonus is that posting to your page is free, and any paid advertising is used to dial into specific algorithms that pay off with affordable marketing of the State Parks brand.

Data and Statistics: Collected and published pursuant to the authorities provided to the New Mexico Energy, Minerals and Natural Resources Department, or its component Division, under the New Mexico Code (NMSA 1978, various sections).

For more information on the Energy, Minerals & Natural Resources Department visit: <http://www.emnrd.nm.gov>

Acknowledgments:

This report would not be possible without the hard work and dedication of many people. We want to say thank you to Division authors and editors: Jane Tabor, Wendy Mason and Erin Taylor.

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

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