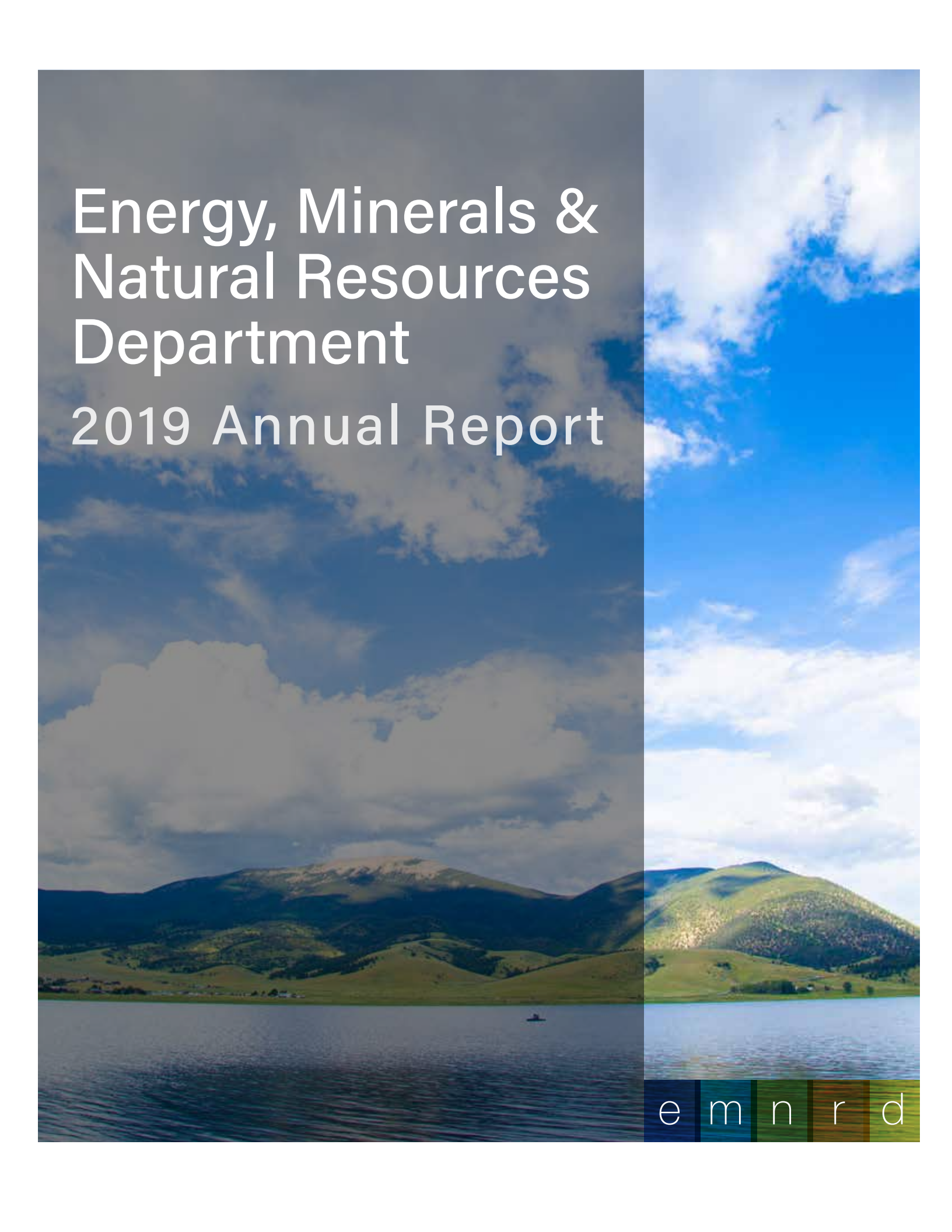




Energy, Minerals & Natural Resources Department

2019 Annual Report

e m n r d

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Message from Cabinet Secretary

Sarah Cottrell Propst

On January 1, 2019 Governor Michelle Lujan Grisham was inaugurated as the thirty-second governor of the state of New Mexico. The Governor set ambitious climate, energy, and environmental goals for her administration, and EMNRD plays a large part in achieving those goals. Our Department is tasked with managing New Mexico's natural resources sustainably, while also ensuring that our economy continues to thrive. Climate change is one of the most pressing issues of our time and how we manage our resources today will impact our future.

The Governor's third Executive Order (EO) on Addressing Climate Change and Energy Waste Prevention committed New Mexico to joining the US Climate Alliance and supporting the 2015 Paris Agreement goals, established a statewide greenhouse gas reduction of at least 45 percent by 2030 as compared to 2005 levels, and created the Climate Change Interagency Task Force, co-chaired by myself and New Mexico Environment Department Secretary James Kenney. The EO directed a number of greenhouse gas reduction policies, including new clean vehicle standards, building code updates, and a statewide enforceable regulatory framework to reduce oil and gas sector methane emissions and to prevent waste from new and existing sources. The 2019 "New Mexico Climate Strategy" report details our progress under the EO and identifies additional actions to reduce emissions.

During the 2019 legislative session, a number of important climate and energy bills became law. One of the most noteworthy for EMNRD was the Energy Transition Act (ETA), a landmark piece of legislation that commits New Mexico to 100% zero carbon resources in the electricity sector by 2050. In addition, all utilities must provide 40% renewable energy by 2025, 50% renewable energy by 2030, and 80% renewable energy by 2040 for investor-owned utilities and by 2050 for rural electric cooperatives. While the renewable and zero-carbon benchmarks in the ETA are ambitious in their own right, this law gained national recognition for its community transition assistance. The ETA establishes three new funds that send a clear message that New Mexico will not leave behind its communities which are impacted by a transition away from coal.

While we work to implement our ambitious policy goals, EMNRD also has serious rebuilding to do. Budget cuts and competition with private industry resulted in a department with a high vacancy rate and difficulty retaining staff. While we still have work to do, this year we appointed strong leaders to head our divisions and implemented new strategies to recruit and retain talented staff.

EMNRD hosted a number of significant events this year including public stakeholder meetings on methane regulations (in partnership with NMED), the kick-off of our State Parks' *Next Generation of Adventure* campaign at Hyde Memorial State Park, and a signing ceremony with the Governor and the Chief of the US Forest Service to sign a Shared Stewardship Agreement.

EMNRD is connecting with New Mexico communities more than ever before. This is perhaps most apparent in our updated and strengthened policy on Tribal consultation. In addition, I have traveled the state, from oil and gas facilities in Southeastern New Mexico to the outdoor economics conference and a copper mine in Silver City, from the Farmington area for energy and forestry meetings to Clayton Lake State Park's dinosaur tracks, and parts in between. EMNRD is constantly seeking new partnerships and ways to create opportunities and solve problems for New Mexicans.

2019 has been a year of change and progress at EMNRD. I'm proud to present the work we've done over the past calendar year in this Annual Report.

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.

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.

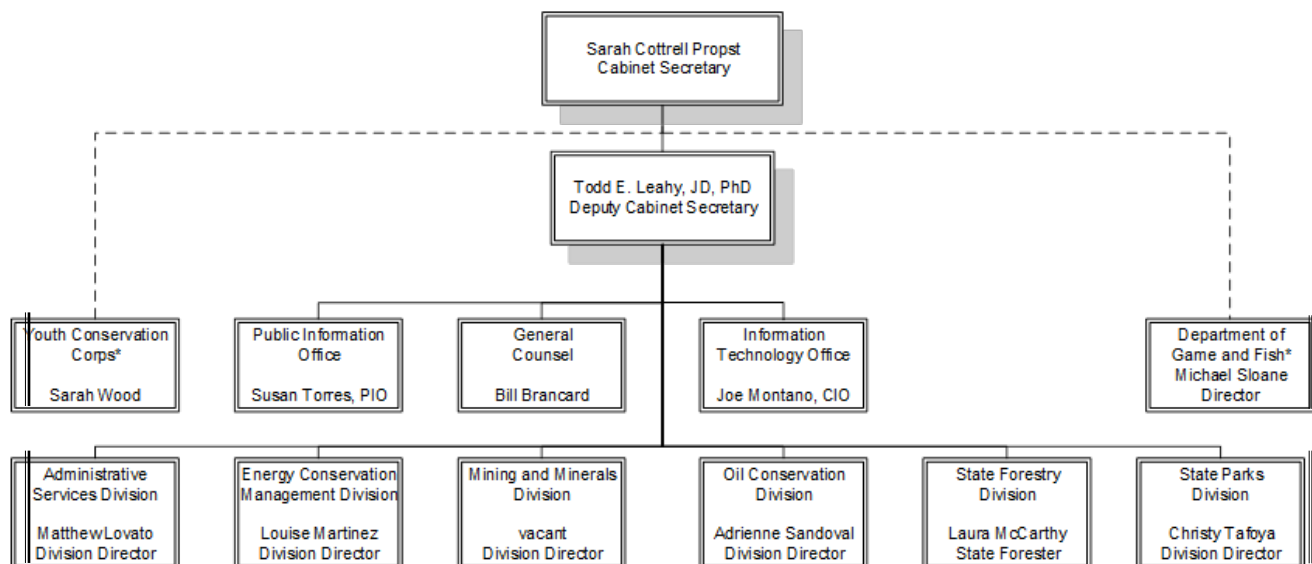
Information and Technology Office

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.

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



2019 has been an exciting and productive year for our division as we continue to administer energy efficiency, renewable energy, and alternative fuel programs. These programs contribute to two of our Governor's priorities: supporting our state climate goals and growing and diversifying our economy.

New Mexico's vast renewable energy resources can diversify and stimulate our state's energy-based economy for decades and even centuries to come. Nationally, New Mexico ranks 2nd for solar energy production potential, 11th for electricity generation from wind, and has significant geothermal resources. Geothermal sources currently provide 10 megawatts (MW) of dispatchable power to the grid.

We started the year providing technical expertise and input to EMNRD's leadership on legislation related to renewable energy, energy efficiency, and electric vehicles. Our team then carried this momentum into our ongoing work. ECMD's technical support on renewable energy projects throughout the life of this program has led to 30 state, local, and tribal government entities installing 5.4 MW of solar, with an additional 3.7 MW in the planning stage. This activity sets an example for renewable development and energy efficiency upgrades across New Mexico.

Our Energy Savings Performance Contracting program has secured over 48 thousand MWh of annual energy savings for public sector partners since the program inception. This was a productive year for this program with over \$121 million in energy audit certifications and guaranteed savings of \$3.8 million per year. A great example of this is our partnership with the General Services Department, which brought in a \$32 million project that is expected to cut utility costs across state government by fifty percent and save \$1.2 million per year. This activity sets an example for renewable development and energy efficiency upgrades across New Mexico.

It has also stimulated job growth: E4theFuture, an industry group, recently reported that New Mexico's 5,636 energy efficiency jobs in 2019 represented nationally leading growth of 11.6% relative to 2018. This growth—in large part due to the energy audits and performance contracts certified by this division—is a clear indicator of how a clean energy economy can create jobs, capital investment, and greater economic development in rural areas. These jobs span multiple skill sets including technicians, laborers, machinists, installers, roofers, insulators and building inspectors—as well as engineers, scientists, and architects working on cutting-edge technology. Moreover, these are local jobs that provide economic benefit to communities that cannot be outsourced.

New Mexico is accelerating our efforts to harness this enormous economic potential. Forward-thinking energy policies are key to making New Mexico a leader in equitable clean energy economic development. The dedicated and talented ECMD staff look forward to building on the accomplishments of 2019 as we expand our work in climate policy, electric vehicle promotion and stakeholder engagement, energy efficiency, and grid modernization.

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

Louise Martinez, ECMD Director



Energy Conservation and Management Division

MISSION: The Energy Conservation and Management Division (ECMD) plans and administers clean energy programs for New Mexico. These programs focus on renewable energy, energy efficiency, and alternative and clean fuel transportation. They promote both economic growth and environmental sustainability in the state. ECMD's programs help to reduce energy consumption and expenditures; generate new jobs and revenues; protect the environment by reducing emissions of air pollutants and greenhouse gases; enhance public health; decrease consumptive water use in power generation; lessen our dependence on foreign oil; and provide greater energy security.

STAFFING

- 15 staff positions
- 3 Professional Engineering staff for technical support and technology evaluation
- 6 Program management staff in energy efficiency, renewable energy, alternative fuels
- 2 WIPP staff for safe transportation of TRU waste
- 4 administration and services

STRATEGIC PRIORITIES

- Implement the Climate Executive Order through the Climate Change Task Force
- Implement the Energy Transition Act
- Support electrification in the transportation sector and expand energy efficiency

ECMD administers statutory programs in the following areas:

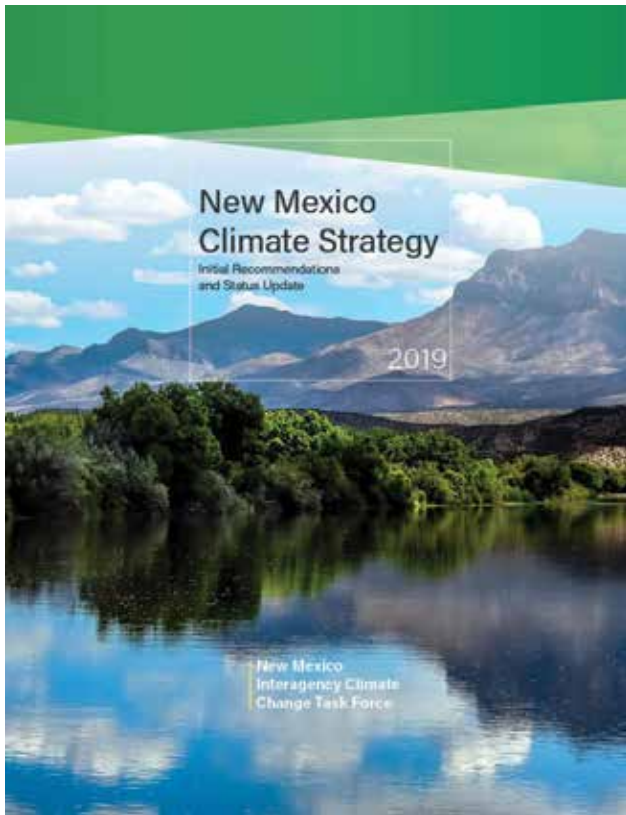
- Renewable Energy: Solar, wind, geothermal, biomass, and energy storage technology applications in all sectors; distributed energy technologies such as residential solar and co-generation (combined heat and power) systems.
- Energy Efficiency: Technology applications such as energy control systems and 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.

Administering and operating these programs requires ECMD to perform policy research and planning, engage in state and federal legislative activity, collect and analyze data, perform public education and outreach, provide technical assistance, administer federal grants for the deployment and demonstration of new technology, coordinate across departments and state agencies, and develop, implement, and evaluate projects with both public and private sector partners.

Climate Policy Action

ECMD is involved in administering several key policies under Governor Michelle Lujan Grisham's Executive Order 2019-003 which addresses Climate Change and Energy Waste Prevention and also established the Interagency Climate Change Task Force. To implement the Climate Executive Order, ECMD hired a Sustainability and Resilience Officer to help support the Climate Task Force and coordinate climate policy work across state agencies. This position has helped other agencies identify and implement climate policy priorities and promote the clean energy programs available within ECMD.

The Climate Change Task Force has met five times this year. ECMD contributed to and reviewed other divisions' and agencies' responses to a statewide climate policy survey which informed the first New Mexico Climate Strategy report of this administration, released November 2019. ECMD staff coordinated, attended, and presented at Task Force meetings, contributing to the momentum and engagement on climate topics throughout the executive branch. ECMD staff have launched several Climate Action Teams which include staff from multiple agencies that will drive implementation of current climate strategy priorities and identify additional efforts.



Convening Experts and the Public on Clean Energy

ECMD specializes in convening conferences and working groups to educate and develop policies on important clean energy topics in New Mexico. In 2019, this included:

Economic Development

Manufacturing, particularly related to renewable energy technologies, is an enormous opportunity for economic development in New Mexico, and ECMD is working to advise, support, and encourage the establishment of this industry here. A recent study conducted by the American Jobs Project identified advanced solar technology manufacturing as the primary industry for future development in New Mexico. The NM Energy Manufacturing Consortium and the NM Energy Manufacturing Institute are working to create an advanced solar energy manufacturing cluster in New Mexico with the goal of augmenting the state's vast energy extraction industry with opportunities for manufacturing. ECMD participated in the group's first conference on September 19, 2019 to discuss business and technology challenges, trends, and opportunities in major areas of energy applications.

Energy Efficiency Working Group

This group, administered by ECMD, is a platform for local and state energy efficiency experts to meet to discuss the latest clean energy technologies, programs, and activities. The group also provides opportunities to visit clean energy projects using emerging technologies. In 2019, for example, the group visited two affordable, energy efficient housing complexes in Albuquerque, projects that received LEED Platinum ratings and sustainable building tax credits for each unit.

Renewable Energy Storage Working Group

ECMD hosts the Renewable Energy Storage Working Group, a gathering of diverse energy professionals to explore the latest on energy storage technologies, policies, and practices. This year the group focused on energy storage systems and emerging battery storage capacity. In 2020, the group will expand the scope of its research to fully address the many changes occurring in the electricity sector. This expansion will involve the formation of a Grid Modernization Group, hosted by ECMD, where public and private entities can discuss best practices for generation, transmission, distribution, and regulation in a world of increasing renewable resources.

State Grid Modernization Retreat

During the summer of 2019, ECMD applied for and was selected as a recipient of a National Governors Association Center for Best Practices State Grid Modernization Retreat. The retreat was held on December 12, 2019 in Santa Fe and focused on strategies for a modernized electric grid in the most affordable, reliable, and equitable way. The participants explored topics including how to finance electricity system upgrades and new technology deployment, western electricity markets, energy equity and affordability for underserved communities, battery storage, and electric vehicle grid impacts.





Solar Energy Improvement Assessments (HB 440)

The Solar Energy Improvement Assessments (HB 440) law expands access to county solar energy improvement special assessments, in which counties pay the up-front cost of renewable energy systems that individuals pay back through property tax assessments. This law makes it easier for counties to launch PACE and C-PACE programs. In other states such as California, PACE and C-PACE have been key drivers for distributed solar development.

Efficient Use of Energy Act Changes (HB 291)

The Efficient Use of Energy Act Changes (HB 291) extends electric utilities' energy efficiency program requirements, ensuring continued utility investment in making our communities more efficient.

PRC Application for Vehicle Electricity (HB 521)

Under the Public Regulation Commission (PRC) Application for Vehicle Electricity (HB 521) law, utilities are required to plan for electric vehicle infrastructure integration and submit detailed filings every two years with the PRC to make it happen.

Memorials

Senate Memorial 86 encouraged state agencies to support updating the New Mexico Energy Conservation Code from the 2009 energy conservation code currently in effect that is not up to national standards.

Senate Memorial 66 requested EMNRD to work with diverse stakeholders including the State Land Office, the U.S. Bureau of Land Management, industry, and counties to study how the state may best require assurances for the decommissioning of wind turbines and the restoration of lands used for wind turbine and wind farm siting.

House Memorial 71 requested EMNRD to establish a task force to study the efficacy of smart, hybrid microgrids to accelerate the implementation of a mix of energy that emphasizes clean, renewable energy. It was amended to shift the responsibility to the Renewable Energy Transmission Authority.

Legislative Appropriations included one-time funding for the Renewable Energy Transmission Authority (RETA) to conduct a study on transmission and energy storage needs for development of renewable energy resources in New Mexico.

Legislative Overview:

The 2019 legislative session was a productive year for legislation related to renewable energy, energy efficiency, electric vehicles, and infrastructure. ECMD staff provided technical assistance, testimony, and information to the legislature. Key legislation that passed included:

Energy Transition Act (SB 489)

The landmark Energy Transition Act (ETA) (SB 489) set a clear and comprehensive electricity policy for the state. All providers must deploy 50% renewable energy by 2030. Investor-owned utilities must deploy 80% renewable energy generation by 2040 and 100% carbon-free generation by 2045; rural electric co-ops must meet the same goals by 2050. The law also establishes three transition funds to help communities and our workforce adapt to shifts in power supply. The ETA has brought national attention to New Mexico both for its ambitious energy goals and for the assistance funds for impacted communities.

Tax Credit Programs:

ECMD is responsible for administering technical aspects of several statewide tax credit programs.

Sustainable Building Tax Credit

The new Sustainable Building Tax Credit program was signed into law in April 2015 (Senate Bill 279), replacing the program that had been in place since 2007. The program provides a tax credit of \$6.50 per square foot and caps the eligible size per home at 2,000 square feet. Water conserving features are required: each home must have indoor plumbing fixtures and water-using appliances that have average flow rates equal to or lower than EPA's "WaterSense" certification. In addition, the credit requires a water line that can be connected to a drip irrigation system in the front and back of a residence in any potential landscaping areas. In FY2019, ECMD reports the following results:

- 832 tax certificates were issued, valued at \$4,999,529.50, just below the annual cap of \$5 million. The average credit was \$6,009.05.
- 550 certificates went to stick-built homes, 266 to multifamily units, and 16 to manufactured homes.
- Two homes achieved Build Green New Mexico Emerald status, while 260 units are rated as LEED Platinum. Both are the highest levels possible. 101 other homes achieved Gold status, while 453 homes received Silver status. The 16 manufactured homes achieved Energy Star status.

Solar Market Development Tax Credit

The New Mexico Solar Market Development Tax Credit program failed to be renewed by the legislature three years ago, and EMNRD is supporting its reinstatement with legislation in 2020. ECMD continued to provide historical informational support concerning this tax credit to New Mexico residents and provided statistics and feedback on the prior program. The distributed solar industry is reporting significant work backlog in the fall of 2019 as many New Mexico citizens purchased solar energy systems before the ramp-down of the Federal Solar Investment Tax Credit from 30 percent to 26 percent at the end of 2019.



Arroyo Vista Apartments, a LEED Platinum multifamily housing project located in the Northeast Heights of Albuquerque.

Renewable Energy Production Tax Credit

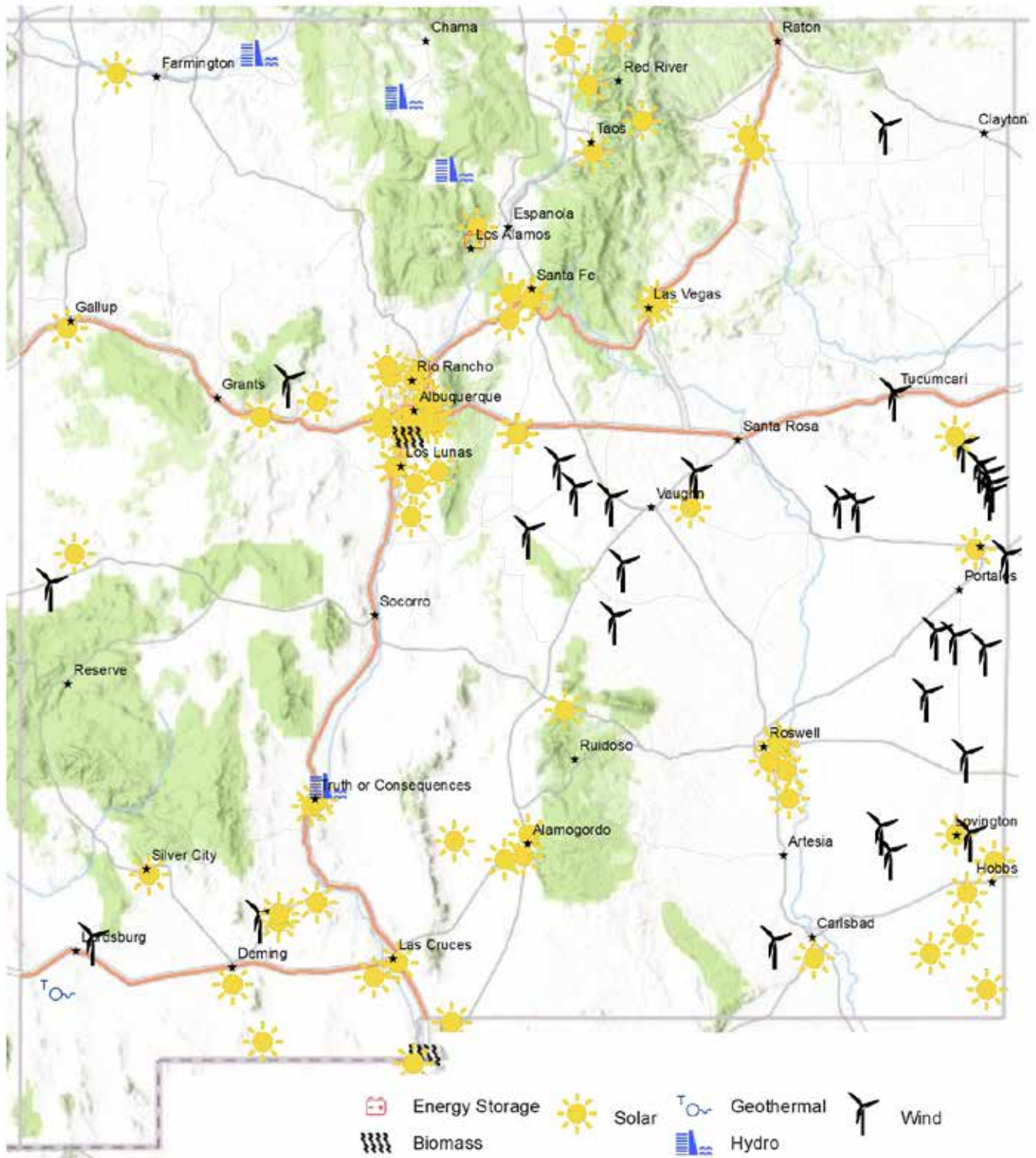
The Renewable Energy Production Tax Credit (REPTC) provided tax credit incentives utility-scale renewable energy development, including wind, biomass, and solar facilities. From the inception of the program and up to the expiration date of January 1, 2018 for receipt of applications, EMNRD reviewed a total of 76 projects that are currently in different stages of eligibility for receipt of the tax credit (see chart below). While the legislature did not renew this tax credit program, the credits and wait-list for credits still need to be managed by ECMD until 2028 because it is a ten-year credit.

WIND	Number of Projects	MW Production Capacity
Post (no longer eligible for credit)	4	494.0
Current	11	991.5
Waiting to be certified	5	589.9
Total	20	2,074.5

Solar	Number of Projects	MW Production Capacity
Post (no longer eligible for credit)	0	0
Current	18	201.0
Waiting to be certified	38	1104.0
Total	56	1305.0



New Mexico Clean Energy Resources Map



Program Accomplishments: Improving Energy Efficiency in the Built Environment

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

Energy Savings Performance Contracting

As part of our state's climate and energy goals, ECMD is helping to make buildings across New Mexico state government more energy-efficient and water-efficient. Energy Savings Performance Contracting (ESPC) has been available to New Mexico's governmental agencies since 1993 through the Public Facility Energy Efficiency & Water Conservation Act [NMSA 1978, 6-23]. Paying for energy efficiency upgrades that save money in the long-term can be difficult for government agencies that are already stretched thin in the short-term. New Mexico's governmental agencies may finance energy-saving facility improvements using future energy savings created by energy efficiency measures. The General Services Department is the first New Mexico state government agency to enter an ESPC project using the Energy Efficiency and Renewable Energy Bonding Act and with leveraged funding from a Capital Outlay appropriation.

To make this program more robust, ECMD has added a third-party review process to the program. This third-party reviewer provides guidance and quality assurance to government agencies through the ESPC process. ECMD has completed the cumulative review of \$204 million in ESPC projects, with a total annual guaranteed energy cost savings of \$9.4 million. In addition, \$31.2 million in renewable energy projects using power purchase agreement (PPA) have been completed, equaling 11.9 million kWh of electricity generated per year. This year, ECMD issued requests for proposals to update the pre-qualified list of Energy Service Companies and third-party review services. Nine Energy Services Companies are now on New Mexico's pre-qualified list and four professional engineering companies were selected to continue to support performance contracting project oversight and improve energy cost savings as the interest in this program expands throughout the state's building infrastructure.

In 2019, the General Services Department moved forward with a comprehensive performance contracting project. ECMD reviewed and certified the \$32 million project which included measures to improve energy efficiency and to use renewable energy in 30 buildings in Santa Fe. This project will reduce energy costs saving the state \$1.1 million per year while saving energy and reducing global greenhouse emissions. With this project ECMD issued energy audit certification for \$121.4 million in energy performance contracts.

As part of this accomplishment, Cabinet Secretary Sarah Cottrell Propst was honored to accept the Corporate Energy Management award on behalf of the State of New Mexico at the first joint New Mexico Association of Energy Engineers and New Mexico Energy Services Coalition Conference. ECMD Director Louise Martinez was recognized with a Lifetime Achievement Award for her dedication to a sustainable future, expanding energy efficiency and renewable energy throughout her career.

New Mexico Energy Conservation Code

New Mexico's energy conservation code is several cycles out of date, and Governor Lujan Grisham directed that it be updated under the Climate Executive Order. ECMD, the Construction Industries Division (CID) of the Regulation and Licensing Department, the residential and commercial construction industry, and various NGOs have been engaged in discussing a major update. After presentations from Pacific Northwest National Laboratory (PNNL), ECMD, and the staff of the International Code Council (ICC), ECMD staff reviewed energy codes, comparing their potential costs, greenhouse gas reductions, and energy savings benefits. The division concluded that it is justified to adopt the 2018 International Energy Conservation Code (2018 IECC) in New Mexico, updating our code from the 2009 version. A twelve-member committee including two ECMD staff started the official review of the 2018 IECC for possible incorporation into a revised New Mexico Energy Conservation Code. This Technical Advisory Committee (TAC) will report back to the Construction Industries Division and the Construction Industry Commission (CIC) its findings and recommendations for updating the state's energy code. The code is expected to be adopted in the next few months and will go into effect in July of 2020, after public hearings.

Financial Resiliency through Energy Efficiency (FREE) Project

In February 2019, ECMD was awarded a two-year federal grant from the U.S. Department of Energy (DOE) to advance energy efficiency practices that improve energy affordability, reliability, and resiliency throughout the state. The project will develop and deploy an implementation model for increasing energy efficiency while creating positive revenue streams for the State of New Mexico. This robust tool will help determine the path forward for energy efficiency practices in New Mexico, helping the state to reach its goal of becoming a top 20 state for energy efficiency by 2020. ECMD recently hired an economist who is overseeing the grant.

Whole-building Investment for Sustainable Efficiency

The Whole-building Investment for Sustainable Efficiency (WISE) Program's purpose is to achieve energy savings in public buildings. The program was seeded through a U.S. Department of Energy (DOE) federal competitive grant that provided for strategic planning support via the WISE Team of EMNRD, General Services Department (GSD), and New Mexico Finance Authority (NMFA). The joint effort established an energy efficiency process focused on a whole-building evaluation approach. The goal: a 20 percent reduction in state government facilities by 2020 compared to a 2011 baseline energy usage.

Since this initial project and completion of the federal grant project scope, work has continued to promote energy efficiency and to identify financing mechanisms that can support improvement of public facility inventories. The WISE program's sustainability is supported by two state statutes that allow financing of public buildings retrofits. This year the General Service Department started to utilize the Public Building Energy Efficiency and Water Conservation Act to improve their infrastructure and reduce energy costs.

Making Solar Power More Accessible:

PV on a Pole™

EMNRD developed the concept of PV on a Pole™, which is a 1.3 kW solar array mounted on a pole that is screw-mounted into the ground. PV on a Pole™ is affordable and does not require a sturdy roof for mounting. Every sixth New Mexican lives in



Victor Perez with his newly installed PV on a Pole.

manufactured housing, the second highest rate in the nation, and this program provides an alternative to a traditional roof-top solar installation.

Program partners for PV on a Pole™ include Kit Carson Electric Cooperative, Jemez Mountains Electric Cooperative, City of Las Cruces, Clean Energy States Alliance, Cornerstones Community Alliance, Nambe Pueblo, and Picuris Pueblo. ECMD and program partners continue to discuss possible financing options to go along with the technical breakthrough promised by PV on a Pole™ including: (1) involving mobile home dealers in offering the pole as part of a package when selling new homes, and (2) having rural electric coops and other utilities offer on-bill financing, along with providing installation services.

The first two installations were at Nambe Pueblo in late 2018 and early 2019. The projected commercial price is under \$5,000. The two Nambe units passed 2 MWh of energy production during the summer of 2019, making the owners happy with savings on their electric bills. Nevertheless, challenges remain in finding industry investment for PV on a Pole™ to be standardized, mass-produced, and easy to deploy.

Microgrid Pilot Projects

Energy Resilience for State Forestry's Cimarron District Office

In 2019, ECMD worked with EMNRD's Forestry Division to design and develop a solar-plus-storage installation for the Cimarron Forestry District Office. In 2018, the district office was cut off from the electrical grid for four days during the Ute Park fire. This fire event crystallized the need for a solar-plus-storage system that would ensure the District Office remains powered during future fire events. The installation was completed on time and was ready for the 2019 fire season. This system provides all the energy required for the district office computers and supporting equipment with solar power. During the summer, the system sells some excess energy back to Kit Carson Electric Cooperative. In the case of an emergency event, the Cimarron District Office is now equipped with a resilient power system that can provide all the energy the Office requires to operate, using only renewable energy sources.

Energy Microgrid at Hyde Memorial State Park

Due to a damaged and inoperative electric supply line to isolated Hyde Memorial State Park, ECMD worked with EMNRD's State Parks Division to expand renewable energy in our state parks. ECMD worked with the State Parks Division to hire an energy services performance contractor to conduct an investment-grade audit evaluating opportunities for energy efficiency and off-grid renewable energy production and storage technology. ECMD provided direction and funded a feasibility study along with the State Parks Division to hire an engineering firm, and in late 2019, ECMD published a request for letters of interest in developing this project under an Energy Services Contract with the State of New Mexico. The project will be designed in late 2019, with construction expected to start in early 2020.

Electric Vehicles and Alternative Transportation Fuels

ECMD is responsible for policy development, technical expertise, and various statutory mandates associated with electric vehicles and charging infrastructure, as well as alternative transportation fuels.

Electric Vehicles and Infrastructure

In 2019, ECMD provided technical assistance to the General Services Department to implement a \$1 million purchase of battery only electric vehicles (BEV) and \$1.5 million to purchase electric vehicles service equipment (EVSE). The state currently owns one BEV, a 2017 Chevrolet Bolt purchased by EMNRD. This funding will provide close to 30 new BEVs for the State of New Mexico's government fleet and electric vehicle (EV) charging infrastructure for the 22 state campuses in Santa Fe. There are currently two EV charging stations located on state owned property. One is located at the Wendell Chino building in Santa Fe and the other is at Bluewater State Park near Grants. Both charging stations are Level 2 EV Charge Point smart chargers with two charging cables.

To assist with the state-wide conversion to EVs in and outside of state government, EMNRD convened a an EV Working Group in October 2019. The meeting drew attendance from both public and private sector entities from across the state, as well a non-governmental organizations and the general public. Participants will provide guidance, lessons learned, technology advancements, EV-related projects, and potential incentives and legislative proposals.

In 2019, New Mexico continued our work with Regional Electric Vehicle West (REV West), a regional workgroup, to place EV charging infrastructure along the major interstate corridors in each participating state. In December 2019, Governor Lujan Grisham recommitted to REV West with a new Memorandum of Understanding and a commitment to developing electric vehicle charging infrastructure along major highways across the West.

Intermountain West EV Corridor



The states and their corridors included in the MOU are:

Colorado: Interstates 25, 70 & 76

Arizona: Interstates 8, 10, 15, 17, 19 & 40

Utah: Interstates 15, 70, 80 & 84

New Mexico: Interstates 10, 25 & 40

Nevada: Interstates 15 & 80

Idaho: Interstates 15, 84, 86 & 90

Wyoming: Interstates 25, 80 & 90

Montana: Interstates 15, 90 & 94

Throughout New Mexico there are 80 publicly available EV charging stations with 204 charging outlets open to the public. In 2019, 19 new charging stations, both level 2 and DC fast charging, were installed at businesses, public parking areas, and fueling stations across New Mexico.

KNOW YOUR EV CHARGING STATIONS

AC Level One



VOLTAGE

120v 1-Phase AC

AMPS

12–16 Amps

CHARGING LOADS

1.4 to 1.9 kW

CHARGE TIME FOR VEHICLE

3–5 Miles of Range Per Hour

AC Level Two



VOLTAGE

208V or 240V 1-Phase AC

AMPS

12–80 Amps (Typ. 32 Amps)

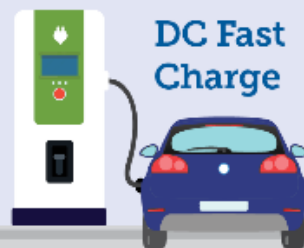
CHARGING LOADS

2.5 to 19.2 kW (Typ. 7 kW)

CHARGE TIME FOR VEHICLE

10–20 Miles of Range Per Hour

DC Fast Charge



VOLTAGE

208V or 480V 3-Phase AC

AMPS

<125 Amps (Typ. 60 Amps)

CHARGING LOADS

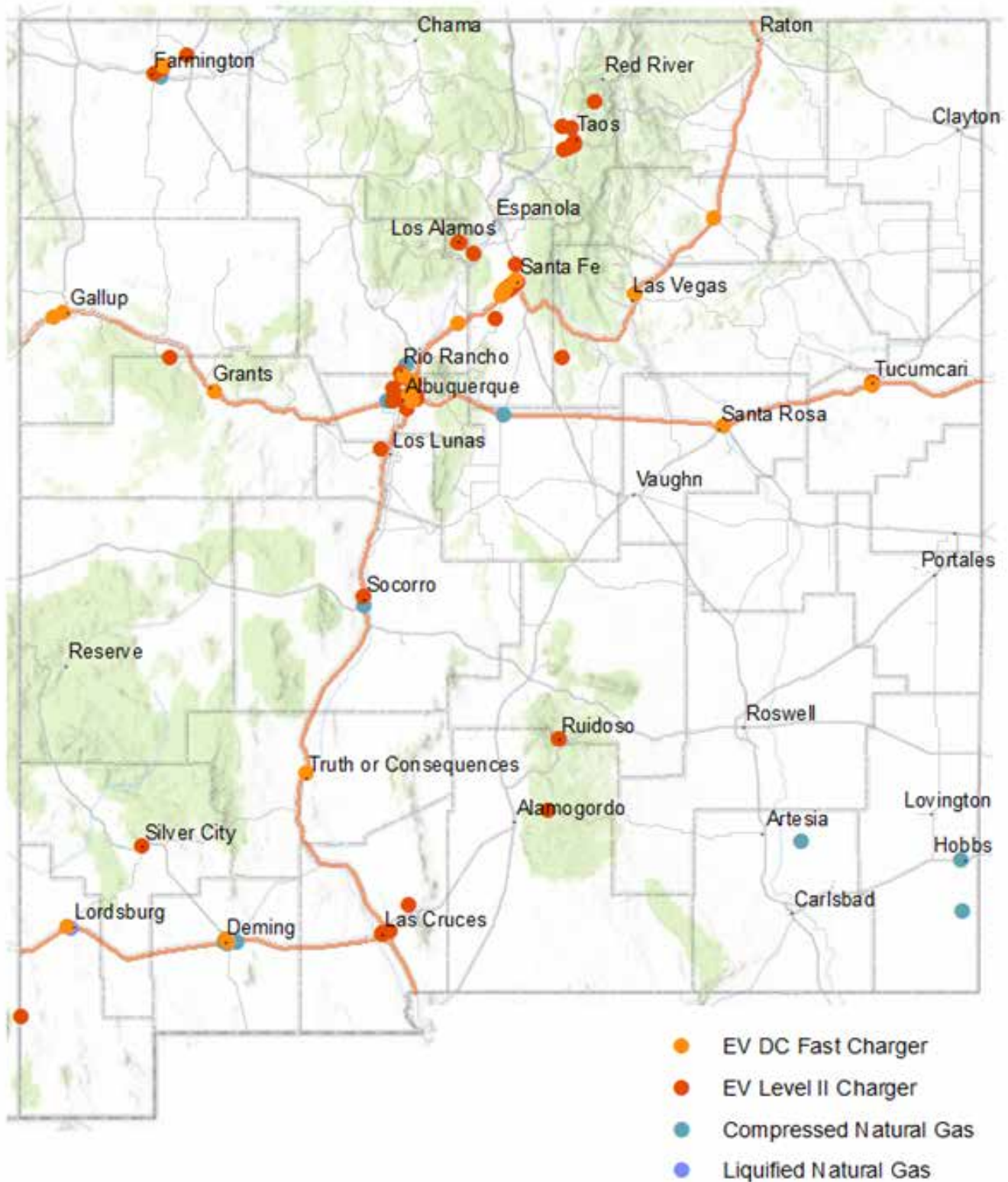
<90 kW (Typ. 50 kW)

CHARGE TIME FOR VEHICLE

80% Charge in 20–30 Minutes

Source: Utahev.org

Electric and Natural Gas Vehicle Fueling Stations



Biodiesel

ECMD collaborates with the New Mexico Department of Agriculture (NMDA) on the state biodiesel mandate, which was adopted by the New Mexico Legislature in 2007. The mandate is under the Petroleum Products Act (57-19-28 through 57-19-29 NMSA 1978). The mandate requires that, “after July 1, 2010 and before July 1, 2012 all diesel fuel sold to state agencies, political subdivisions of the state and public schools for use in motor vehicles on the streets and highways of this state shall contain five percent biodiesel.” The mandate also requires that, “on or after July 1, 2012, all diesel fuel sold to consumers for use in motor vehicles on the streets and highways of this state shall contain five percent biodiesel.” Both of these mandates can be temporarily suspended for up to six months by the NMDA “if, in consultation with the Secretary of Energy, Minerals and Natural Resources and pursuant to regular, periodic monitoring, the director determines that sufficient amounts of biodiesel are not available to meet the requirements of the Petroleum Products Act or that the price of the biodiesel blend significantly exceeds the price of diesel fuel for at least two months.”

The biodiesel mandate has been suspended every six months since it was adopted in 2007. Presently, there are no biodiesel refining plants located in the state. The table below shows the biodiesel gallons use reported to the New Mexico Tax and Revenue Department and the biodiesel gallons required to meet the mandate under the Petroleum Products Act for 2017-2018 and the first quarter of 2019.

2017-2018 and 2019 First Quarter (Q1) Combined Fuel Tax Distribution Biodiesel Report*		
	Biodiesel Gallons Reported	Biodiesel Gallons Required
2017	14,904,347	26,091,704
2018	16,508,941	27,812,896
2019 (Q1)	4,113,172	7,266,500

Waste Isolation Pilot Plant (WIPP) Transportation Program

EMNRD has partial oversight of the Cooperative Agreement and annual funding for the state Waste Isolation Pilot Plant (WIPP) transportation program provided by DOE, and this oversight is housed within ECMD. The Cooperative Agreement is a partnership between DOE, EMNRD, and various state agencies charged with ensuring the safe and uneventful transportation of transuranic (TRU) waste in New Mexico. EMNRD and four other agencies make up the working group and provide the following:

- The Department of Homeland Security and Emergency Management (DHSEM) provides training to local communities along the WIPP route as well as assuring citizens of state readiness;
- The Department of Public Safety (DPS) provides point of origin inspections for all shipments, Level VI inspections for TRU waste entering the state, training of emergency response officers (ERO) for hazmat situations, and management of the state dosimetry program;
- The Department of Health provides donning and doffing of hazmat suits, and decontamination of radiation training to hospitals and clinics along the WIPP route to include instruments and calibration;

- The New Mexico Environment Department provides sampling data along the WIPP route and assists the DOH in training hospitals and clinics. Activities not included in the WIPP Transportation Cooperative Agreement funding include the responsibility for all permitting and licensing of the WIPP site. This includes issuing the final decision on the Hazardous Waste Facility permit to the US Department of Energy (DOE) for the storage and disposal of transuranic mixed waste. NMED provides regulatory oversight of the hazardous waste facility permit to ensure compliance which includes review and issuance of permit modifications, and observation, review and approval of generator site audits.
- The State Fire Marshal's Office by statute provides training to fire services in hazmat awareness and operations along the WIPP route; and the Department of Transportation has statutory authority for all routing of WIPP shipments in New Mexico.

EMNRD is working with the City of Raton Fire Department and Colfax County Emergency Manager to plan the next WIPP Transportation Exercises (WIPPTREX). The purpose of each exercise is to ensure that training and response funded under the Cooperative Agreement meet the goals and objectives of the WIPP Transportation Safety Plan Implementation Guide.



Through the Cooperative Agreement and EMNRD oversight, since the 2017 Shipment restart the WIPP program has:

- ✓ Trained over 9,000 responders, medical personnel, and volunteers
- ✓ Provided over 100,000 radiation and hazardous material training hours
- ✓ Funded 250 NMSP officers to be classified as Emergency Response Officer
- ✓ Provided funding to certify six officers as trainers in Critical Incident Management (CIM)
- ✓ Assisted in training over 195 State Police Officers in CIM
- ✓ Provided funding for 60 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 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
- ✓ Completed the first in-state compliance review of the shipping carrier – placed on a biennial review process (due March 2020)
- ✓ Completed two full scale WIPP Transportation exercise (Santa Fe County and Roswell/Chaves County); currently working with City of Raton and Colfax County for a 2020 exercise.

In April 2017, the DOE restarted shipments to the WIPP. ECMD continues to monitor those shipments ensuring that each one is tracked in real-time. Currently, the projected weekly shipments will range between five and eight and will not exceed seventeen. The DOE has completed over 12,580 shipments to the WIPP, which speaks to the hard work and contributions from each state in the success of the WIPP Transportation Safety Program.

Total inspections conducted on WIPP shipments in New Mexico since the program's 2017 restart:

- Only one shipment marked Out of Service due to low tire pressure on one wheel
- No accidents or incidents in New Mexico
- Model program for WIPP Transportation Safety across the nation

Since 2017 Restart of WIPP Shipments	
Shipper Site	Shipments Sent to WIPP
Argonne National Laboratory-E	2
Idaho National Laboratory	510
Los Alamos National Laboratory	25 (Point of Origin)
Oak Ridge National Laboratory	82
Savannah River Site	12
Waste Control Specialists	33 (Observed Point of Origin)
Total	664 Inspections

ECMD continues to work closely with NM Department of Transportation (NMDOT) to review the primary and alternate designated routes to the WIPP for the National TRU Program Southern Transportation Corridor. Currently, shipments from Savannah River Site and Oak Ridge National Laboratories use the designated alternate Southern Corridor approach entering New Mexico on US 176 from Andrews, Texas, proceeding south on NM 18, and then west on NM 128 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.

Mining and Minerals Division



The Mining and Minerals Division (MMD) serves the public by ensuring the responsible use and reclamation of land impacted by mining. We encourage innovative approaches to mine reclamation and promote the involvement of the public in mining issues.

Mining has played a big part in New Mexico's historical past. Native Americans were extracting turquoise and utilizing native copper before Spanish explorers arrived in the 1500s. Numerous towns were established throughout

New Mexico based on local mining activities. Some, such as Lake Valley, Shakespeare, and Dawson, became ghost towns as mining activity changed – but many evolved and became the cities and towns we know today.

Those historical mining operations might have been beneficial to local economies, but when their value played out they were often left unsafeguarded and unreclaimed. Today there are laws in place to ensure that mining operations clean up after themselves. The federal Surface Mining Reclamation and Control Act (SMCRA) is a law that assures the proper operation and reclamation of coal mines. The New Mexico Mining Act does the same with most hard rock mines. It allows technical staff and the public to scrutinize mine reclamation plans and make sure there will be no lingering environmental problems after the mining has ended. Requiring and keeping adequate financial assurance from operators is the key to making this happen.

MMD staff are technical experts who take their oversight responsibilities seriously. Whether it be protecting wildlife and historical resources while safeguarding abandoned mines, or making sure proper vegetation will grow over reclaimed waste rock piles, MMD staff are up to the task.

In 2019, MMD bid a happy retirement to long-time director Fernando Martinez. An accomplished leader who brought out the best in his employees, Fernando decided it was time for a new challenge and accepted the role of Executive Director of the Renewable Energy Transmission Authority in the fall. As of print time, EMNRD is still looking for a new Director who will have large shoes to fill. Congratulations to Fernando and our thanks for his many years of service to EMNRD.

I hope you enjoy reviewing the following information on our initiatives, accomplishments, and mineral statistics.

A handwritten signature in black ink that reads "Michael W. Tompson". The signature is written in a cursive, flowing style.

Mike Tompson,
Interim Division Director, MMD





Mining and Minerals Division

MISSION: The Mining and Minerals Division (MMD) seeks to promote the public trust by ensuring the responsible utilization, conservation, reclamation, and safeguarding of land and resources affected by mining. MMD strives to make New Mexico a leader in responsible mine operation and reclamation. 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 operators.

STAFFING

27 staff positions:

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

STRATEGIC PRIORITIES

- Ensure responsible mine reclamation to bring lands back to beneficial use
- Protect the public from physical and environmental hazards of abandoned mines
- Develop proactive mining and mine reclamation initiatives to ensure safeguarding of mine sites

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 hard rock and coal mining, mine registration and safeguarding, and annual industry reporting. The Director represents New Mexico on the Interstate Mining Compact Commission, serves on the Rio Grande Trails Commission, and is an ex-officio member of the New Mexico Mining Safety Board.

ABANDONED MINE LAND PROGRAM: The Abandoned Mine Land Program (AMLPL) identifies and abates dangerous abandoned mine areas across the state. MMD estimates that more than 15,000 hazardous mine openings remain unreclaimed throughout New Mexico. AMLP's primary source of funding is the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE) through the Surface Mining Control and



Reclamation Act and, secondarily, the U.S. Bureau of Land Management (BLM).

Coal Projects:

During 2019, the AMLP initiated geotechnical investigations and hydrology studies, created conceptual and final designs, conducted public outreach, and completed Clean Water Act permit applications and other compliance activities for construction of several high-priority coal remediation projects in Allison, Gallup, Madrid, and Vermejo Park Ranch, with assistance from several contractors.

Following emergency subsidence abatement work in Allison (McKinley County) during 2018, the AMLP is completing geotechnical and hydrologic studies to evaluate, and design, if necessary, a comprehensive

solution to remediate hazardous conditions caused by open subsidence features above an abandoned underground coal mine. Another McKinley County project, near Gallup, is investigating solutions to remediate five coal mine fires, a dangerous highwall adjacent to a car dealership, and a subsided mine adit (a horizontal passage leading into a mine for the purposes of access or drainage) near a public park. In Madrid, the AMLP is working with Santa Fe County, New Mexico Department of Transportation, and the public to complete conceptual designs for the Madrid Stormwater and Erosion Safety Project that addresses property damage, flooding, sedimentation, and fire safety issues resulting from historical coal mining.

Additional coal projects are underway in the Raton area in Colfax County. On Vermejo Park Ranch, the AMLP completed design and bid specifications for a high-priority coal reclamation project in Tin Pan Canyon; construction is expected to begin in the spring of 2020.

Non-Coal Projects:

The BLM remains a strong programmatic partner with MMD, providing funding for abandoned hard rock mine reclamation that supplements AMLP's annual OSMRE grants. Through a Memorandum of Understanding (MOU) and Cooperative Agreement, actions funded by the BLM include site reconnaissance and assessments, mapping, archaeological surveys, environmental assessments and other environmental clearance requirements,

radiological surveys, engineering and reclamation design, construction and post-completion monitoring and maintenance.

In 2019, the AMLP finalized a new five-year MOU and submitted a new Cooperative Agreement application to BLM for up to \$5 million dollars to safeguard non-coal mines on BLM-managed lands. During the past year, the BLM and AMLP partnered to complete mine safeguarding construction activities on the Cookes Peak West Phase IIIa Project, San Pedro Mine Safeguard Project Phase II, Lemitar Mine Safeguarding Project Phase II, and the Hansonburg Mine Safeguarding Project Phase I.

In the Cookes Peak Mining District in Luna County, northeast of Deming, the AMLP completed construction of the Cookes Peak West Phase IIIa project in May 2019. This was a joint OSMRE/BLM-funded project in an area of increased public recreation where approximately 300 hazardous mine features require remediation. The scope of work included the safeguarding of 38 mine features: backfilling mine features using mine waste rock and other nearby material, several of which required backfilling by hand; construction of polyurethane foam plugs covered with hand backfill using mine waste rock and other nearby material; and construction of bat-compatible gates. The project area is extremely steep and rugged and lies within and adjacent to a BLM Wilderness Study Area, limiting use of mechanical equipment with the potential to cause ground disturbance. The services of a helicopter aided in the installation of the gated closures and completed the project with minimal disturbance.



Safety talk with helicopter and ground crews



Bat gate with an access opening on the Blanchard Mine

The AMLP continues to inventory and develop coal mine reclamation projects in areas of New Mexico impacted by historic mining including Gallup, Raton, and Madrid, as well as non-coal safeguarding projects in the Boston Hill (Silver City), New Placers (San Pedro Mountains), Florida Mountains, Tres Hermanas, Orogrande, Picuris, Magdalena, Cookes Peak, and Magdalena mining districts.

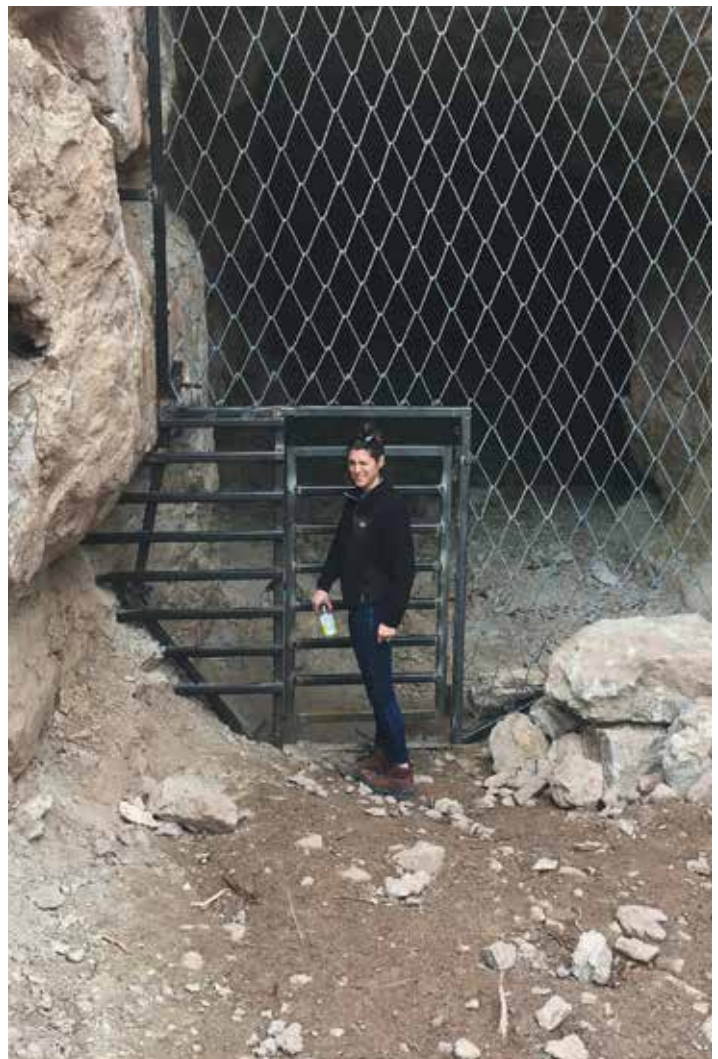
COAL MINE RECLAMATION PROGRAM: The Coal Mine Reclamation Program enforces regulations and inspects all coal mines on federal, state, and private lands within New Mexico, excluding Indian lands. The program oversees more than 80,000 acres of permitted mine lands and over \$280 million in financial assurance. New Mexico has 100 percent third-party surety bonds for all six actively permitted coal mines, three of which are in complete reclamation.

In the past, MMD allowed coal mines to be self-bonded; however, in the last several years, parent companies of four of the Coal Program's six permitted mines filed Chapter 11 Bankruptcy. Although all four companies emerged from bankruptcy, with the current uncertainty in coal mining, MMD no longer allows self-bonding and now requires cash trusts or third-party surety insurance companies as the guarantor. This practice ensures there is enough bond money for the state to have a mine fully reclaimed in the event an operator abandons the mine before reclamation is completed.

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 release upon successful establishment of revegetation (Phase II), and after the minimum 10-year liability period and successful demonstration of the reclamation's capability to support the post mine land use (Phase III).

Evaluation of bond release applications continues to be a significant part of the workload for the Coal Program. All current bond release applications are posted on MMD's website and the documents are available to the public. Applications for partial bond releases were received and inspected for Lee Ranch Mine, Phase I of 513 acres; El Segundo Mine, Phase I of 485 acres; Ancho Mine for Phase III of 740 acres; and La Plata Mine Transportation Corridor for Phases II and III of 331 acres.



Installed bat-compatible access gate with steel mesh on the Desert Rose Mine

A court-ordered Environmental Impact Statement was completed for the San Juan Mine near Farmington, the result of a 2009 lawsuit that the federal Office of Surface Mining Reclamation and Enforcement (OSMRE) agreed to settle by redoing the environmental investigation. OSMRE issued its Record of Decision on April 30, 2019, that allows the mine to continue operation as currently permitted, found here in the OSMRE Document Library: <https://www.wrcc.osmre.gov/initiatives/sanJuanMine/documentLibrary.shtm>.

MINE REGISTRATION, REPORTING AND SAFEGUARDING PROGRAM:

This program provides comprehensive information to decision-makers and the public on mineral resources, mine registration, reclamation and safeguarding efforts, legislation, 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 nearly 150 operators for calendar year 2018 is provided in the Mineral Resources section of this report.

MMD provides online web applications to enhance MMD's information dissemination and outreach, and provides daily updated information for New Mexico mines. **MMD Online** provides a link to **Mine Registrations and Permits** 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 kept confidential.) The other MMD Online web application, *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 GIS, Maps and Mine Data page including Active Mines Web Map and Map Gallery: <http://www.emnrd.state.nm.us/MMD/gismapminedata.html>.

Another public outreach component of mine reporting, the **Excellence in Reclamation Award**, was instituted in 1996 to recognize and celebrate excellence and innovation in coal, hard rock and aggregate mine reclamation, abandoned mine land reclamation projects, and other related efforts or initiatives deserving special recognition.



EMNRD Deputy Secretary Todd Leahy presents the award to Tim Fagley, Navajo Transitional Energy Company Chief Operating Officer; Andy Hawkins, Bisti Fuels Company Community Engagement Manager; and Kay Nave-Mark, Bisti Fuels Company Community Engagement Specialist.

The second award was presented to Freeport McMoRan Chino Mines and sub-contractors Borderlands Restoration Network, Gila Watershed Partnership, and Bat Conservation International. Their successful "Agave Roundup in Grant County" project salvaged more than 750 agave plants for use in mine reclamation areas and non-mining areas for the benefit of improved bat habitat and environmental awareness.

Two awards were presented in 2019 for projects and initiatives deserving special recognition. Navajo Transitional Energy Company (NTEC) and North American Coal Corporation – Bisti Fuels Company were honored for their dedication to cultivate interest in mining, reclamation, and STEM-related careers through education, outreach, and community service to help students and residents from the Navajo Nation and surrounding communities.

MINING ACT RECLAMATION PROGRAM (MARP):

MARP regulates, enforces regulations, and inspects all hard rock or mineral mines on federal, state, and private lands within New Mexico. MARP oversees the reclamation of all exploration and extraction activities conducted at all mines and mills, excluding coal, potash, and aggregate mines. As of the end of 2018 (the latest data available due to operator reporting requirements), MARP has permitted approximately 386 mining and exploration projects and holds more than \$715.3 million in financial assurance for active mines and those in reclamation. The overall disturbed acreage under permit with MARP is approximately 26,728 acres as of December 2018. The total number of acres reclaimed since 1994, when the program started, is approximately 7,100 acres.

In 2019, reclamation and remediation continued at the permanently closed Questa Mine in Taos County, a Superfund site. Three agencies (EMNRD, New Mexico Environment Department and U.S. Environmental Protection Agency (EPA)) are working with Chevron Mining Inc. (CMI) to develop reclamation plans and agreements that follow the federal CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) process. As part of the settlement between the U.S. Department of Justice, EPA, and the State of New Mexico, CMI will finance \$143 million in cleanup work at the site. Reclamation and remediation work will continue for a number of years and include demolition of the mill area; construction of a water treatment plant; removal and disposal of old mine waste, or "tailings," along the tailings pipeline corridor (most of that work is completed); and remediation of Eagle Rock Lake.

A number of pilot projects are underway at the Questa Superfund site to help identify best available reclamation technologies. A demonstration project to place approximately one million cubic yards of cover material over 275 acres of a 1,000-acre tailings facility will inform the development of a methodology to convert run-of-mine rock into viable cover material that results in a functional store and release cover. In another area of the mine, CMI is operating a water treatment plant, and installed new or upgraded existing groundwater extraction systems, and is nearing completion of the pre-final engineering design of a pilot plot on two large waste rock piles, the Capulin and Goathill North, approximately 109 acres. This study will yield best practices to reclaim waste rock piles.

Permitting of revised closeout plans and expansions at the state's four largest copper mines in Grant County continued in 2019. Freeport-McMoRan Inc. (FMI), is expanding at four of its New Mexico operations; all permitting actions at the Little Rock, Tyrone, Chino, and Continental mines concern expanding the mining operations. As these existing mines expand, they must comply with new regulatory standards designed to address new mining impacts. The Continental Mine ended standby status through a revision to the permit thereby allowing the mine to return to active mining status. The Continental Mine Revised Closeout Plan was approved in October 2018.

During 2019, MARP staff continued the review process of two large-scale permit applications (Part 6, New Mexico Mining Act) – one uranium mine: Roca Honda; and one copper mine: Copper Flat. The Roca Honda project remains in the early stages of permit development; the federal government is conducting an Environmental Impact Statement (EIS) evaluation and state permits are under review. The Copper Flat Mine application was deemed "technically complete" in late 2018. In 2019, the permit application approval is pending BLM's approval of the Plan of Operations, posting of financial assurance, and resolution of other pending permits under the authority of other agencies.

In June 2019, MMD received an application from Comexico LLC (a subsidiary of New World Cobalt, West Perth, Australia) for a Regular Exploration permit (Part 4 of the Mining Act) to perform exploration drilling of up to 30 drill holes (each up to 4,000 ft. deep) exploring for gold, silver, copper, lead, and zinc deposits in the Santa Fe National Forest near the historic Jones Hill Mine in Santa Fe County. The application includes the improvement of existing



Preliminary work on tailings pond reclamation at the Questa Mine, Taos County (2019)



Tererro Exploration Project proposed drill hole, location 12.

Santa Fe National Forest roads and the creation of additional access roads or pathways and drill pads for the exploration drilling project. The proposed total disturbance of 2.4 acres is under review by MMD and the Santa Fe National Forest as are the other portions of the application. The Santa Fe National Forest is performing an analysis of the proposed project under the National Environmental Policy Act (NEPA). Under an MMD permit the permittee would be required to properly plug and abandon the drill holes and stabilize and reclaim the surface disturbance created during the project. The proposed exploration project has generated much public interest from the nearby town of Pecos, a number of environmental and public interest groups, and from the public throughout the Pecos canyon area. MMD plans to hold a public hearing on the application sometime in early 2020 in Pecos.

Permitting actions related to earlier uranium mine applications have waned, as has interest in uranium mining overall. However, the Mt. Taylor Mine, an existing uranium mine in Cibola County which has been on standby status since the inception of the Mining Act in 1993, applied to end its standby status. In December 2017, the mine received MMD approval to come off standby status and restart mining and performed construction activities throughout 2018. Some local non-governmental organizations oppose 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. Upon appeal, the Mining Commission's approval was upheld by the First Judicial District Court in July 2019. That ruling is now under appeal to the New Mexico Court of Appeals. In December 2019, MMD received a letter from Rio Grande Resources indicating they are no longer interested in developing the Mt. Taylor Mine, but will instead be moving into full closure of the mine. The process of full closure will start in early 2020 and is scheduled to take approximately two years.

And lastly in uranium activity, MMD is working on the approval and implementation of a reclamation plan for the Section 12 Mine, an old existing uranium mining operation that last had activity in the 1970s. The operator, Southwest Resources, has elected to close and reclaim the operation rather than leave it open on standby status. Reclamation of the mine should take place in 2020.

MINERAL RESOURCES: CY2018

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



Tererro Exploration Project proposed drill hole, location 12.

resources report covers the most recently reported mining data – for calendar year 2018 – submitted by 145 operators for more than 300 separate mining operations.

Mine operators reported mineral production value of more than \$1.76 billion extracted from New Mexico mining sites, a slight increase from 2017 (**Table 1 and Figure 1**).

TABLE 1 New Mexico Summary of Commodity Production, Production Value, Employment, Payroll, Revenue and Ranking: 2018

Mineral	Production ¹	Production Rank ²	Production Value \$	Employment ³	Reclamation Employment	Payroll \$ ⁴	Revenue Generated \$ ⁵	
							State	Federal
Coal	14,271,432	14	\$ 535,735,734	1,004	131	\$ 90,051,503	\$ 8,306,279	\$ 3,962,198
Copper	228,131,210	3	\$ 667,438,918	1,777	8	\$ 114,221,934	\$ 5,418,127	\$ -
Gold ⁶	16,816	-	\$ 21,344,747	-	-	-	\$ 201,114	\$ -
Industrial Minerals ⁷	2,279,057	-	\$ 189,911,700	553	12	\$ 28,118,807	\$ 161,964	\$ 364,235
Aggregates ⁸	12,001,048	-	\$ 134,104,189	949	81	\$ 25,523,767	\$ 4,826,365	\$ -
Other Metals	-	-	-	-	-	-	\$ 334,617	\$ -
Molybdenum	-	-	-	-	-	-	\$ -	\$ -
Potash	414,855	1	\$ 212,544,759	695	21	\$ 57,199,813	\$ 3,483,976	\$ 3,656,771
Silver ⁶	346,403	-	\$ 5,443,330	-	-	\$ -	\$ 49,123	\$ -
Uranium ⁹	-	-	\$ -	22	0	\$ 634,398	\$ -	\$ -
TOTAL			\$ 1,766,523,377	5,000	253	\$ 315,750,222	\$ 22,781,565	\$7,983,204

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 2018 production in relation to other states.

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

Coal: Energy Information Administration, United States Department of Energy

³ Employment category includes direct and contract employees.

⁴ Payroll does not include benefits.

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

Federal revenue includes 50% state share of federal royalties.

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

Federal data: Office of Natural Resources Revenue

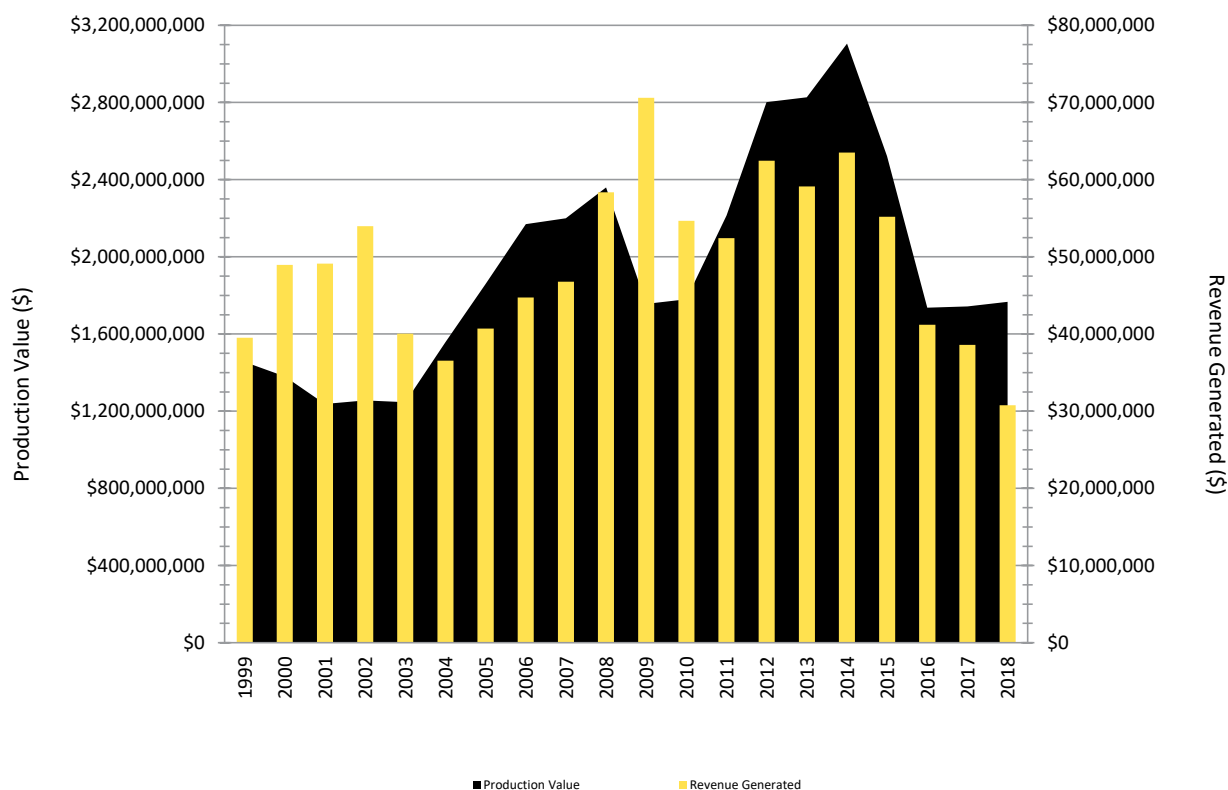
⁶ Gold and silver are by-products of copper production. Employment/payroll for gold/silver included in copper.

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

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

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

FIGURE 1 New Mexico Mineral Production Value and Revenue Generated: 1999-2018



New Mexico remains a leading United States mineral producer in the 2018 commodity rankings provided by reports from the U.S. Geological Survey (USGS) and U.S. Energy Information Administration (coal):

- Potash – 1st (50 percent of total U.S. production, used primarily in fertilizer);
- Perlite – 1st (used in building construction products, horticultural aggregate, and fillers);
- Zeolite – 1st (used in animal feed, odor control, and water purification applications);
- Copper – 3rd; and
- Coal – 14th +

Total 2018 revenues generated by mineral production in New Mexico declined 20 percent from 2017 levels to \$30.8 million, down almost \$8 million, largely due to reductions in coal and copper production (Figure 1). 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 coal, and sand and gravel operations (**Figure 2**). Reported industry payroll (excluding benefits) increased 4.5 percent from 2017 to almost \$316 million (**Figure 3**). Overall, reported employment increased by 6.7 percent in 2018, from 4,687 employees in 2017 to 5,000 (excluding reclamation employees). By category, compared to 2017, direct employment increased 3 percent from 4,162 to 4,299 employees; contract employment increased 33 percent from 525 to 701; and reclamation employment increased 28 percent from 197 to 253 employees (**Figure 4**).

FIGURES 2, 3, 4

FIGURE 2 Percentage of Production Value, Employment, Payroll and Revenue by Commodity: 2018

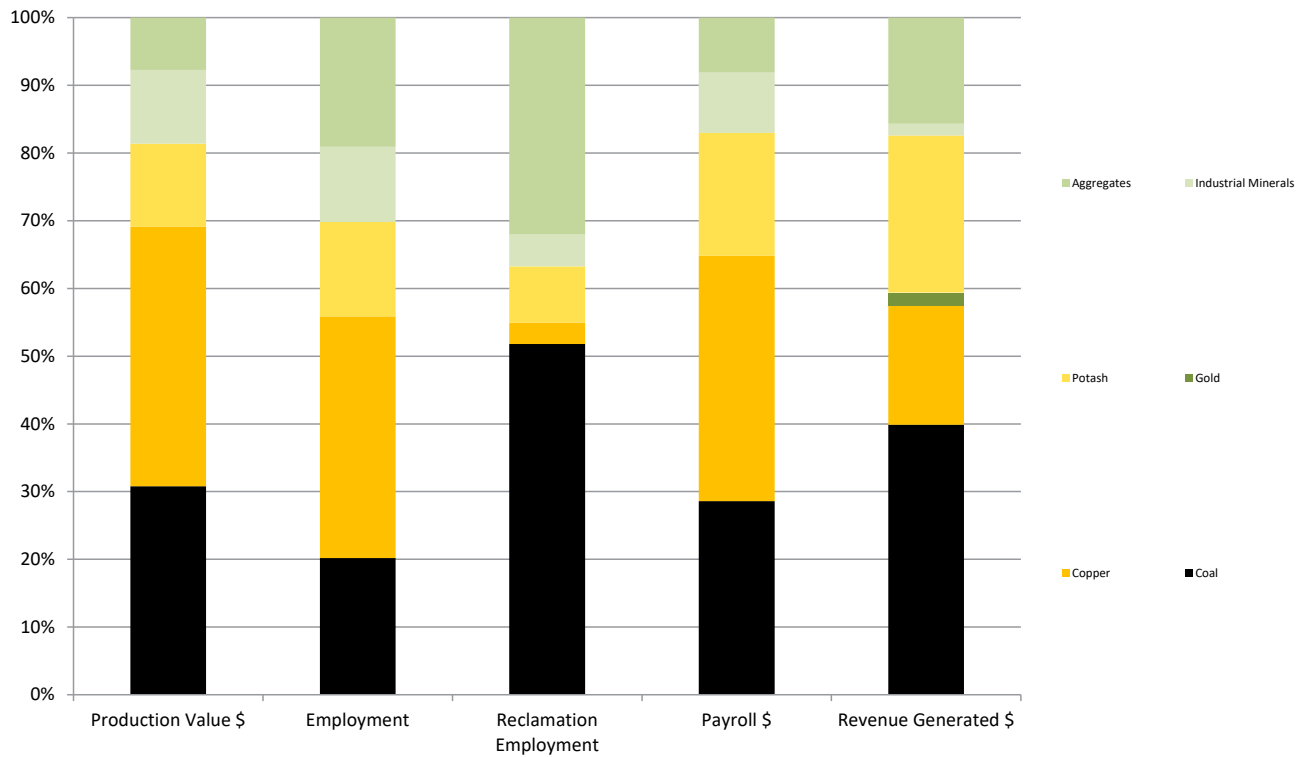


FIGURE 3 New Mexico Mineral Industry Employment, Payroll and Capital Improvements: 1999-2018

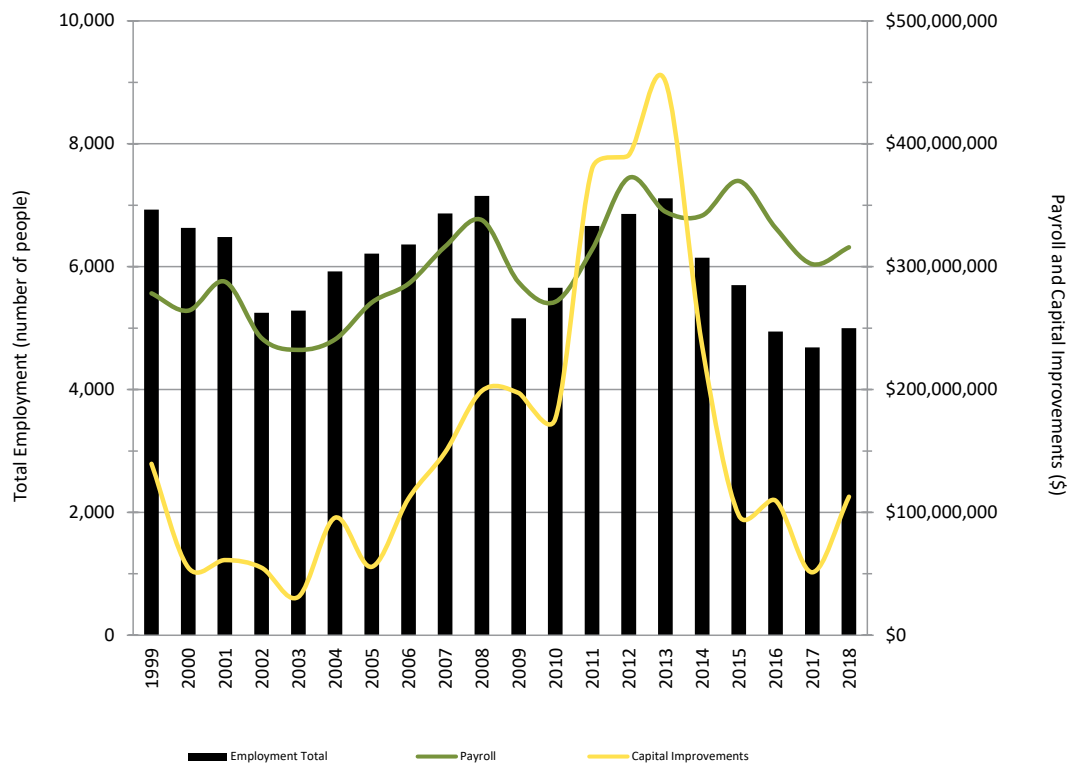
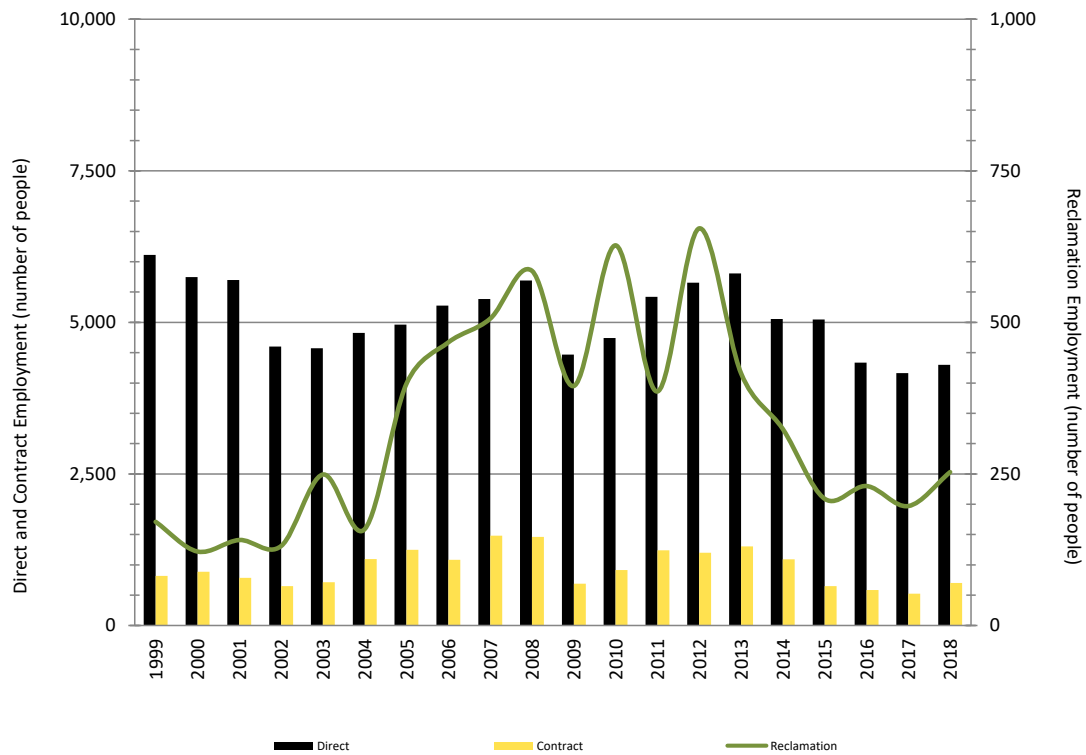
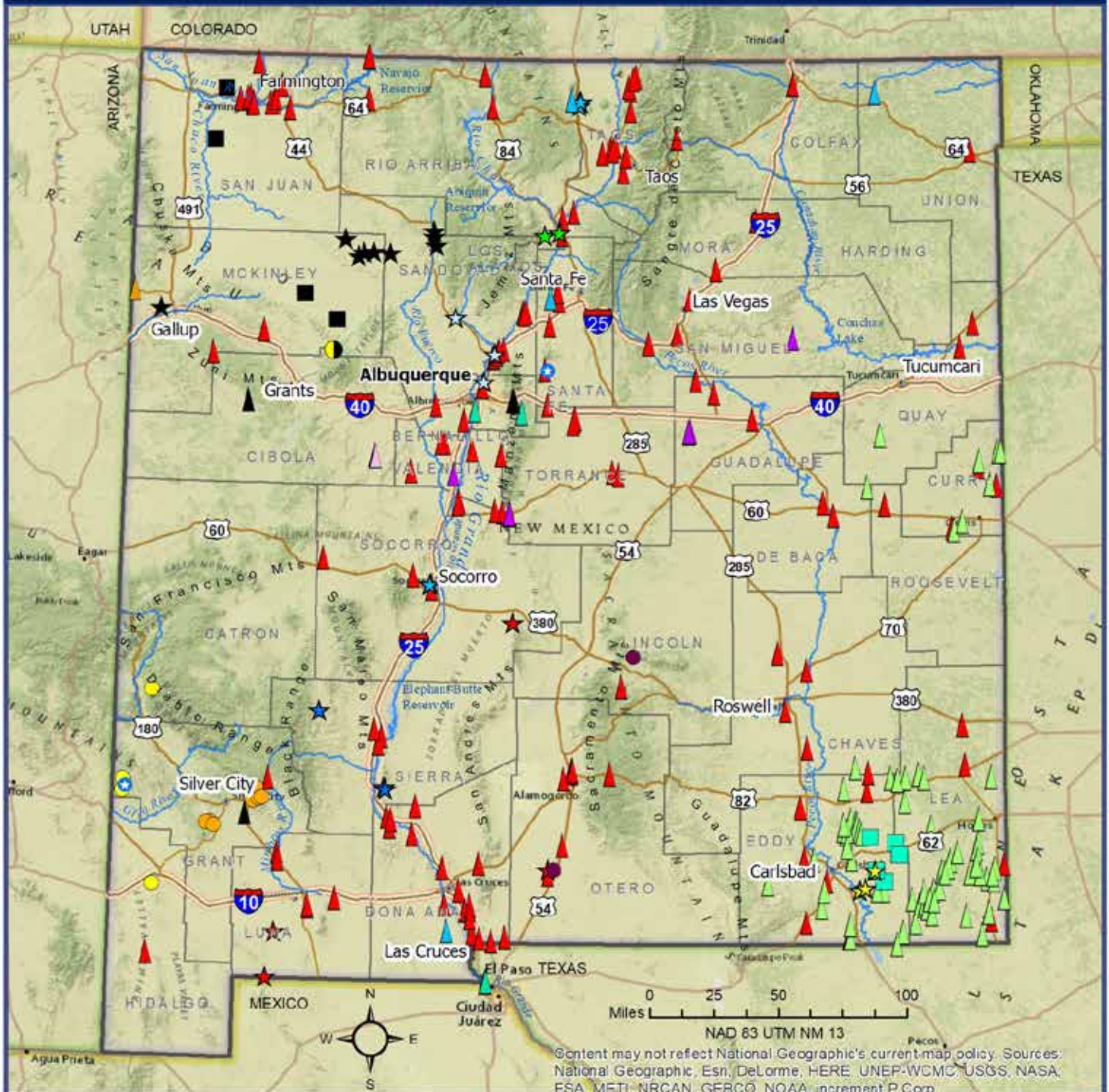


FIGURE 4 New Mexico Mineral Industry Employment: 1999-2018



Registered active mining operations in New Mexico in 2018 numbered 306, up from 290 in 2017: 4 coal mines (one on Indian lands); 7 potash operations (includes mines, refineries, and compaction plants); 11 metal mines, mills, and solvent extraction and electrowinning (SX/EW – a copper extraction process) operations; 32 industrial mineral mines, mills, and smelters; 251 stone and aggregate operations; and 1 uranium operation (Figure 5).

Active Mines in New Mexico, December 2018



Data: October 2019 database query, Mining & Minerals Division,
 Mine Registration, Reporting & Safeguarding Program.
 Basemap: Esri ArcGIS Online. Map: Linda S. DeLay, GISP

FIGURE 6 New Mexico Coal Production and Value: 1999-2018

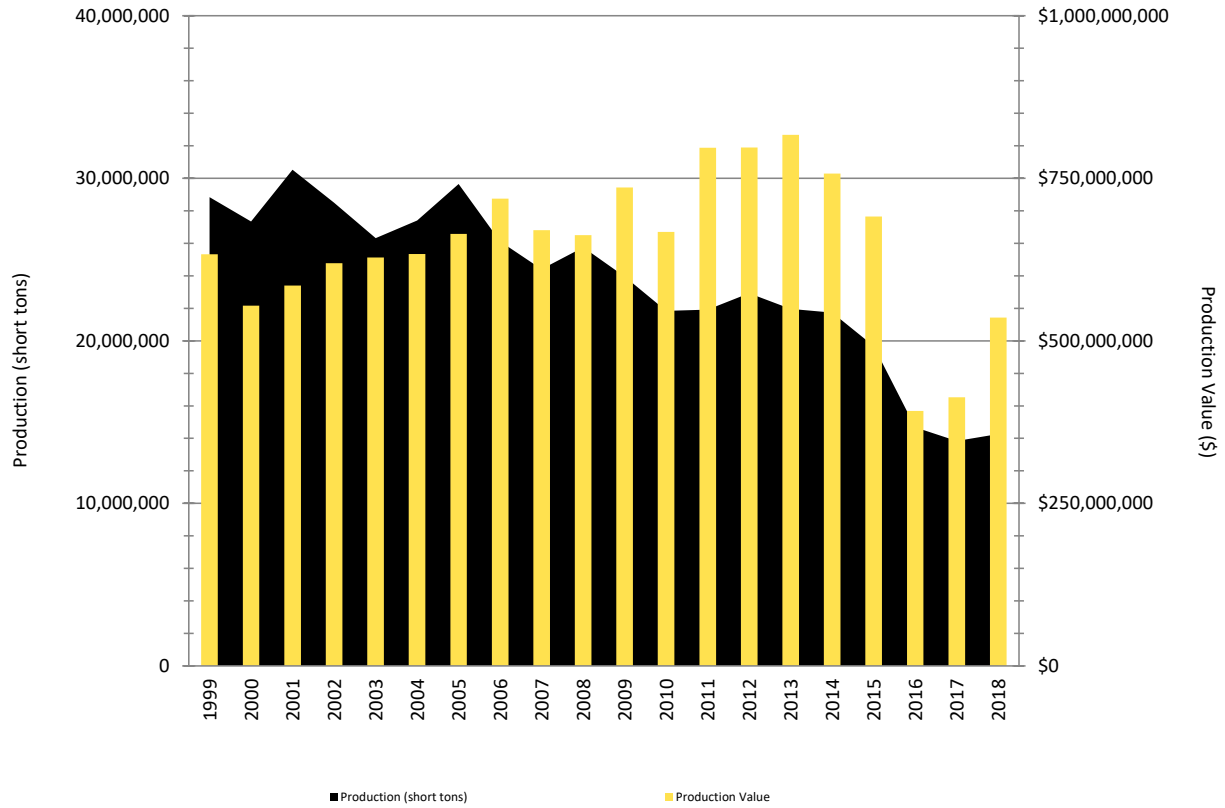


FIGURE 7 New Mexico Copper Production and Value: 1999-2018

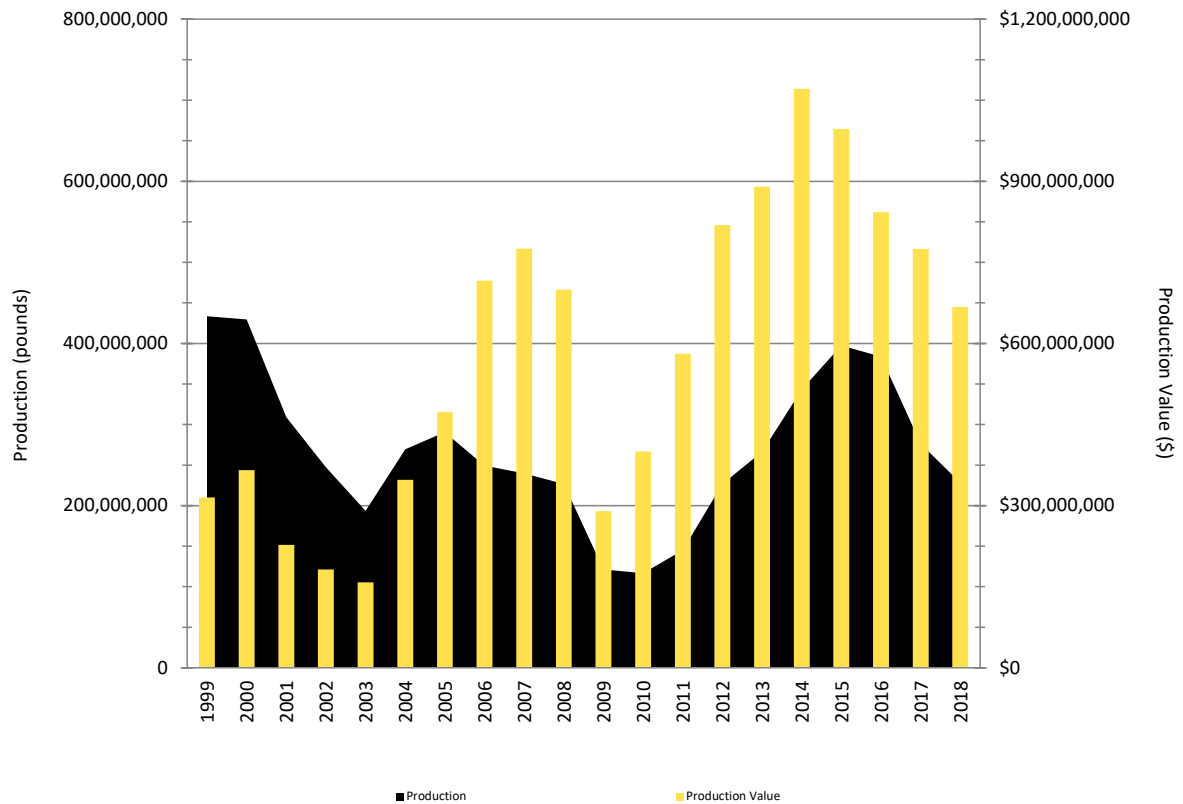


FIGURE 9 New Mexico Aggregate Production and Value: 1999-2018

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

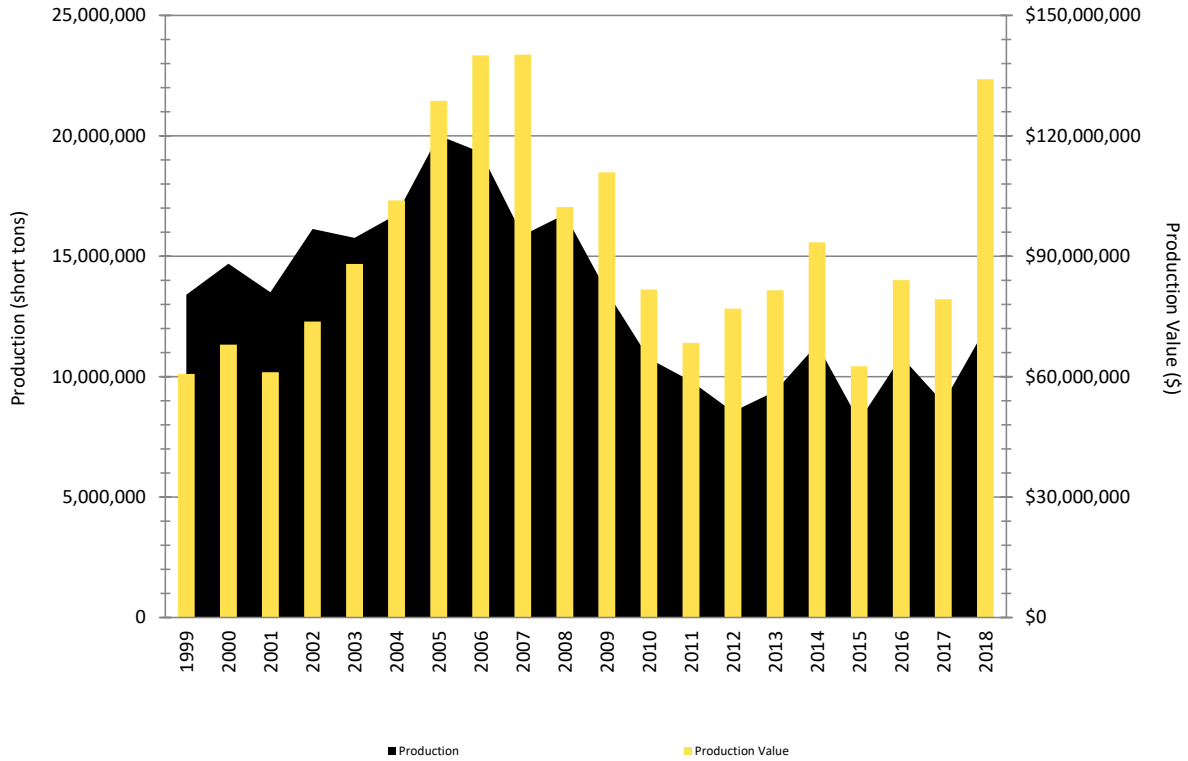
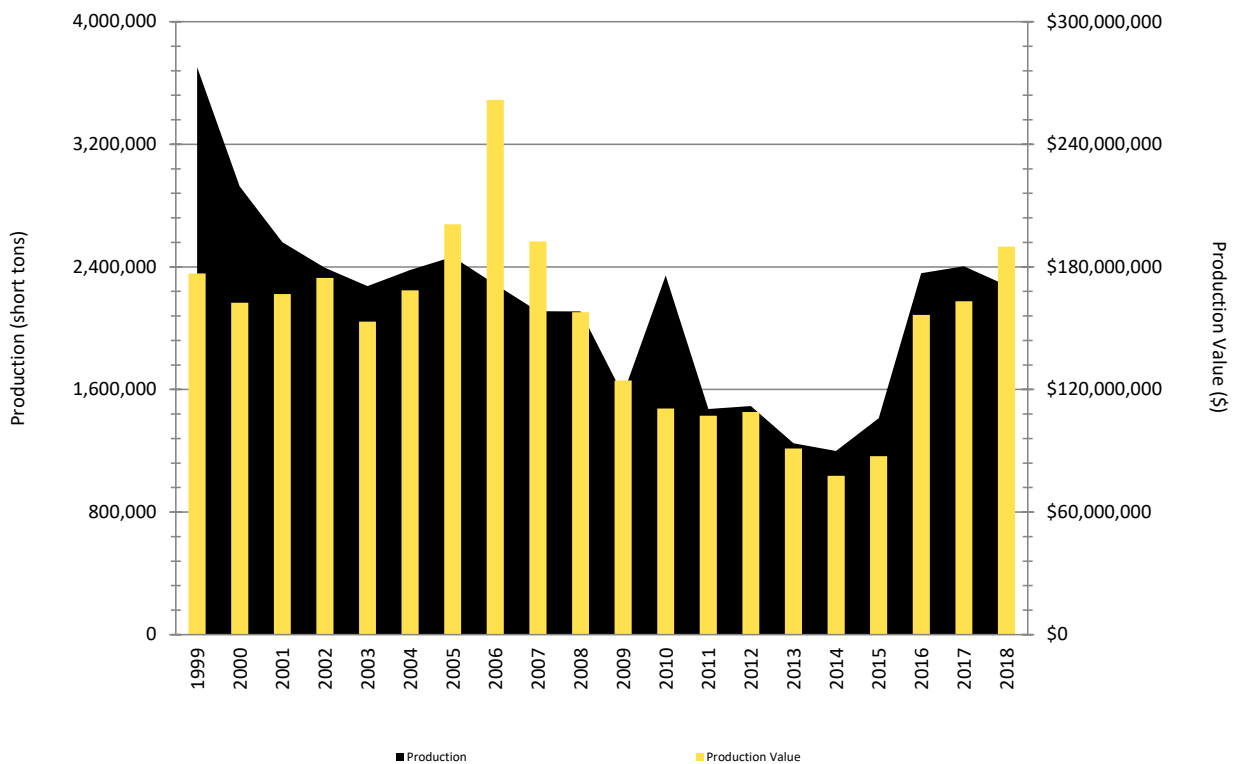


FIGURE 10 New Mexico Industrial Mineral Production and Value: 1999-2018

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



State Forester's Letter



The year began with above-normal winter precipitation in most of the state, enough to bring New Mexico out of a deep and prolonged drought in the spring. By early summer much of the state had moist soils, spongy wetlands, and favorable growing conditions for forests and rangelands. The deep snowpack kept many streams flowing into June and made for a quieter than usual start to the fire season. EMNRD's State Forestry Division (Forestry) used the summer wildfire reprieve to focus on proactive reduction of overgrown trees and shrubs that act as fuel for future fires. The wet early start to the year was counteracted by a weak monsoon and dry fall, and drought has returned to many parts of New Mexico.

The central challenge of our time is to keep forests healthy and resilient through episodic droughts as the climate warms. Southwestern fire ecologists have clearly demonstrated that reducing fuels in forest types that evolved with low- and mid-severity fire is the best strategy to increase resilience to catastrophic wildfire. Studies show that the combination of mechanical thinning and prescribed fire is the most effective treatment to modify wildfire behavior. Accelerating the pace and scale of forest restoration is the Forestry Division's number one strategy to address climate change. We work closely with partners across the state – from federal land management agencies to soil and water conservation districts to non-governmental organizations – to leverage every dollar we can find for treatments. Together, we have restored more than 36,000 acres since 2014 with state capital outlay funding. And that is not counting the accomplishments with other state and federal funding, that cumulatively reach 100,000 acres. Now, the Forest and Watershed Restoration Act of 2019, passed by the New Mexico Legislature as House Bill 266 and signed into law by Governor Lujan Grisham, gives us new tools and critical funding for projects going forward.

Fighting fire with fire is the number two strategy to address climate change. Also, in the 2019 Legislative Session, the State House of Representatives passed a memorial calling for analysis of prescribed fire use and recommendations to expand the practice. The wet spring meant fewer opportunities for prescribed burning. But those same conditions meant that lightning-ignited wildfires were low-severity and helped to reduce fuels where modified fire suppression tactics were used.

As the pace and scale of restoration increased, so did forestry employment for rural New Mexicans. Over 450 people enrolled in the Forest Worker Safety Certification Program last year, qualifying them to work on thinning and firefighting crews. Family-run and tribally owned and operated sawmills used the by-products of restoration thinning to make a wide variety of products: from rough-cut lumber to firewood and pellets for woodstoves to vigas and latillas for Southwestern-style buildings.

Building the resilience of forests to mitigate climate change requires the integration of science, management practices, and workforce training. The wetter end to the fiscal year allowed the Forestry Division and partners to make progress proactively restoring forests with thinning and managed fire.

All three of these strategies will be needed to ensure New Mexicans can enjoy and be sustained by healthy forests. Forestry's capstone accomplishment of 2019 was the November 14 signing of the Agreement for Shared Stewardship by Governor Lujan Grisham and USDA Forest Service Chief Vicki Christiansen. Shared Stewardship is the commitment we make to working with the Forest Service and all partners and stakeholders to clearly prioritize when and where forests are restored and that we will work together to steward New Mexico's forests for future generations.

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

Laura McCarthy
State Forester



New Mexico State Forestry



MISSION: The New Mexico State 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 that includes 10,700,000 acres of private forest, 7,900,000 of National Forest, and 6,100,000 acres in state, federal, or tribal ownership.

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

STAFFING

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

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

STRATEGIC PRIORITIES

- Address climate change effects on forest and watershed health by accelerating the pace and scale of restoration projects that remove overgrown brush and trees that act as fuel for uncharacteristic, high-severity wildfire.
- Expand the use of prescribed fire to mimic natural wildfire in dry forest types and reduce the risk of catastrophic wildfires that release greater amounts of carbon.

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

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 by-products of forest and watershed treatments.
- Conserve forested ecosystems by studying plant species' abundance, classifying ecosystem types, improving forest conditions and habitat through active management, and acquiring land and easements for conservation purposes.

2019 LEGISLATION

The Forest and Watershed Restoration Act (FAWRA) was created by House Bill 266 and signed into law by Governor Michelle Lujan Grisham on March 15, 2019. FAWRA allocates \$2 million in annual funding to Forestry for the purpose of restoring forests and watersheds. The bill established an Advisory Board to evaluate and recommend projects to the Division and charged Forestry with administering, implementing, and reporting on the projects. The Forest and



Secretary Sarah Cottrell Propst and Governor Michelle Lujan Grisham with Smokey Bear

Watershed Restoration Act (FAWRA) Advisory Board met three times in 2019 to develop guidelines for selecting FY2020 projects and then to review and recommend projects to enhance the adaptability and resilience of New Mexico's forests and watersheds to climate change and wildfires, improve water quality

and support economic activity associated with wood harvest. The eight projects recommended for FY2020 are: thinning project adjacent to Abiqui Lake; wetland restoration project in an area of Santa Clara Canyon that was burned in Las Conchas fire; Rio Grande Bosque restoration project in Valencia County; two projects focused on thinning to protect springs that supply water to rural communities, one on Mescalero Apache Reservation and the other in Taos Ski Valley; thinning project in the Gallinas Watershed that supplies water to Las Vegas; economic development planning in Taos to create a fuelwood collection yard; and a large-scale restoration project that encompasses the entire Turkey Mountain range.

The Legislature also passed House Memorial 42, requesting the Energy, Minerals and Natural Resources Department to create a working group to develop an analysis to expand the practice of prescribed fire in New Mexico. The working group formed in May 2019 and is gathering information and meeting monthly in order to complete their recommendations by June 2020.

FIRE MANAGEMENT



**373 total
wildfires
calendar 2019**



**20,140 acres
burned calendar
year 2019**

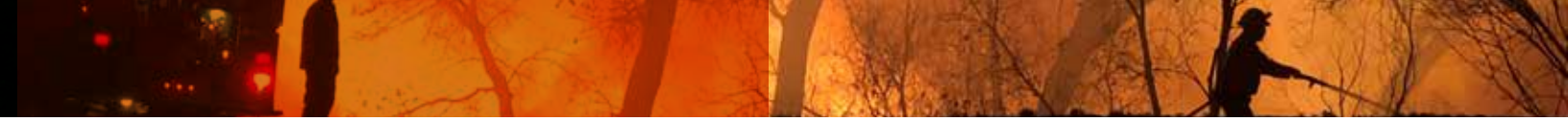


**58%
human-caused**



**6 fires
investigations
state and private
lands**





FIRE MANAGEMENT

- 373 total wildfires during calendar year 2019
- 20,140 acres burned during CY19
- 58% human-caused
- 6 fire investigations on state and private land

According to the National Oceanic and Atmospheric Administration's (NOAA's) National Centers for Environmental Information, "the last decade has been the warmest on record for New Mexico." NOAA reports that drought remains a serious threat to the Southwest as monsoon rainfall continues to follow a highly uncertain path with varying intensity each season.

In contrast to the numerous wildfires during the 2018 drought and fire season that consumed 249,682 acres, in 2019 the increased moisture reduced the acreage burned on state and private land to 20,140 acres. However, human-caused fires continued to present a danger to firefighters, communities, forests, and woodlands across New Mexico.

FIRE TRAINING AND EQUIPMENT

- 300 local firefighters hired for emergency response annually
- 1,287 non-federal wildland firefighters provided training
- 224 local fire departments and at-risk communities provided with equipment or training

Forestry trains and hires hundreds of firefighters annually to combat wildfires in New Mexico. Entry-level and advanced training is conducted at all six Forestry Districts across the state, the Returning Heroes Wildland Firefighting Program in Santa Fe and the Inmate Work Camp (IWC) in Los Lunas. Training includes classwork in the basic principles and procedures for wildland firefighting, including firefighter safety, understanding of wildland fire behavior, operational leadership, communications responsibilities, and identifying human factors and hazards on the fireline. Wildland firefighters are

also held to rigorous fitness standards and must be physically able to perform under strenuous conditions as part of their training. For example, wildland firefighters sometimes work 16-hour days for two weeks at a time, hiking several miles up steep inclines at various elevations. Forestry's wildland firefighter training is supported by state and federal funds.

FIRE PLANNING TASK FORCE

- 778 New Mexico communities at risk identified in Community Wildfire Protection Plans (CWPP)
- 33 counties with completed or updated CWPP
- 25 municipalities or communities voluntarily created additional CWPPs for their area
- 4 CWPPs approved by the Fire Planning Task Force in December 2019

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

WILDFIRE PREVENTION PROGRAM

Forestry collaborates with local, state, federal, and tribal partners to educate New Mexicans about fire prevention and preparedness utilizing programs such as Fire Adapted Communities (FAC), Ready, Set, Go! (RSG), and the Firewise USA™ program. This flagship national recognition program encourages neighbors to take action and work together toward reducing their wildfire risk in their communities. In 2019, one new Firewise community joined the program bringing the statewide total to 29. In addition to these programs, the New Mexico Living with Fire Guide is an important tool to wildfire preparedness, 22,000 were distributed across the state. This year Forestry partnered with the BLM to distribute the Living with Fire Guide at Forestry offices, the New Mexico State Fair and other public outreach events.





Prescribed fire Cibola National Forest, Bernalillo District

RETURNING HEROES PROGRAM

- 18 veterans applied to program
- 47 employees hired to work on emergency fire crews
- 22 wildland fire assignments on state, private, and federal land

The Returning Heroes Wildland Firefighter Program (RHP) provides veterans of the U.S. Armed Forces with training and work opportunities to fight wildland fires in New Mexico. Wildland crew members of the Returning Heroes program are Administratively Determined (ADs) firefighters, which means they are only called upon or hired during a wildland fire emergency. During the fire season, ADs may be sent throughout New Mexico or to assist on wildland fire emergencies in other states. Program staff also work on watershed and forest health improvement projects, including ongoing hazardous fuel reduction projects for the EMNRD State Parks Division at Hyde Memorial and Fenton Lake State Parks.

INMATE WORK CAMP (IWC) PROGRAM

- 14 projects performed with eight different local, state, federal agency cooperators
- 920 acres treated, including prescribed fire activities supporting the USFS
- 17 wildland fire assignments
- 3 prescribed fire assignments

Forestry's IWC provides training and work opportunities for minimum security inmates and contributes to forest health maintenance on public land in the state. The crews are trained as wildland firefighters and function as an efficient, cost-effective resource for New Mexico. In cooperation with the New Mexico Corrections Department, 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 Crew Supervisors and a Correctional Officer.

SMOKEY BEAR HISTORICAL PARK

- 22,137 visitors in calendar year 2019
- 1 million visitors estimated since 1976
- Wildland Fallen Firefighter Memorial installed in May 2019
- Smokey Bear LIVE broadcast nationwide via webcast on November 7, 2019

The Forestry Division manages the **Smokey Bear Historical Park**, built to honor a tiny five-pound black bear cub rescued from the Capitan Gap Fire in 1950. The cub later became the living symbol of the Smokey Bear Cooperative Forest Fire Prevention Campaign (CFFP). Smokey lived out his life at the National Zoo in Washington D.C. and was secretly buried at Smokey Bear Historical Park where visitors learn about forest health, fire ecology, and the history of fire prevention.



Capitan District Staff, Smokey Bear Historical Park

This year, the **New Mexico Wildland Fallen Firefighter Memorial** was installed on park grounds. The bronze Memorial honors more than 30 wildland firefighters who have given their lives protecting New Mexicans from wildfire since 1946. The Memorial was paid for by private donations to the Smokey Bear Hometown Association in Capitan.

Smokey Bear LIVE: A Distance Learning Adventure took place at Smokey Bear Historical park and surrounding area in celebration of the 75th anniversary of the Smokey Bear wildfire prevention campaign. Forestry partnered with the USDA Forest Service (USFS), National AD Council, Prince William Network, and PBS New Mexico to help bring the story of Smokey Bear to children and adults across the country. A pre-recorded video featuring descendants of Dr. Ed Smith, the veterinarian who cared for Smokey, and others who had contact with the bear cub shortly after his rescue, complimented the live program, which was broadcast over the internet.

FOREST AND WATERSHED HEALTH PROGRAM

- 12,357 acres of forest and watershed treated with thinning and/or prescribed fire
- 36,367 acres treated from 2014 through 2019
- 98 forest and watershed restoration projects completed or in progress since 2014
- 32 agencies and organizations gather quarterly for meetings of the statewide Forest and Watershed Health Coordinating Group

The **Forest and Watershed Health Office (FWHO)** and staff from across the Division are committed to strong partnerships between federal, state, tribal and local governments, non-governmental organizations,

and private entities. These collaborations make it possible to accomplish Forestry's mission to conserve, protect, and enhance New Mexico's forests and watersheds. The partnerships focus on the provision of clean, abundant water, creating resilient landscapes and fire-adapted communities, and safe and effective wildfire response.

Since the establishment of the Watershed Restoration Initiative in 2014, Forestry has been allocated \$19.3 million dollars in state funding for watershed restoration on public lands in New Mexico. These capital funds have been matched with an additional \$9.4 million dollars in federal Pittman-Robertson funds made available to Forestry through the New Mexico Department of Game and Fish and have also leveraged federal funds from other agencies. Forestry has overseen treatments in 19 high-priority watersheds across the state.

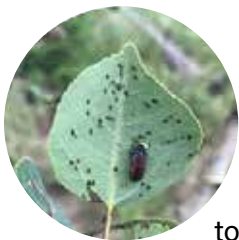
Forestry partners with the Natural Resources Conservation Service (NRCS) to provide technical forest management expertise to private lands, in support of the New Mexico Forest and Watershed Health Plan and forestry-related provisions of the Farm Bill. The number of private forest land acres treated through NRCS programs in New Mexico saw a nearly five-fold increase in the number of acres of private forestlands treated through NRCS programs from FY2007 to FY2019. The number of private land projects (EQIP, WHIP & RCPP contracts) for the three most common forestry conservation practices grew by 69% during that period, while Farm Bill funding to put those practices on the ground increased tenfold, from \$232,772 in FY2007 to \$2,443,548 in FY2019.

COOPERATIVE FOREST HEALTH PROGRAM

- 17 aerial detection survey flights to examine over 4 million acres of forest for insect infestations and diseases
- 53 land management agencies and private landowners assisted
- 46 site visits with more than 11 insect and pathogen samples identified

The **Cooperative Forest Health Program (CFHP)** delivers technical assistance and grant funding to landowners and managers of forested lands to increase forest resilience to harmful insects and diseases. The program provides trainings, field

Pittman-Robertson Act funds were authorized in 1937 as the Federal Aid in Wildlife Restoration Act. These funds are available to the Department of Game and Fish for use on a variety of projects related to wildlife habitat improvement and conservation efforts.



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.

Some native bark beetles have increased significantly as a result of warmer winters with fewer deep-freeze periods. An outbreak of the aspen leaf beetle, *Chrysomela crotchii*, was discovered this year in Pecos when the Forest Health Specialist was performing a routine ground-check of aerial survey data. He smelled something like nail polish remover, salicyl aldehyde, wafting through the air. The smell was a chemical secreted by the beetle larvae to ward off predators, providing a clue about the beetles' presence. Both the larvae and adults feed on the aspen leaves, causing defoliation that rarely kills trees directly, but could lead to other tree-health problems it occurs over multiple years. Approximately 30 acres were infested by aspen leaf beetle in this area.



Amsonia tharpiana (Tharp's bluestar)

ENDANGERED PLANTS PROGRAM

- 235 rare and endangered plant species in New Mexico
- 109 species only occur in New Mexico and nowhere else in the world
- 37 plant species listed as endangered
- 13 federally listed as endangered

Forestry's Endangered Plant Program gathers information to develop conservation measures necessary for the survival of threatened and



Urban Tree Planting project, Albuquerque

endangered plants. Forestry promotes the conservation of listed endangered plant species through research, inventorying and monitoring, law enforcement, habitat maintenance, education and propagation of rare plants. The New Mexico Rare Plant Conservation Strategy guides the work of Forestry and land management agencies across the state. The Endangered Plant Program is primarily federally funded through Section 6 of the Endangered Species Act for endangered plant research and management. A USDA Forest Service grant is supporting conservation and monitoring of the federally endangered Pecos sunflower in Santa Rosa. Other plants monitored or surveyed in 2019 included Knowlton's cactus, Holy Ghost ipomopsis, Wright's marsh thistle, Mancos milkvetch, Zuni fleabane, and Tharp's bluestar.

CONSERVATION SEEDLING PROGRAM

- 69,599 low-cost conservation seedlings sold
- 61 species of native trees and shrubs distributed

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





Forest Stewards Youth Corps.

URBAN AND COMMUNITY FORESTRY PROGRAM

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

The Urban and Community Forestry Program works to empower New Mexico communities to develop and sustain healthy community forests for the benefit of current and future citizens of the state. Community forests in New Mexico have significant, positive impacts on human and environmental health, community tourism and economics, but are challenged by drought, lack of management, and planning. The program is guided by the Urban and Community Forestry Strategic Plan under the advisement of the New Mexico Urban Forest Council.

RESOURCE MANAGEMENT PROGRAM

- 11 forest stewardship plans for private forest lands
- 17,465 acres in new forest stewardship plans
- 102,877 acres total with forest stewardship plans in New Mexico
- 330 technical assistance requests performed
- 511 landowners participated in educational programs related to forest stewardship, fire prevention, and forest management

Forestry works with private landowners and state and federal agencies through the Resource Management

Program to improve healthy and resilient forests and watersheds, and to protect land from future development that isolate and fragment forested areas. Forestry administers several incentive programs to place conservation easements on large, contiguous tracts of land.

FOREST LEGACY PROGRAM

- 3,600 acres of private forest protected
- 2,740 acres pending enrollment
- 16,787 total acres protected with the Forest Legacy Program since its inception in NM

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 that includes the Brazos Cliffs in Chama was funded by the 2018 Farm Bill for \$3,480,000. A new FLP application was submitted in 2019 to conserve the remaining 2,740 acres and will be completed next year.

LAND CONSERVATION TAX CREDIT PROGRAM

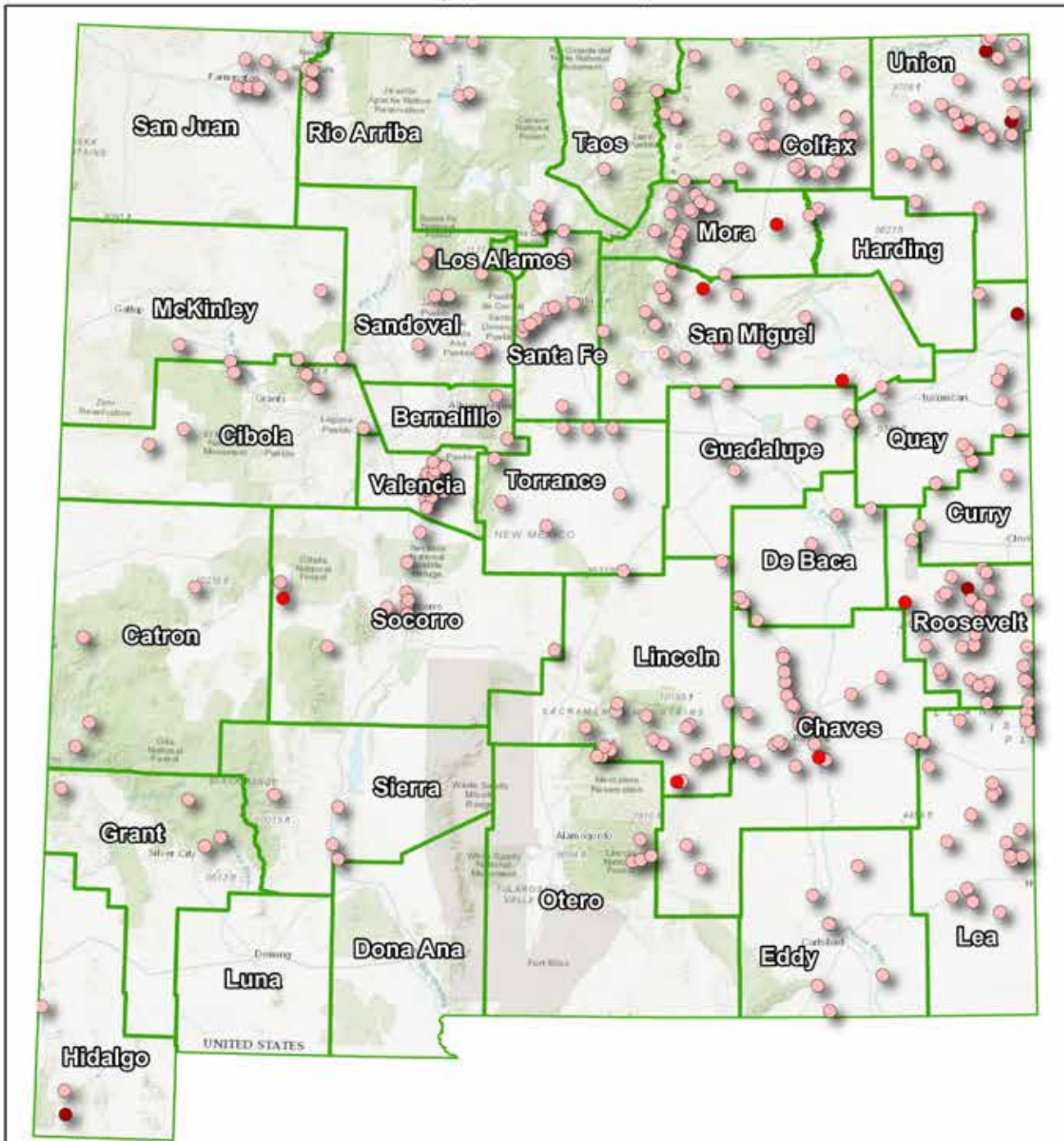
- 7 tax credits awarded
- 15,031 acres conserved
- 136,859 acres of forest and rangeland conserved with state tax credits from 2004-2019

Forestry oversees the Land Conservation Tax Credit Program. Charitable donations of land, or an interest in land (conservation easement) for conservation purposes to a public or private conservation agency are eligible for a state tax credit. A taxpayer has a maximum of 20 years to fully use the tax credit following the taxable year in which the donation was made, or the tax credit may be transferred (sold) to another taxpayer through a tax credit broker in minimum increments of \$10,000. In 2019, seven applicants were awarded tax credits ranging from \$120,000 to \$250,000.



New Mexico Statistical Fires (Calendar Year 2019)

Fires on State & Private Lands
January 1, 2019 - October 21, 2019



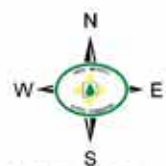
Acres Burned

- 0 - 300
- 300.000001 - 1113
- 1113.000001 - 2262

Total Number of Fires = 343
Total Acres Burned = 23,289

Cartographer: Randall Fowler
Data Source: NMSF
Coordinate System: NAD 1983
UTM Zone 13N
Scale: 1:3,150,000
Date: 10/21/2019

0 25 50 100 Miles



New Mexico State Parks



In my 21 years as an employee with the State Parks Division, I have never been more excited about the future of our agency as I am now. I am very proud of the dedicated State Parks staff who have kept our agency moving forward and who have worked hard to ensure that our visitors have had exceptional park experiences. I am also grateful for the support from our administration in bringing the outdoor industry to the forefront. And we could not do what we do without our faithful visitors and connected, supportive communities.

The interest and excitement regarding outdoor recreation statewide has invigorated State Park staff and has revitalized partnerships with many agencies and nonprofits. It is driving new projects and new creative approaches within our 35 State Parks, resulting in the *Next Generation of Adventure*, our new State Parks modernization effort.

This modernization plan is designed to bring more visitors to State Parks and to provide them with the services and programs that they expect and deserve. The vision of this initiative is to improve visitor services and park operations, modernize and upgrade facilities, create new park opportunities, increase programs, and develop and retain staff.

State Parks was honored to kick off this initiative over the summer with Lieutenant Governor Howie Morales and our friends at the Tourism Department at Hyde Memorial State Park. A new solar photovoltaic system that will be installed at Hyde Memorial made it the perfect location to highlight the expansive upgrades we'll make to State Parks in the coming years.

In summary, I am excited to be part of this new future for State Parks and look forward to growing our outdoor economy. State Parks are special places and deserve to be protected and enjoyed for generations to come.

A handwritten signature in blue ink that reads "Christy Tafoya".

Sincerely,
Christy Tafoya
Director NM State Parks



New Mexico State Parks



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

OVERVIEW

The State Parks Division (State Parks) manages 35 State Parks and provided recreational and educational opportunities for 4.5 million visitors in FY19, generating \$4.9 million in revenue. A total of 71.1 percent of the State Parks budget is self-generated, and 28.9 percent comes from the general fund.

State Parks in New Mexico were first created in 1933. There were four original State Parks, two of which, Bottomless Lakes and Hyde Memorial, are still part of our system today. For almost a century, State Parks have been part of the lifeblood of local communities and are an important economic driver in the state.

STAFFING

240 Total Full Time Employees including:

- 28 Operations, Administrative and Program Support Staff in Santa Fe office
- 160 Full Time Employees in Field statewide including:
- 80 Law Enforcement Officers, including 35 management positions
- 52 Full Time Employees that are divided into 159 seasonal positions as needed

STRATEGIC PRIORITIES:

- Develop a more diverse New Mexico economy by helping to grow the outdoor recreation economy
- Modernize and upgrade State Parks infrastructure to improve the visitor experience
- Recruit and retain professional Park Staff through law enforcement initiatives and partnerships

NEXT GENERATION OF ADVENTURE INITIATIVE

This initiative will be very important in modernizing parks and making them more accessible for generations to come. The following are specific aspects of this initiative:

Improve Visitor Services – Streamlined payment options are critical for State Parks visitors and staff alike. In order to allow for in-park, real-time payment, State Parks has implemented a Wi-Fi contract and has begun installation in our largest State Parks. In 2019 Wi-Fi installation was completed at Elephant Butte Lake, Rio Grande Nature Center, Navajo Lake, and Ute Lake with more in progress at the time of publication. By early 2020, it is anticipated that 15 State Parks will be connected to Wi-Fi. Wi-Fi installation will also allow for self-paying kiosks which will be more convenient for the user and make our Park staff more efficient with less time devoted to counting cash payments.

In addition, State Parks is evaluating the current fee structure to ensure that the State Park system remains affordable to all New Mexicans but also has a structure in place to keep Parks sustainable.

Create New Park Opportunities – New parks and new park programs will bolster our system. Throughout 2019 State Parks laid the groundwork for the opening of the new Pecos Canyon State Park. Hiring of key staff for the park took place in December 2019, and State Parks is expanding partnerships with the community to ensure excellent recreational opportunities in the canyon.

Partnerships in Northeastern New Mexico are expanding. In the fall, State Parks held a public meeting in Clayton to discuss changing the name of Clayton Lake State Park to include “dinosaur” to better highlight the world-renowned dinosaur tracks at the park. This is just one example of how collaborating with local communities can expand outdoor recreation opportunities. State Parks is exploring expanding our partnership with the State of Colorado to work



Bottomless Lakes State Park

together on the management of Sugarite Canyon State Park and a new Colorado State Park on our shared border.

Improve Park Operations – State Parks has been working to improve standards of care in maintaining our parks, and has also increased our statewide training of staff. In the fall of 2019, State Parks reinvigorated its statewide Fall Conference, bringing a large cadre of employees together to learn about initiatives, to increase buy-in in our mission, and to tout the *Next Generation of Adventure* campaign.

Upgrade Infrastructure – State Parks are like little cities, and upgrades to infrastructure are critical to visitor enjoyment and public safety. State Park staff have upgraded infrastructure throughout the system in 2019, including campground and road upgrades at Coyote Creek and Morphy Lake State Parks, connecting the waterline at the main area at Elephant Butte Lake State Park with the line managed by the New Mexico Water Company at Elephant Butte to create a sustainable water supply, and additional water and wastewater projects statewide.

In addition to the new photovoltaic system at Hyde Memorial State Park, projects underway include construction of new cabins at Coyote Creek State Park, finalizing a new RV dump station at Storrie Lake State Park, and upgrading the current campsites and structures at Pecos Canyon State Park.

Augment Events and Programs – Connecting kids to the outdoors is a key goal of the Division. State Parks has maintained the outdoor classroom program in 2019 by providing transportation grants for schools to connect students to parks and by continuing to build excellent outdoor classroom programming. Park staff and educational contractors provided dozens of educational programs for over 2,500 students at parks around the state covering topics including forest and bosque ecology, birds of prey, and the importance of aquatic ecosystems. Some of the park-based programming was coupled with programs presented to students and teachers in their school classrooms. In addition, over 800 interpretive programs on various topics were provided to park visitors during the year. In 2020, State Parks will be increasing outdoor classroom opportunities through partnership projects with the Public Education Department.

State Parks celebrated key anniversaries at Brantley Lake and Coyote Creek State Parks in 2019. In addition, the Girl Scouts Love State Parks national initiative was celebrated at four New Mexico State Parks with 200 girls participating. Many of the Girl Scouts had never been to State Parks before and they experienced fishing, archery, water safety, and night sky programs, with some participants camping for the very first time. The national Girl Scouts CEO, Sylvia Acevedo – a native New Mexican – came to the Governor's mansion in the summer of 2019 to celebrate Girl Scouts in New Mexico.

Increase Partnerships – As part of the statewide outdoor recreation initiative, State Parks is excited to partner with the new Outdoor Recreation Division in the Economic Development Department, the Youth Conservation Corps, the Department of Game and Fish, as well as sister agencies in other states. Working with federal agencies, municipalities and non-profits, these partnerships can leverage funding to strengthen communities statewide and provide more park access. This will result in tangible outdoor recreation opportunities for citizens, to include better supported parks and increased outdoor learning experiences for New Mexico children.



2019 STATE PARK BUREAU UPDATES

DESIGN AND DEVELOPMENT BUREAU

The Design and Development Bureau is responsible for upgrades to park infrastructure systems statewide, including architectural projects, roads and trails, as well as water-wastewater projects. The following are key upgrades and projects from 2019.

Elephant Butte Lake State Park



Lion's Beach Comfort Station Replacement

Two new double vault toilets were installed at the Lion's Beach Campground, as well as holding tanks for the four volunteer sites there. The work included re-grading the site for better Americans with Disabilities Act (ADA) access and better parking. The total cost of the project was \$548,193.05 (\$274,096.52 in state funds and \$274,096.53 in federal funds).



City Water Line Connection

Construction of a new water line connecting the park to the New Mexico Water Company has been completed. This was done to replace the current water source – two ground water wells that have been failing. These wells will be plugged and abandoned. The cost of this project amounted to \$339,513 (with \$64,846.73 in federal funds).



Lakeshore Drive Improvements

A Federal Lands Access Program grant proposal to reconstruct Lakeshore Drive arroyo crossings and make drainage improvements was submitted to the Federal Highway Administration (FHWA). State Parks and the Bureau of Reclamation were successful in obtaining \$8 million in FHWA funds, and the design for the work is under way by FHWA. State Parks contributed \$10,000 in state funds toward the engineering design. FHWA will be responsible for complete plans and construction of the improvements. A state match in the amount of 13% will be required to construct the project.

Morphy Lake State Park

Dam Reconstruction and Campground Renovations

The Morphy Lake Dam was completely renovated in 2019 due to the diligence of the acequia partners who own the Dam, Acequia de la San Jose and Acequia de la Isla, through the support of the legislature and the Office of the State Engineer.

At the same time, the State Parks Force Account Crew has been making significant renovations to the campground at Morphy Lake. Campsites have been reconfigured to facilitate access and address drainage issues and the boat ramp has been extended. State Parks will also make two of the campsites ADA accessible and install a new ADA accessible vault toilet. The park will reopen to the public in the spring of 2020.



Navajo Lake



Johnson Tract Campground

Progress was made on the construction of a new campground along the San Juan River at Navajo Lake State Park. The project included construction of a new pump house and acequia to facilitate native habitat restoration on the property. Work completed in 2019 includes planting of native shrubs along the acequia and development of the roadways in the campground, which will have 21 pull-through campsites and two vault toilets. Each campsite will have a shelter, grill, picnic table, and fire ring. Total expenses for the project up to September 2019 amounted to \$460,520.16 (50% federal, 50% state), representing 27 percent of the total project costs. The project is expected to be completed by September 2020.



Sims Area and Pine Area Improvements

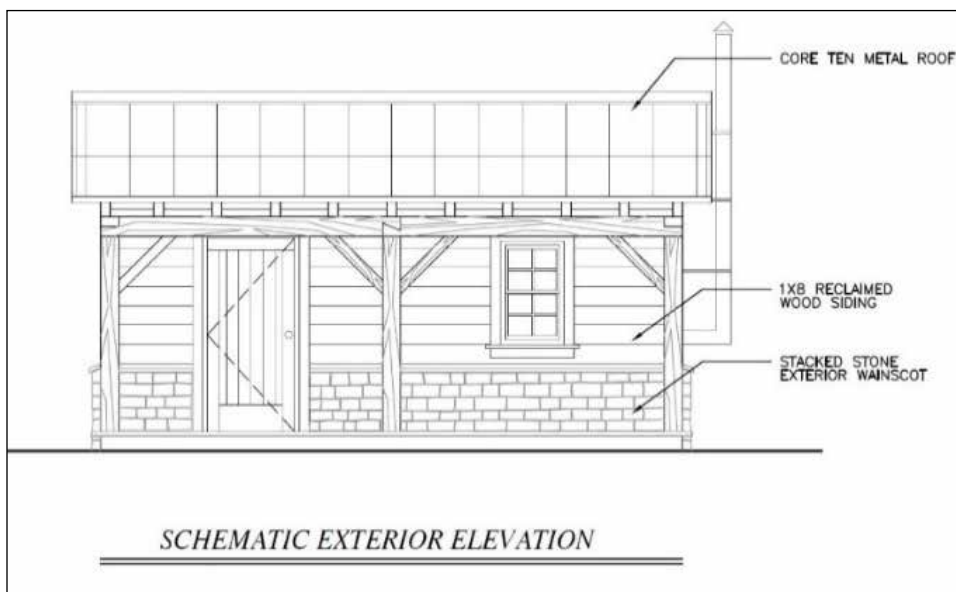
Renovations to the visitor center at Sims Area were completed, including wall and stucco refinishing and replacement of the access ramp and gutters along the rear of the building to address problems with icing. In addition, the comfort stations and vault toilets at the Sims and Pine areas were renovated, including roof repairs, restuccoing, lighting upgrades, and drainage improvements. The total cost of these renovations amounted to nearly \$750,000.



Sims Sewer Lift Station Renovation

The sewer lift station and force main at Sims Mesa were renovated. The sewer lift station was completely rebuilt, and a new sewer line was installed from the existing lift station location to the sewage lagoon. The cost of this project was \$420,000.

Coyote Creek



Encino Campground Improvements and Cabins

Erosion control work in the Encino Campground was completed in June 2019. Design work for the cabin loop has progressed—an architectural design has been completed for the cabins and 10 cabin locations have been sited at the park. Archaeological clearance is being sought for that new cabin loop. Construction will begin in spring 2020. Total funding for this project is \$3,350,000. As of September 2019, \$111,988.34 was expended (50% federal, 50% state).

Mesilla Valley Bosque



Improvements to Outdoor Event Space, Patio, and Roof Repairs

In 2019, Mesilla Valley Bosque State Park was returned to the State Park system. The outdoor event space and patio are important aspects of this park and they were in disrepair due to uneven walkways and the roots of trees and shrubs undermining the patio. State Parks reconstructed portions of the walkways and patio so that this space can be utilized for programs and rented for special events. In addition, roof repairs were also undertaken. Total cost of these projects was \$35,488.

Hyde Memorial



Renewable Energy and Microgrid Development

The main electrical supply line to Hyde Memorial State Park has failed. State Parks will install solar energy plus energy storage at the park with the help of the engineers in EMNRD's Energy Conservation and Management Division. The cost of this system will be compared with the cost of requesting an extension of the PNM power line, which is expected to amount to \$3 million or more. Preliminary estimates are that the renewable energy system will cost considerably less and can provide a great starting point for expanding renewable energy at State Parks throughout New Mexico.

Storrie Lake



Roadway Resurfacing and RV Dump Station Construction

Major park roadways were resurfaced, and drainage improvements were made in 2019. Construction on the new wastewater treatment system for RV waste began in September 2019 and is expected to be completed in 2019, weather permitting. Total funding for this project amounts to \$900,000. \$243,222 was expended (50% federal and 50% state) as of September 2019.

Bottomless Lakes



Historic Pavilion Renovation

The historic pavilion and bell tower at Bottomless Lakes State Park needed to be preserved. Repairs were made to the wood posts, beams, windows, and doors to return it to a more historically appropriate look and secure the buildings, which have been subject to vandalism. The cost of this project amounted to \$50,000.

Brantley Lake



Water System Upgrades

The piping and controls at the water treatment plant were upgraded and two new pressure tanks were installed to provide adequate water pressure for the comfort station fixtures. The water storage tank was also inspected and repaired. Total expenditure for this project amounted to \$236,098.17 (\$138,981.36 in state funds and \$97,116.82 in federal funds).

El Vado Lake



Comfort Station Repairs

The comfort station in the El Vado campground was re-stuccoed and repairs were made to address leaks in the roof. The total cost of these repairs was \$17,265.81 (\$8,632.91 in state funds and \$8,632.90 in federal funds).

Heron Lake



Water Line Infrastructure

The water supply system was upgraded, including installation of leveling controls, electronic monitoring, and grounding. The total cost of the upgrade was \$166,790.20 (State Funds amounted to \$133,345.63; Federal funds amounted to \$33,444.57).

Willow Creek Upgrades

Staff residences for Park Staff in the Willow Creek area were deteriorating and upgrades were needed to ensure safe and healthy environments for the park staff. Extensive repairs were made to the Superintendent's residence and the park technician's residence, including repairing roofs and skylights, electrical, plumbing, insulation, replacing windows and doors, carpeting, and painting. A new underground electric line serving the residences was also installed. The total cost of these repairs amounted to \$124,426.61 (\$62,213.30 in state funds and \$62,213.31 in federal funds).

Bluewater Lake



Equipment Canopy

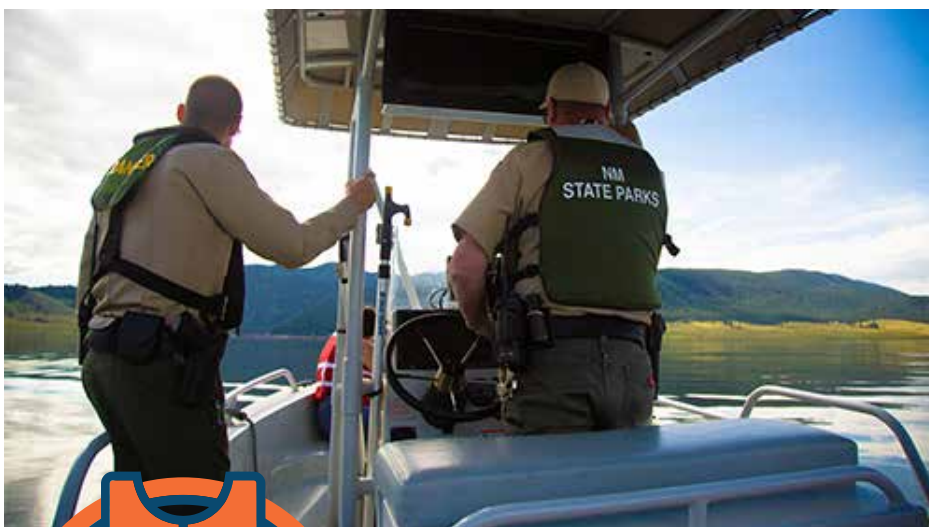
A new equipment canopy and related site work was completed at the shop area behind the visitor center, and a new tool shed was also constructed behind the shop. The equipment canopy is a metal building kit constructed on site. Total expenditures on the project amounted to \$249,636.96 (50% federal and 50% state).



Pecos Canyon Updates

Pecos Canyon State Park was established in 2019 through a partnership with the NM Department of Game and Fish. The park consists of 5 campgrounds: Burt Clancy, Terrero, Jamie Koch, Frog Bog and Mora Campgrounds. Initial work has been completed as related to cultural, natural and boundary surveys, as well as planning for providing electrical sites at several campgrounds.

The Superintendent position will be hired by early 2020 in addition to other staff positions. Work is underway on an administrative site for the park as well as the park management plan. Staff will expand key partnerships with the Department of Game and Fish, the US Forest Service, the National Park Service, the village of Pecos, the Upper Pecos Watershed Association and others. This is a very exciting addition to the park system.



New Mexico

BOATING AND LAW ENFORCEMENT BUREAU

State Parks manages outstanding recreational boating opportunities

statewide. The Boating and Law Enforcement Bureau's primary goal is to reduce injuries and property damage and to have zero boating-related fatalities. Statistically, since 2010, State Parks averages 33 state-reportable boating accidents per year. This calendar year we are on track to have fewer than average, with only 30 state-reportable accidents. Unfortunately, despite the tireless efforts of New Mexico Marine Enforcement Officers, this calendar year we have recorded three boating-related fatalities to date. State Parks will continue to work tirelessly to prevent unnecessary loss of life in boating accidents.

With approximately 32,505 registered boats in New Mexico and an increase in visits from boaters in bordering states, the Boating and Law Enforcement Bureau continues to evolve. We are working on increasing reciprocity in rules and statutes between us and other states in our region. In addition, we are increasing enforcement of lifejacket wear on the water, which is having the desired impact of reducing boat accidents and reducing boating-related fatalities.

The Boating Program offers the public free boating safety classes throughout the year, and State Parks also continues to teach boating safety programs in schools and to various civic and private organizations. State Parks maintains the home study option for

the Boat New Mexico Course and individuals wishing to take a classroom program can enroll in our Boat New Mexico Course at the Boating Safety Training Center at Elephant Butte Lake, as well as other locations throughout New Mexico.

Parks continues to work with the U.S. Coast Guard Auxiliary (USCGA) to promote its educational efforts and USCGA instructors and volunteer instructors teach our State Boat New Mexico Course. The Boating Program Coordinator has attended Flotilla meetings in Albuquerque, NM and

El Paso, TX to help foster the culture of cooperation. Division staff will continue to attend USCGA Divisional meetings each fall and spring to keep all our flotillas up to date.

Improving boater access is an important aspect of the boating program in New Mexico. This year, providing recurring maintenance and repairs to boat ramps from erosion and extending boat ramps to accommodate lower water levels has been necessary statewide, particularly at U.S. Army Corps of Engineers and U.S. Bureau of Reclamation co-managed lakes. Providing erosion control at boat launch parking areas is also necessary as water levels fluctuate.

State Parks continues to enhance boating safety training for its Marine Enforcement Officers (MEOs), who implement recreational boating safety measures statewide. State Parks sponsored a Boating Under the Influence (BUI) Detection and Enforcement training in March 2019 and trained all our current officers, along with several officers from other agencies, in the BUI seated battery. In 2019, State Parks executed BUI checkpoints at three of our high-visitation lakes. The State Parks Division was the lead agency in this action, in partnership with other agencies.

The Boating Program continues to work with the marketing team to get the message out about the dangers of drinking while operating a vessel. State Parks and the Boating Program has partnered with media outlets in broadcast and print to positively promote our message: "Stay Afloat, Don't Drink and Boat".

ADMINISTRATIVE BUREAU

The Administrative Bureau ensures the delivery of office and park supplies to park staff and visitors to ensure good customer service. Staff in the Administrative Bureau help to prepare and track the Division budget and support the fiscal needs of the Division. This Bureau also oversees Division procurement, fixed assets, and the annual surplus auction.

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.

Parks Special Events

2019 started off with First Day Hikes and Polar Bear Plunges, an invigorating start to the New Year. On New Year's Day, State Parks sponsored free, guided hikes in eight parks as part of America's State Parks First Day Hikes. These guided hikes provide a means for the public to ring in the new year in the great outdoors and connect with nature.

This year marked milestones for two of our parks. Coyote Creek State Park celebrated its 50th anniversary in September on National Public Lands Day with

free educational programs featuring the US Fish and Wildlife Service, Department of Game and Fish and a fantastic community turnout of approximately 500 people.

In addition, Cerrillos Hills State Park celebrated its 10th anniversary with a Fall Fiesta. The day started out with a Donkey Hike through Cerrillos Hills with the Donkey and Mule Association members as their handlers, educational programs, live music, live raptors, and food and fun for the entire family.

The National Association of State Parks Directors (NASPD) and State Parks teamed up with REI for the fourth year in a row on the retailers' #OptOutside campaign - an initiative to get people outdoors and in State Parks on Black Friday. The promotion continues to gain momentum as State Parks expands activities offered for the event.

Other events include egg hunts, Earth Day celebrations, star parties, fishing derbies and tournaments, a Music in the Mountains concert, marathons and racing events, National Hunting and Fishing Day, and car shows.

PROGRAM SUPPORT BUREAU

The Program Support Bureau consists of four primary areas of expertise that provide statewide support to our parks and regional and Santa Fe offices. Those areas of support include the volunteer program, natural and cultural resource protection, business enterprises (e.g. concessions), and workplace safety and loss control.





Volunteer Program

This year marked another exceptional year for volunteerism with the State Parks Division. In FY19, State Parks benefited from the work of more than 500 dedicated volunteers who contributed a reported 111,015 hours of service to park operations. The value of these hours translates to an equivalent of 53 full-time employees, donating their time, talents and resources to enhance our programs, with a value of over \$2.3 million to the Division.

Park volunteers include camp hosts and day volunteers who assist with operational needs, staffing visitor centers, gardening and trimming vegetation, trail maintenance, cleaning camp sites, trash pick-up, assisting campers, gift shop sales, and other critical needs.

In addition, State Parks also received vital support from 22 local Friends groups throughout the year, up from 21 in 2018. Friends groups are support groups for specific parks, providing staffing and resource collaboration. In 2019 they hosted park events and raised funds to complete park projects. These efforts offset budget and staff shortfalls.

Parks celebrated some great successes, thanks to local Friends groups. A few highlights include:

- Friends of Eagle Nest and Cimarron Canyon hosted activities at Eagle Nest Lake State Park for a centennial celebration of the Eagle Nest Dam, contributed time and expertise to the first annual 'Girl Scouts Love State Parks' weekend, and assisted with the 50th anniversary celebration of Coyote Creek.
- Friends of Rio Grande Nature Center supported 26 nature and educational events in the park in FY19.


500 dedicated
volunteers

=


111,015 hours
of service


53 full-time
employees

=


value of
\$2.3 million
to the Division

- Friends of Bottomless Lakes was established, with a mission to provide educational and recreational opportunities for park visitors. They hosted the 'Tour de Ocho Millas' cycling event and 'Bottomless Triathlon'.
- Friends of Brantley Lake was reestablished and actively participated in the 30th Anniversary celebration and hosted a new 'Sweetheart 5k Fun Run' fundraising event.
- Friends of Hyde Memorial hosted a 'Music in the Mountains' summer concert and partnered with the Boy Scouts to make the event a community success.

Resource Protection Program

As part of its mission, State Parks documents and preserves the unique cultural and natural resources within its system. In 2019, much of the focus was on a series of maintenance and repair projects, and State Parks staff reviewed dozens of park projects requiring compliance with various state and federal laws including the National Environmental Protection Act, National Historic Preservation Act, and New





Students participating in the pithouse excavation at City of Rocks State Park.

Mexico's own Cultural Properties Act. In meeting these compliance requirements, Parks Resource Protection staff successfully coordinated with partner and regulatory agencies that were critical to the compliance process, especially the State Historic Preservation Office.

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, in 2019 State Parks entered into an MOU with the State Historic Preservation Office to re-establish the SiteWatch program at several parks as a means of further protecting cultural resources. This important program pairs trained volunteers at archaeological sites that are at risk of damage from unauthorized excavations. The volunteers visit the sites regularly and document any damage they observe and report it to State Parks.

Also, the State Parks archaeologist oversaw a drone mapping project at an important Chacoan site on State Park-owned property near Gallup. This project, started in 2018, was designed to compare new aerial data to aerial data gathered in 2007 as an indicator of how an erosion channel is impacting this important archaeological feature. The results of the survey will be used to create an erosion abatement plan for the site.

State Parks also worked with Eastern New Mexico University's archaeology department on an archaeological field school at City of Rocks State Park. The field school - run by the former State Parks archaeologist Robert Stokes - focused on the excavation of a pithouse near the Visitor Center.

State Parks partnered with a specialty team to begin a major habitat restoration and erosion control project at City of Rocks State Park. The work was funded through a grant from the US Fish and Wildlife Service and the New Mexico Office of Natural Resources Trustee. This park protects two rare desert water features (cienegas) that, in their natural state, are home to a variety of unique and important plant and animal species. One of the cienegas had been transformed into a watering hole for cattle and all of the surrounding vegetation had been lost. That cienega has been replanted with appropriate vegetation. The other cienega is scheduled to receive much needed protection from sedimentation which is slowly filling it up. Several smaller erosion projects were also completed in the main camping area of the park.

Finally, State Parks coordinated with Dr. Spencer Lucas and staff from the New Mexico Museum of Natural History and Science and the Central New Mexico Community College to complete a significant recording project of the dinosaur trackway at Clayton Lake State Park. This project involved digital mapping of the dinosaur tracks as well as videography of the project. The local community was very supportive and expressed interest in adding "dinosaur trackway" to the name of Clayton Lake State Park.



New Mexico Raptors, Inc.

Outdoor Education Program

State Parks provides quality interpretive experiences and educational programming for visitors. In 2019, a total of 768 interpretive and educational programs were delivered to 13,685 people visiting our parks. Our programs range from Ranger-led talks about the ecology and history of the park

to more formal programs that expand classroom learning to the outdoors. Many of our park staff are trained and certified as interpretive guides through courses developed by the National Association for Interpretation.

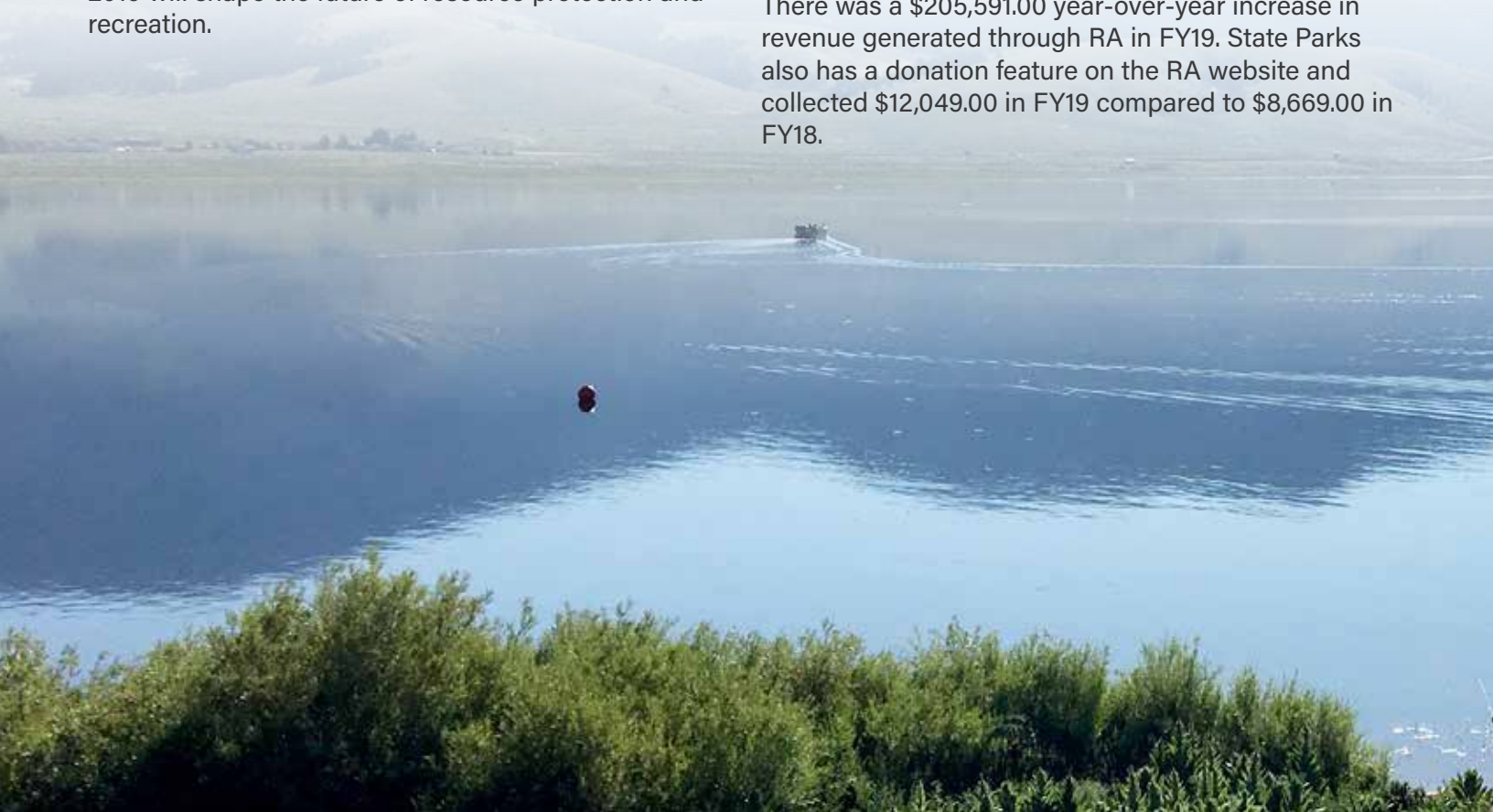
To continue to benefit our visitors, State Parks partners with a variety of outdoor education providers who bring their expertise and experience to our parks. The Sandia Mountain Natural History Center, in coordination with the New Mexico Museum of Natural History Foundation, provided administrative support for the Transportation Grant program and provided 15 different educational programming events at five different parks. In addition, New Mexico Raptors, Inc. provided 15 programs emphasizing the importance of birds-of-prey in desert ecosystems around the state using their collection of live birds. Finally, State Parks has partnered with the Bosque School in Albuquerque to provide critical science and natural resource programming to underserved school kids in the Las Cruces area. The Bosque School couples in-classroom programming with field trips to Mesilla Valley Bosque State Park where students put their new knowledge into action.

The knowledge and experience young people gained through State Parks' Outdoor Classroom Program in 2019 will shape the future of resource protection and recreation.

Business Enterprise

State Parks relies on relationships with concessionaires and private business for services our parks would not otherwise provide. In doing so, these businesses generate additional revenue for the park system. State Parks currently administers 16 concession types through the issuance of concession contracts and permits. They include the state camping reservation system, marinas, fishing outfitters, stores, food trucks, and gift shops. Total revenue collected from all concessions in FY19 was \$1,653,276 compared to \$1,301,837 in FY18.

In 2019, State Parks successfully completed a Request for Proposals for the installation of commercial wireless networks in our parks. Viasat, Inc. submitted a proposal and was selected and approved at a Board of Finance Meeting in June 2019. So far, networks have been deployed at five different parks with plans for up to twelve more park installations by the end of FY20. State Parks had another successful year with Aspira, Inc. owner of ReserveAmerica (RA), our online system for reserving campsites in 2019. Parks saw a 27.1% increase in the number of reservations made on RA with a total of 37,268 reservations made in FY19. The top three states for people making reservations are New Mexico, Texas, and Colorado. People from other countries also used RA, including Canada and France. There was a \$205,591.00 year-over-year increase in revenue generated through RA in FY19. State Parks also has a donation feature on the RA website and collected \$12,049.00 in FY19 compared to \$8,669.00 in FY18.



The top five parks in both total nights booked and in revenue generated from RA are Navajo Lake, Elephant Butte Lake, Brantley Lake, Bottomless Lakes, and Santa Rosa Lake State Park.

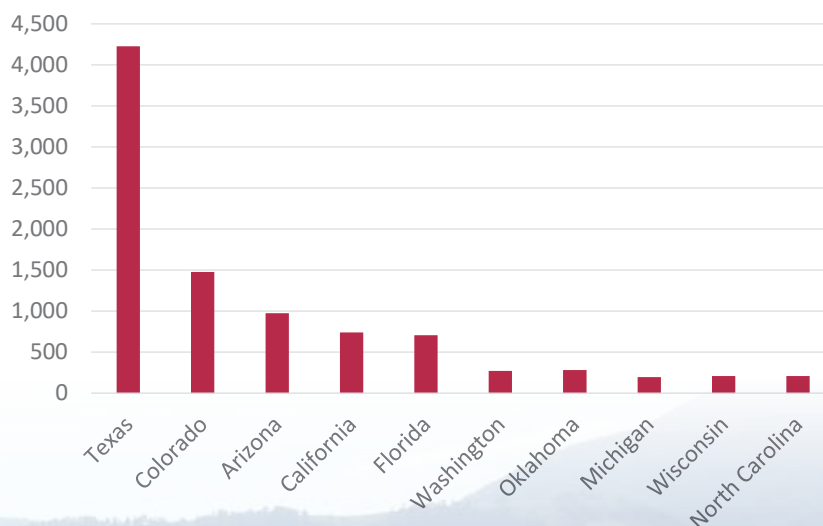
State Parks is currently working with Aspira Inc. to increase the inventory of reservable campsites on RA and to improve the convenience of making reservations online. Increasing online inventory and allowing visitors to make online reservations on the same day they arrive at a park are two key visitor

benefits from the *Next Generation of Adventure* initiative. Additional reservation sites were added at Elephant Butte Lake, Caballo Lake, Percha Dam, Ute Lake, and Conchas Lake State Parks in May and June 2019. There are now approximately 800 reservable sites across our parks on RA out of over 2,200 developed campsites. Because of strong marketing messaging encouraging people to “book now”, State Parks is hopeful that the added convenience of reserving campsites online throughout the year will drive more people to our parks.



Data Insights

- ▲ 46% of orders are from New Mexico Residents
- ▲ Top Out of States are TX and CO



Proprietary and Confidential



MARKETING

New Mexico Magazine

State Parks is proud to continue our partnership with New Mexico Magazine for the third year in a row, participating in our “Enchanted Adventures” category in the annual photo contest. The contest is for amateur photographers and great prizes are awarded for the top 3 photos submitted.



Social and Traditional Media

Facebook, Twitter, and Instagram social media channels are updated regularly with news, upcoming events, pictures, and relevant campaigns.

2019 Media Day was held the weekend before Memorial Day weekend with twenty media partners in attendance at Navajo Lake State Park. Media partners promoted the importance of always wearing your life jacket while on the water.

Working with LOBO LIFE

To expand State Parks’ reach with younger audiences, the Marketing team has partnered with the University of New Mexico’s LOBO LIFE. These graduate marketing students from UNM visit State Parks and photograph and video their experiences and share them through social media.

Partnering with ReserveAmerica

Through the partnership with ReserveAmerica, the Marketing team prepares monthly email blasts featuring the latest and greatest parks has to offer to past and current park visitors. This partnership with ReserveAmerica has proven beneficial as park reservation revenue continues to increase.

Marketing Logos

Finally, staff have created marketing materials for many special initiatives and events, including the Next Generation of Adventure logo, the Coyote Creek State Park anniversary logo, and the Cerrillos Hills State Park logo.





*50th Anniversary
Coyote Creek State Park*



*Filming of Boating Safety Commercial at
Navajo Lake State Park*



*2019 National Boating and Safety Week
Navajo Lake State Park*



*Next Gen of Adventure Press Conference
Lt. Governor Howie Morales and Marketing Team*

Oil Conservation Division



In April 2019 I stepped into my new role as the Oil Conservation Division Director. I knew this new role would be a challenging one as the Division was facing a 45 percent vacancy rate (the percentage of authorized positions that are not filled) amid a continuing oil production boom in the Permian Basin. With the challenges come new opportunities, and I'm proud to say we have made progress in 2019 in overseeing responsible development of oil and gas resources in New Mexico.

In 2019 EMNRD supported introduction of legislation authorizing the OCD to collect fees on oil and gas permitting applications, with funds specifically dedicated to technology and hearings improvements. This new law is a game-changer for the OCD. Our processing systems are out of date and waste significant staff time processing paper applications. The new fees portal is allowing us to update our technology so the OCD can accomplish more online, freeing up staff to focus on the work they were hired to do. Moving records online also improves public transparency.

We're also completing a reorganization of the Division, which is a key part of recruiting and retaining talented staff and making our Division more efficient. In our Hobbs and Artesia districts retaining and recruiting staff is increasingly difficult as we compete with the growing oil and gas production in the Permian Basin. The reorganization of the Division addresses this by opening an Albuquerque office where we can pull from a larger pool of candidates. At the same time, we are not closing any offices, allowing us to keep our dedicated staff in the prime production areas of the state.

We're already seeing the benefits of this reorganization with new hires bringing our vacancy rate down by 10 percentage points between July and November.

Another key accomplishment for the OCD this year is the progress made on our methane strategy. In Executive Order 2019-003, Governor Lujan Grisham directed EMNRD and the New Mexico Environment Department (NMED) to jointly develop a statewide, enforceable regulatory framework to secure reductions in oil and gas sector methane emissions and to prevent waste from new and existing sources. In coordination with NMED, the OCD held public information meetings over the summer in Farmington, Albuquerque, Carlsbad, and at the Counselor Chapter House on the Navajo Nation. These public information meetings were a key part of updating the public on our strategy for addressing methane and a significant first step in gathering information on how to move forward.

The OCD and NMED also completed the first step of the Methane Advisory Panel (MAP) process. The MAP held two-day meetings every other week to dive into highly technical aspects of methane regulation. MAP members included representatives from the oil and gas industry and environmental nongovernmental organizations, as well as additional experts from universities and national labs as necessary to dive into the different technical possibilities of capturing methane and reducing emissions. A white paper was published by the group in mid-November, the paper is now open for public comment, and OCD and NMED will revisit communities in 2020 for more input on the process before rulemaking begins.

My vision for the Oil Conservation Division is to be an innovative, efficient, and transparent office that serves New Mexico. The boom our state is currently experiencing is expected to continue and the OCD is dedicated to making sure the industry thrives while also acting responsibly and meeting the mandate to reduce emissions set by Governor Michelle Lujan Grisham. It will not be easy, but our dedicated and growing team are up to the task. I'm proud to be part of this effort and am excited to present you with our accomplishments in 2019.

-Adrienne Sandoval, OCD Director





Oil Conservation Division

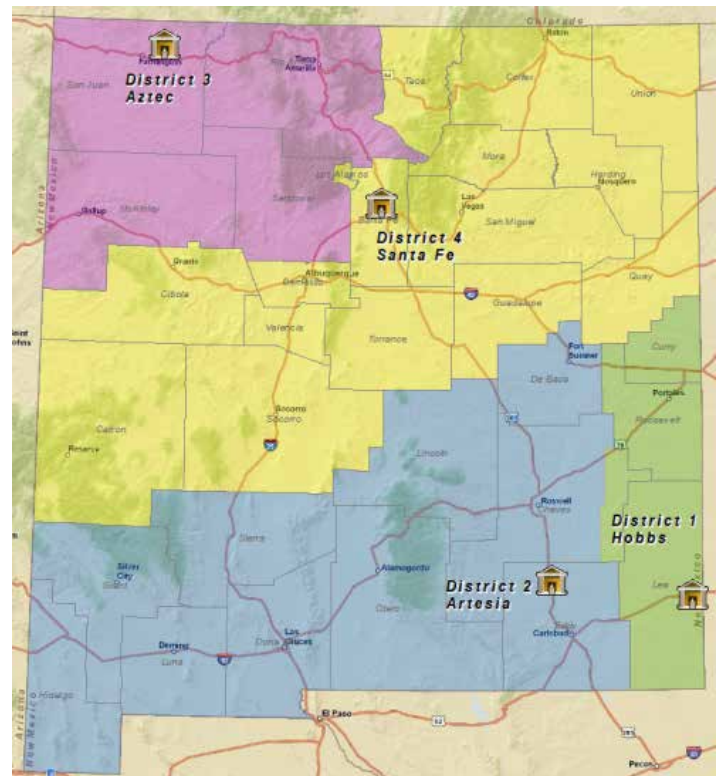
MISSION: The Oil Conservation Division (OCD) regulates oil and gas activity in New Mexico. It gathers oil and gas well production data, permits new oil, gas and injection wells, enforces the Division rules, develops administrative orders to which operators are subject, enforces the State's oil and gas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

OVERVIEW: The OCD is organized into four district offices and three bureaus responsible for different aspects of regulating the oil and gas industry.

The OCD District Offices are in Hobbs, Artesia, Aztec, and Santa Fe. They issue drilling permits, inspect wells and associated facilities, respond to spills, investigate violations, and institute enforcement actions.

OIL CONSERVATION DIVISION GOALS:

- To make decisions consistent with the Oil and Gas Act and Rules delivered in a timely and transparent manner.
- To provide efficient processes that support industry's needs while ensuring compliance with the requirements of the Oil and Gas Act and Rules.
- To provide public access to reports and information.
- To strive for balance that allows for oil and gas production while protecting the environment, with decisions based on sound science and technology and the Oil and Gas Act and Rules.
- To fill vacancies to enhance public service, well inspections, and application processing.
- To work collaboratively with other agencies, industry, and the public for the betterment of the division.
- To continue to provide seamless oil and gas production data to the Taxation and Revenue Department and the State Land Office for the efficient processing and disbursement of taxes and royalties due to the state of New Mexico.



STAFF:

- Total OCD staff: 71
- Santa Fe: 33
- Artesia: 14
- Aztec: 11
- Hobbs: 13

OCD BUREAUS

The Engineering Bureau manages the administrative permitting program of the Oil Conservation Division (OCD) to ensure program goals and regulatory objectives are met. The bureau supports the OCD by providing the technical expertise needed to design

and develop programs that address new issues arising from new advances in the oil and gas industry; processing administrative permit applications pursuant to the New Mexico Oil and Gas Act; acting as hearing examiners for protested applications and for applications requiring an adjudication process; and overseeing activities including application processing for the Underground Injection Control (UIC) program. The bureau monitors and enforces the UIC program with the assistance of the personnel of the Field Operations, Administrative and Compliance Bureau who conduct inspections and document conditions for UIC wells.

The Field Operations, Administration and Compliance Bureau ensures 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 works with operators to develop agreed compliance orders to attain compliance with rules and regulations. The bureau tracks statistics, provides administrative support, manages the orphan well plugging program, the US Bureau of Land Management well plugging program, the tracking of operator financial assurance, and production reports. The bureau is responsible for overseeing the district offices and working with those offices on compliance matters.

The Environmental Bureau enforces both the State's Oil and Gas Act and Water Quality Acts in protecting public health, groundwater, surface water, and the environment in relation to the activities of the oil and gas industry in New Mexico. This involves complex technical issues of geology, hydrology, and engineering.

OCC and 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 the 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.

OCD PERFORMANCE

Inspection and Plugging

In calendar year 2019 the OCD inspected 27,756 oil and gas wells and facilities out of 65,062 total facilities. 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.

To date, the OCD has plugged 12 wells in 2019, and operators have plugged approximately 500.

Applications for Permit to Drill ("APDs")

In FY19, the OCD approved 93% of all APDs within 10 business days of receipt, exceeding the performance target of 85% set by the Legislative Finance Committee. Approving APDs in a timely manner enables industry to plan and drill wells on schedule, thereby reducing down-time and additional rig expense. Timely turnaround facilitates royalty and tax money to quickly flow to the state as reflected by the over one-billion-dollar budget surplus provided to New Mexico by oil and gas production. Timely

approval of permits in conjunction with the OCD's inspection program ensures that the oil and gas industry can thrive while ensuring they are operating in compliance with the rules.

Carlsbad Brine Well Remediation

Since 2009, the OCD has been the lead in characterizing and monitoring a large and unstable Brine Well cavern threatening a developed portion of the City of Carlsbad in Eddy County. This Brine Well cavern was created when I&W injected freshwater into the subsurface salt formation to produce saturated brine used for oil and gas operations. I&W went bankrupt while failing to monitor or remediate the cavern.

Given the size and characteristics of the cavern the potential for catastrophic failure is significant and would result in serious disruption to local infrastructure, tourism, oil and gas logistics, and agriculture, as well as contaminating groundwater. Using the Oil Reclamation Fund and I&W's liquidated bankruptcy estate, OCD completed an assessment of the cavern using multiple state of the art geophysical techniques. The OCD also

installed and is maintaining an automated ground movement monitoring system integrated directly into the local emergency response infrastructure for safety precautions.

During the 2017 and 2018 legislative sessions a fund to mitigate the problem 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, the Environment Department, with the Secretary of the Energy, Minerals and Natural Resources Department serving as the chair. After a robust request for proposal period, Wood Environment and Infrastructure Solutions, Inc. was contracted to design and implement an in-place grouting program. The final design and budget was completed earlier this year and drilling began in September of 2019. The grout injection program is scheduled to run continuously through August of 2020. There will be a two-year monitoring program thereafter to ensure that the remedy is successful.



PARTNERSHIPS AND COLLABORATION

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA):
In July of 2018, the OCD entered into a Memorandum of Understanding with the US EPA to explore ways to reuse and recycle oil and natural gas wastewater for the economic benefit of New Mexico. As a result, a white paper was developed describing the existing regulatory framework under state and federal law while identifying several unique treatment and reuse opportunities. Legislation was subsequently passed in the 2019 session clarifying certain aspects associated with produced water ownership, conveyance, and reuse. That law requires the development of new regulations from the NM Environment Department and minor regulatory changes for the OCD.

ONLINE FEES PORTAL:

During the 2019 legislative session Senate Bill 553 passed, giving the OCD the authority to charge fees and setting a fees schedule on specific administrative applications. The money generated from these fees allows the OCD to modernize its technology and business systems and offset hearing administrative costs. An online portal to collect the fees launched on July 1, 2019.

Since implementing the fees portal in July the following fees have been collected as of December 4, 2019:

Month	Amount
Jul	\$122,100.00
Aug	\$136,800.00
Sep	\$141,568.96
Oct	\$164,696.00
Nov	\$81,610.00
Grand Total	\$646,774.96



Oil & Gas Produced by Volume by Year

*measured
in MCF

**measured
in BBLs

Year	Gas Sold*		Year	Oil Sold**
2014	1,155,357,288		2014	124,859,060
2015	1,172,993,175		2015	148,337,428
2016	1,177,458,165		2016	146,717,731
2017	1,231,918,269		2017	172,526,968
2018	1,415,560,809		2018	248,739,596
2019	1,175,110,261		2019	208,831,227

Well Inspections by Fiscal Year 2016 - 2019

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>
Quarter 1	9709	10066	9805	12431
Quarter 2	7900	8698	6924	10245
Quarter 3	6004	11011	10885	13379
Quarter 4	7430	13105	10314	13569
	31043	42880	37928	49624

Well inspections were down in FY 2019 due to high vacancy rates in OCD field offices. The reorganization of the Division and new recruiting methods underway should address this issue moving forward.

Number of Wells

Well Type	Approved APDs, Not Plugged, Not Cancelled	Completed Wells
Carbon Dioxide	752	732
Gas	28354	27107
Injection	3355	3326
Misc	133	117
Oil	31478	27649
Salt Water Disposal	998	873
Water	45	44
Total	65115	59848

Number of Wells by Land Type

Land Type	Approved APDs, Not Plugged, Not Cancelled	Completed Wells
Federal	34885	31123
All Tribal	2858	2777
Private	11048	10676
State	16324	15272
Total	65115	59848



The Energy, Minerals and Natural Resources Department proudly presents the work of our Department in calendar year 2019. EMNRD looks forward to continuing our work managing resources sustainably for all New Mexicans in 2020.

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

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

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

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