

2014



ANNUAL REPORT

New Mexico Energy, Minerals & Natural Resources Department

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Resources Department



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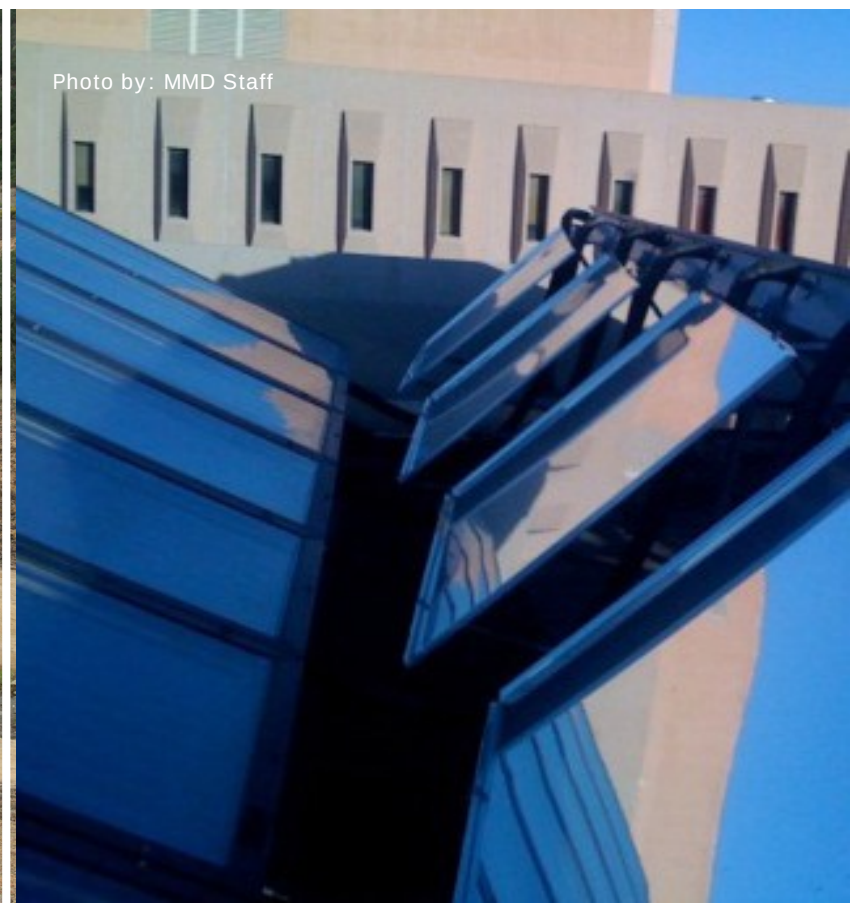


Photo by: MMD Staff

Energy, Minerals and Natural Resources Department

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Vision

A New Mexico where individuals, agencies and organizations work collaboratively on energy and natural resource management to ensure a sustainable environmental and economic future.

Mission

To position New Mexico as a national leader in the energy and natural resources areas for which the department is responsible.

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Photo by: Daniela Roth

Energy, Minerals and Natural Resources

F. David Martin

Cabinet Secretary



Energy, Minerals and Natural Resources Department

A Message from Cabinet Secretary F. David Martin

The Energy, Minerals and Natural Resources Department is arguably the best agency in state government. Of course, I am biased.

Throughout our divisions, our team is fully committed to protecting and carefully managing New Mexico's valuable natural resources. In 2014, the Mining and Minerals Division's Abandoned Mine Land Program was recognized at the national level for its work to safeguard dangerous mine openings at the geologically unique and heavily visited Harding Pegmatite Mine in Taos County with a "Fix a Shaft Today!" award and continued to develop projects in areas of the state impacted by historic mining. The Oil Conservation Division played an integral administrative and regulatory role in helping the state safely produce 100.8 million barrels of oil for calendar year 2013; the Division exceeded goals and inspected 38,920 oil and gas wells and associated facilities—an increase of 1,213 (37,707) from FY13. All 35 State Parks are still precious jewels and New Mexico True--outdoor recreation is a driving force in today's economy and State Parks is a key player; park visitation totaled 3,888,854, and the numbers of passes sold for non-residents, veterans and disabled individuals increased from last fiscal year. In 2014, the Forestry Division's Military Veterans Fire Crew Pilot Program became permanent, with military veterans hired as seasonal firefighters being assigned to fires in New Mexico, Arizona and Washington. The Energy Conservation and Management Division were recently honored with a "2014 State Leadership in Clean Energy" Award for its New Mexico Renewable Energy Production Tax Credit Program. This innovative program has advanced development of New Mexico's clean energy resources and promoted economic development. The WIPP Transportation Safety Program, also led by EMNRD, continues to collaborate with state and federal partners despite the shutdown of operations at WIPP. Finally, the Administrative Services Division, the Human Resources Bureau, the Information Technology Division and the Office of General Counsel do what they do best—take care of our budget, our computer infrastructure and us.

Our commitment to you, the New Mexico taxpayer, is to work purposefully to ensure a sustainable environmental and economic future for generations to come.

I am honored to present the Energy, Minerals and Natural Resources 2014 Annual report.



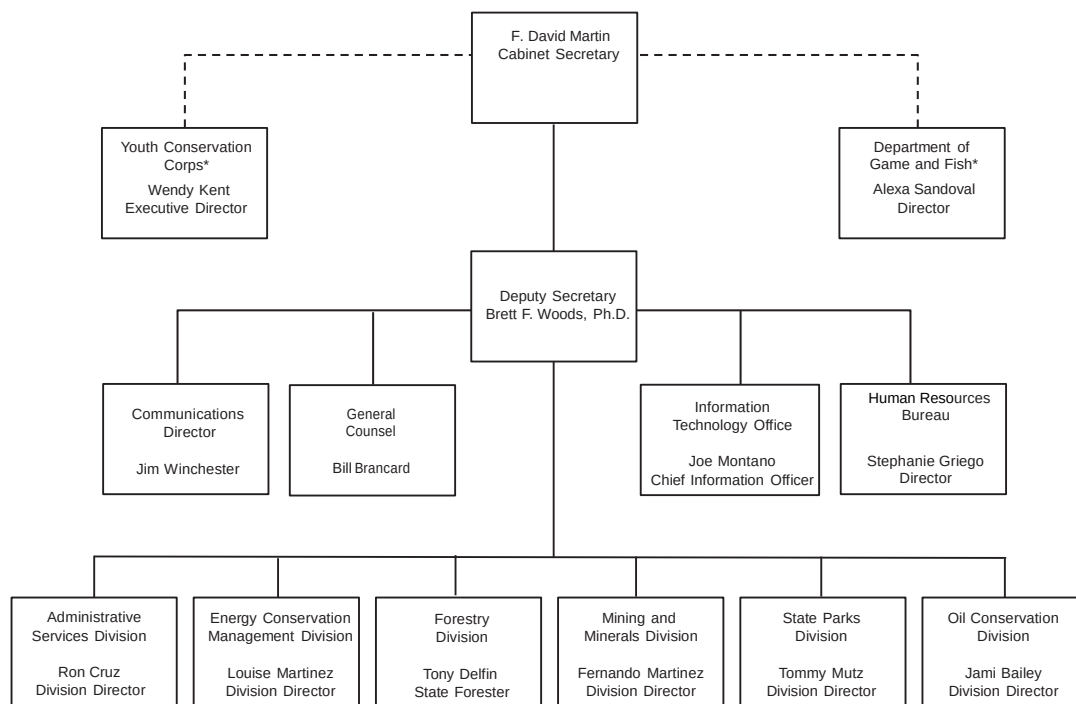
Governor
Susana Martinez

Organization



Photo by: Lauren Aguilar

Energy, Minerals and Natural Resources Department



* Administratively Attached. No direct budget support from EMNRD



Program Leadership and Support

Program Leadership and Support provides leadership, sets policy and assists the divisions in achieving their goals. Program Support consists of the Office of the Secretary (OFS), Administrative Services Division, and the Information Technology Office, which provide administrative support functions—legal, human resources, fiscal and information technology.

Office of the Secretary

OFS provides leadership, strategic planning and policy direction, and establishes procedures for the department and program performance. OFS oversees all divisions within the department; it also houses the Office of Information Technology, Public Information, and Office of General Counsel.

OFS serves as the focal point for the department's communications with the Governor, legislators, and other state agencies (including the Department of Game and Fish and the Youth Conservation Corps which are administratively attached to EMNRD). It establishes department policies and provides legal, programmatic, and public outreach direction to the divisions.

Administrative Services

The Administrative Services Division (ASD) oversees the agency's finances and property. Specific functions include budget, procurement, accounting, payments, federal grant reporting, and property and material management. Among ASD's duties are the processing of payment vouchers, travel documents, purchase orders, and deposits, for the department's daily operations. ASD also coordinates the annual financial audit and prepares the annual financial statement and related footnotes for governmental funds.

Office of General Counsel

The Office of General Counsel manages all legal affairs for the Energy, Minerals and Natural Resources Department. This includes representation of the department in administrative and judicial proceedings as well as drafting and analysis of proposed legislation and rules, assistance with human resources issues, and review of contract documents.

Human Resources

The Human Resources Bureau (HRB), within the OFS, provides services and information for applicants, employees and employers throughout the state. HRB verifies that the department follows all rules, regulations, and laws governing employment; guides managers and supervisors through a variety of employment issues; and helps employees to understand the rules, and laws. HRB helps employees with position classification, compensation and discipline. HRB also provides guidance on medical leave and workers' compensation.

Information and Technology Office

The Information and Technology Office is the central information technology and information systems provider for the department's 509 employees and 54 remote sites. It employs 18 technical positions that are responsible for maintaining and supporting EMNRD's computer systems, network-telecommunications infrastructure, and application development needs, using the latest technology for Windows and Web applications on the Intranet and Internet.

Public Information Office

The Public Information Office manages the dissemination of information to the general public, media organizations and other inquiring entities. It coordinates and synthesizes information from EMNRD's divisions to write speeches, news releases, and articles. It serves as project manager for department-wide publications such as the annual report, strategic plan, and other reports as needed. It coordinates and oversees EMNRD's internal communications, including Internet and Intranet, newsletters, memos, award ceremonies, and other department-wide events. The office works closely with all divisions housed within EMNRD providing guidance on marketing and public relations issues.



Energy Conservation and Management Division



Energy Conservation and Management Division

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

PROGRAMS: ECMD programs are implemented through a combination of system certifications, clean energy projects, and public outreach. Diverse stakeholders participate in focused working groups to address rapidly changing themes in clean energy and life cycle studies. Through these efforts, ECMD encourages public and private organizations to use energy more efficiently, more economically, and with less dependence on foreign sources. Benefits to New Mexico include economic development, modern infrastructure, strength through diversity and job creation.

Accomplishments

The **Solar Market Development Tax Credit** program was designed to help residents of New Mexico purchase solar photovoltaic (PV) and solar thermal systems. This program helps reduce New Mexico residents' energy costs and provides stimulus to the solar energy industry in the state. In 2014, PV tax credits will be fully subscribed to the level of \$3 million of benefits to the residents of the state. This is the third year that this program has been fully subscribed. With more applications than available tax credits, a significant number of applications roll over to the 2015 credit allotment.

In the 12-month period through October 2014, based on solar tax credit applications received by ECMD, solar development by homeowners occurred in 22 of 33 counties. A total of 990 system certification applications were received reviewed and processed (964 photovoltaic, 26 thermal). The majority of PV installations were located in Doña Ana (334), Bernalillo (257), Santa Fe (141), Sandoval (105), Valencia (34), Taos (25), San Miguel (13) and Grant (10) Counties. All combined this year's photovoltaic systems account for 5.7 megawatts of new electricity capacity. These distributed solar systems help utility companies and cooperatives meet the State Renewable Portfolio Standard, avoid fossil generation costs and fuel charges, and lower system owners' utility bills. During the last year, a total of \$2.6 million was approved for state tax credits with a combined \$5.2 million in labor charges paid to solar system installers.

New Mexico's solar resource, with the high elevation and clear skies, is one of the best in the United States. By generating electricity with the sun, less coal and natural gas is burned. Solar reduces the risk of higher electricity costs on New Mexico citizens due to volatile fossil-fuel prices and cost of pollution.



Photovoltaics at Rockhound State Park.
Photo by Jeremy Lewis

The **Renewable Energy Production Tax Credit (REPTC)** is supporting utility-scale wind, biomass, and solar projects which, in turn, assist utility companies in meeting the Renewable Portfolio Standard. Currently, there are 794 megawatts (MW) of wind and 232.5 MW of solar-generating electricity in New Mexico, which have created approximately \$2 billion in construction activity within the last ten years. In the last year, renewable energy from solar and wind has provided approximately 14 percent of electricity retail sales in New Mexico from investor-owned utilities. Although in 2012 the allocation of the REPTC reached its ceiling of available tax credits (each tax credit lasting 10 years), nine applications for solar power plants and one for wind turbine facilities were received, reviewed, processed and placed on the waiting list by ECMD in 2014. Projects now on the REPTC waiting list represent potential new development of 727 MW in wind and 65.6 MW in solar power; representing more than \$3 billion in construction activity for rural communities. Due to last year's expiration of eligible energy production for the oldest certified wind generator, three new wind generators were certified and another wind project was approved.

Utility-scale renewable energy projects have become a steady source of revenue for the State Land Office. The New Mexico State Land Trust receives direct revenue for supporting education from leasing public lands to wind, solar, and geothermal power plants, as well as electric transmission infrastructure. Projected revenue for the next 40 years from renewable energy and transmission projects is over \$600 million. Although most renewable energy projects take advantage of the REPTC for ten years, state land leases for up to 30 years are common. Renewable energy facilities also lease private lands, thus providing much needed income to many ranchers and landowners. Land leases, construction jobs, permanent maintenance positions, and modern infrastructure are ways that renewable energy facilities are supporting our communities.

The **Sustainable Building Tax Credit** incentivizes private sector design and construction of energy efficient, sustainable buildings for commercial and residential use. In the 12-month period through October 2014, ECMD received, reviewed, and processed 1,233 applications comprising 2.1 million square feet of floor area: five commercial buildings of 181,671 square feet; 526 multifamily housing units of 488,175 square feet; 19 manufactured homes of 32,338 square feet; and 683 single-family homes of 1,435,686 square feet. The construction of these new homes and commercial buildings that meet ENERGY STAR, LEED, or Build Green New Mexico standards have provided jobs in 19 counties.

The **Geothermal Ground-Coupled Heat Pump Tax Credit** has been in effect since 2010, helping to make this system type more affordable for homeowners and commercial building owners. In the 12-month period through October 2014, there were a total of 127 applications received, reviewed, and processed. This activity took place in the counties of Doña Ana (115 systems), Otero (3), Roosevelt (3), Curry (2), Bernalillo (1), De Baca (1), Quay (1), and Santa Fe (1). The \$1,022,250 in tax credit support of this technology has created construction activity of more than \$3,400,000 in the past year. There are additional incentives available for customers of Roosevelt County Electric Cooperative, through its Thermal Energy Service Program.

The **Energy Efficiency Working Group** provides a forum to exchange ideas on the latest in policies, technologies and financing that advance clean energy applications. Topics covered during ten meetings hosted by ECMD throughout the year include financing options; utility programs; multifamily; micro-grid; passive house; energy and water codes; qualified energy conservation bonds; new building systems; solar thermal advancements; teaching sustainability; mega-storage of renewables; smart grid update; and the greening of schools.

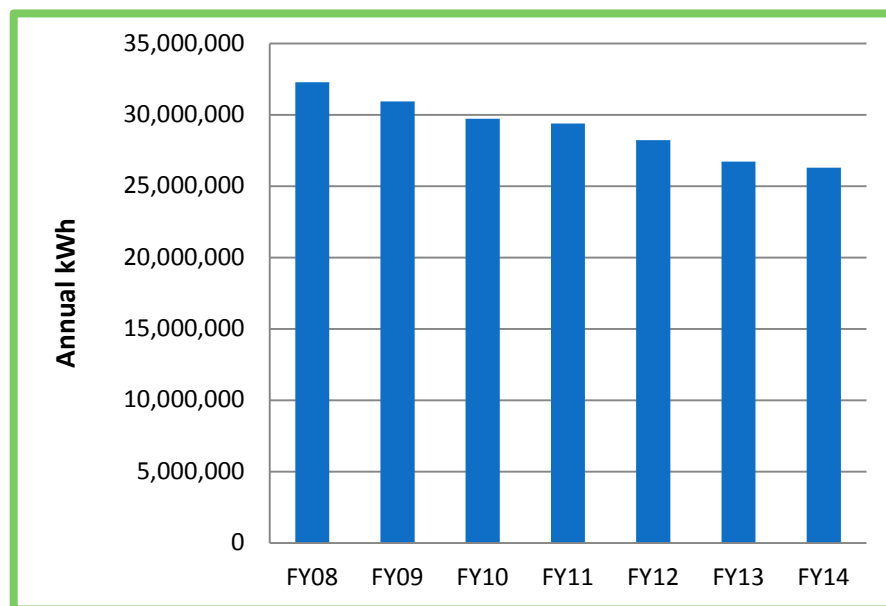
The **Renewable Energy Storage Working Group** combines diverse stakeholders to investigate energy storage technologies, policies, planning and practices for application in New Mexico. Participants include representatives from the private and non-profit sectors, higher education, government (federal, state and tribal), electric utilities and cooperatives. Formed midway through 2013, the group identifies options for New Mexico to encourage energy storage. The group provided a written report containing eight options to the NM Legislature and continues to investigate the topic of energy storage. All presentations and materials for the group are available [online](#).

The **Waste Isolation Pilot Plant Working Group** ensures the safe and uneventful transportation of transuranic waste in New Mexico. Led by ECMD, the working group includes participants from the Department of Homeland Security and Emergency Management, the Department of Public Safety, the Department of Health, the New Mexico Environment Department and the State Fire Marshal's Office. During the past year, the group collaborated with the Department of Energy's Carlsbad Field Office and Los Alamos National Laboratory (LANL) to continue the removal of transuranic waste from LANL up until the February 2014 shutdown of WIPP. The group continues to work to improve safety measures despite the events of 2014 at WIPP.

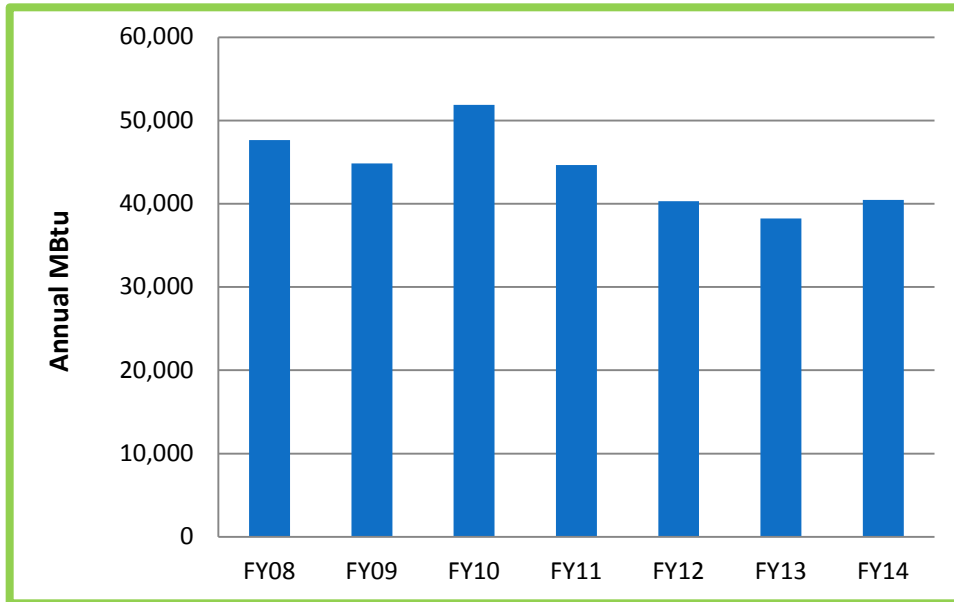
Energy Efficiency – New Mexico ranked 25th in the 2014 ACEEE State Energy Efficiency Scorecard, down from 21st in 2013. The lower ranking is mainly due to the repeal of the California tailpipe emissions standard. The state anticipates greater energy savings in 2015 from greater levels of investment in energy efficiency measures due to both utility programs as well as greater use of performance contracting by state and local governments.

State Government Energy Efficiency

ECMD manages a state government energy efficiency program that is comprised of several key parts. In 2014, two major facility improvement projects were initiated at state facilities, proposing \$18 million in energy efficiency measures (EEMs) that will create jobs, produce energy savings of 12 million kilowatt-hours (kWh) and 800,000 therms, and yield \$1.2 million in annual cost savings to state government. Based on Investment-Grade Energy Audits (IGAs), these highly technical reports have provided Professional Engineers' recommendations of EEMs for facility improvements that are now being implemented. The General Services Department (GSD) is now seeing the benefits of the previous effort funded through the American Recovery and Reinvestment Act (ARRA). Since closing \$12 million in ARRA projects for GSD state government facilities, verification of the success is showing up as energy savings and lower utility bills for state government. A 10 percent energy reduction is now established compared to the Fiscal Year 2011 (FY11) baseline, based on 2.5 million kWh and 4,500 therms saved per year. During FY14, GSD avoided annual energy costs of \$273,000 on electricity and natural gas bills compared to FY11 because of the energy efficiency collaboration efforts with ECMD. Energy usage trending over the most recent six years depicts a 23 percent reduction for electricity and a 16 percent reduction for natural gas (**Figures Below**).



State Government Electricity Used in Santa Fe Buildings; Chart Data in kWh by Fiscal Year
[Source: General Services Department]



State Government Natural Gas Used in Santa Fe Buildings; Chart Data in MBtu by Fiscal Year
[Source: General Services Department]

WISE Program - Whole-building Investments for Sustainable Efficiency provides strategic planning support to the WISE Team of EMNRD, General Services Department, and New Mexico Finance Authority (NMFA). The WISE Team is charged with establishing a 20 percent energy reduction in state government facilities by 2020 compared to 2011 baseline energy usage.

Funded by the U.S. Department of Energy (DOE), the WISE Team has used the IGA of Santa Fe's South Capitol Complex buildings to justify design work and funding of \$2.1 million for the EEMs. Implementation of the EEMs is now being monitored. The heating, cooling, and control system EEMs are substantially complete, including new air- and water-side economizers to improve efficiency of cooling at the State Data Center. Lighting upgrades are due for completion in 2015. EEMs of the IGA accepted for implementation by the WISE Team are projected to achieve a 20 percent energy reduction of 1.8 million kWh and 1,900 therms, for energy cost savings to state government of \$160,000 per year.

Energy Performance Contracting has been available to New Mexico's governmental agencies since 1993 through the Public Facility Energy Efficiency & Water Conservation Act [NMSA 1978, 6-23]. New Mexico's governmental agencies can finance energy-saving facility improvements using future energy savings created by the EEMs. A \$15.7 million project featuring energy performance contracting is underway at New Mexico State University (NMSU). This approach augments NMSU's internal efforts by facilities management staff to reduce energy usage and create energy cost savings. ECMD conducted a technical review of the IGA, which was certified by EMNRD. ECMD is now working with NMSU and an energy services company to monitor implementation of the EEMs and prepare for verifying energy savings. An energy reduction of 14 percent is projected, based on 10 million kWh and 800,000 therms in annual energy savings, which would yield energy cost savings of \$1 million per year.

EMNRD is now an Accelerator Partner for energy performance contracting, through DOE's Better Buildings Challenge. This state-federal collaboration seeks to improve and expand energy performance contracting in working with state energy offices like ECMD. EMNRD made a commitment to DOE of \$50 million in energy performance contracting projects by 2016, in exchange for DOE technical support. EMNRD has already met half of this commitment. In its first deliverable to DOE, ECMD drafted a report that was the result of a state agency working group, chaired by ECMD, to improve and expand energy performance contracting.

Clean Energy Revenue Bond financing has been used by Department of Cultural Affairs (DCA) and two public school districts. Established in 2005, the Energy Efficiency & Renewable Energy Bonding Act [NMSA 1978, 6-21D] has \$20 million in low-interest bonding available for state agencies and public schools. ECMD recently certified an annual 9 percent energy reduction with savings of 419,000 kWh and 5,800 therms for DCA at three facilities around the state: the Museum of Space History in Alamogordo, the Museum of Natural History & Science in Albuquerque, and the Museum of Art in Santa Fe. These facilities now have energy cost savings of \$49,000 per year. EEMs were also implemented at the Socorro and Mountainair School Districts, which are now being evaluated for post-project energy performance.

The **State Energy Program** formula grant supported IGAs performed at Corrections Department facilities, identifying many EEMs to both upgrade the facilities and reduce operating costs. The IGAs covered four facilities: Springer Correctional Center, Roswell Correctional Center, the Santa Fe Administration and Training Complex, and Central New Mexico Correctional Facility (Los Lunas). Owned by GSD, these four facilities comprise more than 500,000 square feet of prisons, offices, and training space. A Professional Engineer conducted an assessment of each facility, which included review of utility bills and site surveys of existing systems and equipment conditions. ECMD also initiated a remote monitoring pilot project to demonstrate real-time viewing and analysis of building energy usage data. The University of New Mexico and Public School Facilities Authority collaborated to design the system and database for tracking electricity and natural gas of a Roswell public school.

Clean Fuels and Efficient Transportation

Advancing New Mexico Alternative Fuels (ANMAF) is a cooperative agreement with the Department of Energy funded to promote New Mexico-produced gaseous fuels for transportation, specifically compressed natural gas (CNG) and liquefied petroleum gas (LPG/propane). The project provides technical assistance, technician/fleet manager training, and focused guidance to public and private entities interested in diversifying fuel resources and stabilizing fuel prices using the state's abundant supply of natural gas. Since 2012, the project has strengthened ECMD's mission by facilitating changes in local and regional policy, reducing barriers that hinder use of gaseous fuels in transportation, and by providing in-

depth technical assistance and safety training while expanding outreach and knowledge about alternative transportation fuels. With ANMAF project support, including \$363,070 of in-kind support from 15 project partners, CNG and LPG vehicle and refueling infrastructure has grown and the Land of Enchantment Clean Cities and New Mexico Natural Gas Coalitions continue to thrive.

The ANMAF project has trained 175 individuals in all aspects of CNG and LPG/propane gases for use in vehicle fuel systems. Courses, workshops and seminars have been conducted in Albuquerque, Santa Fe, Moriarty, Farmington, Deming and Hobbs.

Natural Gas Transportation Fuel Infrastructure - Currently, 14 CNG and one LNG refueling stations operate in New Mexico – eight are private and six are public access. ECMD has met with parties interested in expanding CNG infrastructure as well as vehicle conversion centers. A few of the existing stations are more than 20 years old and are currently being overhauled and expanded. Numerous LPG/propane refueling facilities exist throughout the state; however, many are not equipped to fuel modern, higher pressure systems. The term “autogas” is used for LPG/propane intended for transportation motor fuel.

Travel Smart! Initiative – ECMD promotes ridesharing, transit, bicycling and other mobility options through [Travel Smart](#), a public relations and social media initiative that lets people know how to get around without having to own a car. Using one less car, a two-person household can save nearly \$10,000 per year.

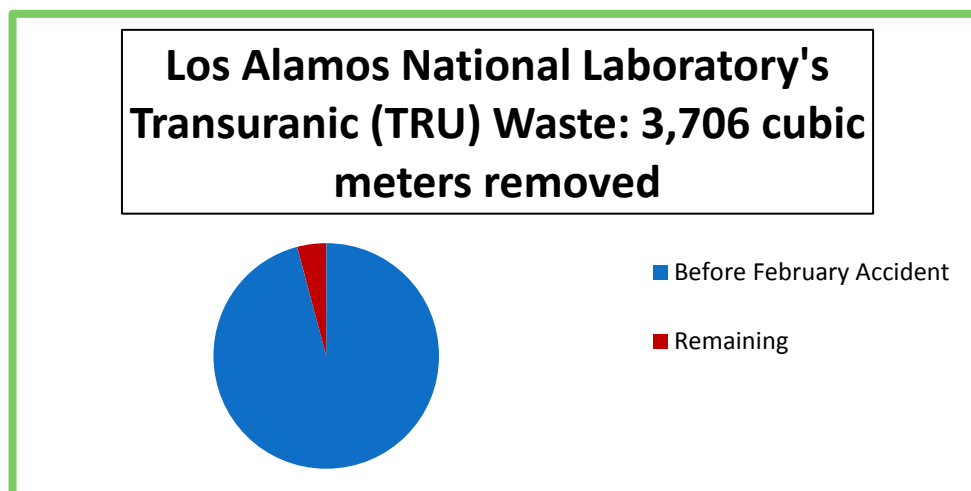
Waste Isolation Pilot Plant

EMNRD has oversight of the Collaborative Agreement and annual funding for the state Waste Isolation Pilot Plant (WIPP) program provided by DOE. The agreement is a partnership between DOE, EMNRD, and six state agencies charged with ensuring the safe and uneventful transportation of transuranic (TRU) waste in New Mexico. EMNRD and five agencies make up the working group and provide the following:

- The Department of Homeland Security and Emergency Management (DHSEM) provides equipment training to volunteer fire services and emergency managers along the WIPP route as well as ensuring equipment is calibrated.
- 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.
- The New Mexico Environment Department provides sampling data along the WIPP route and assists the DOH in training hospitals and clinics.
- The State Fire Marshal’s Office provides training to fire services in hazmat awareness and operations along the WIPP route.

Additionally, the Department of Transportation (unfunded in the Cooperative Agreement) provides oversight on roadway safety and manages funding provided directly to the department for road repair.

The WIPP working group led by EMNRD has worked in collaboration with DOE, Carlsbad Field Office (DOE-CFO) and Los Alamos National Laboratory (LANL) and was on track to achieve the removal of 3,706 cubic meters (m³) of TRU waste from LANL as required under Governor Martinez's Framework Agreement by June 30, 2014. However, the incidents at WIPP on February 5, 2014 (underground fire) and February 14, 2014 (radiological release) led to the suspension of the WIPP shipments. Shipments resumed for a short period of time to Waste Control Specialists in Texas and were under the supervision of the WIPP working group led by the EMNRD WIPP monitor. All WIPP shipments were suspended by order of the New Mexico Environment Department (NMED) in May of 2014. The investigation of the problems at WIPP has been led by the DOE under the direct supervision of NMED. Despite the shutdown of operations, as of May 2014, approximately 94 percent of the 3,706 m³ has been removed from LANL (see figure below).



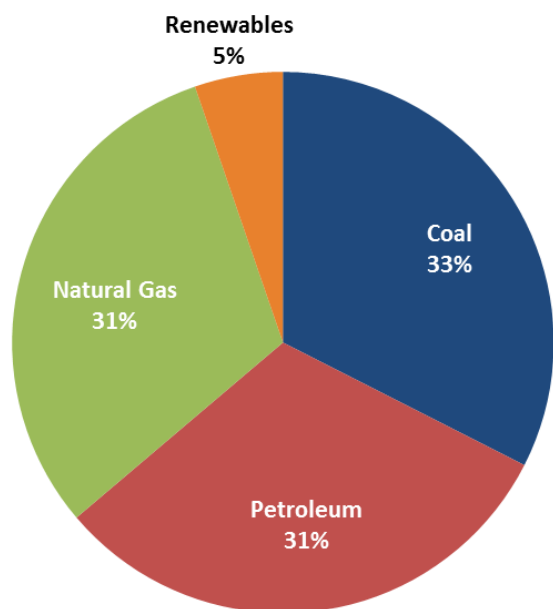
The Accident Investigation Board (AIB) is currently investigating the event and has provided preliminary reports that can be found on the DOE-WIPP website (http://www.wipp.energy.gov/wipprecovery/accident_desc.html). Likewise, all correspondence between federal and state agencies during the accident investigation continues to be posted to the NMED WIPP Incident Webpage and can be linked directly from the front page of the NEMD website (<http://www.nmenv.state.nm.us/>). EMNRD and the New Mexico Environment Department (NMED) are working closely with DOE-CBFO to ensure that the WIPP meets the requirements of several Compliance Orders issued by NMED.

Data and Statistics

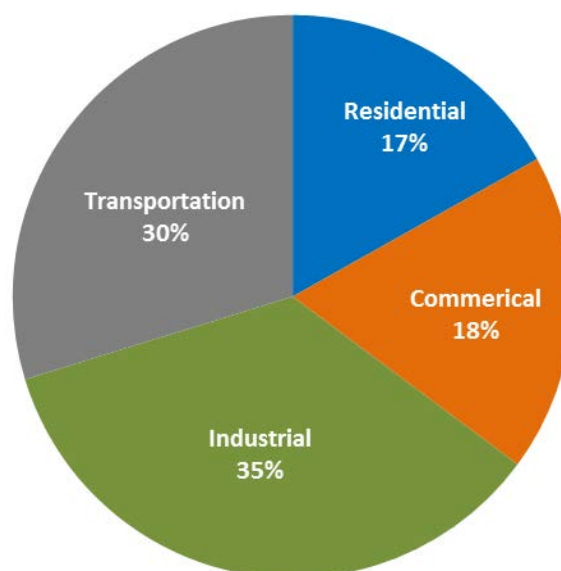
ENERGY CONSUMPTION BY SOURCE: In 2012, the latest data available, total New Mexico energy consumption was 810 trillion BTU (tBTU). Most of the energy consumed in the state came from coal, followed by petroleum and natural gas.

The majority of oil is used in the transportation sector, while coal is dedicated to electricity generation. Natural gas is used both for heating and an increasing proportion of the state's electricity generation. Renewable energy contributed 5 percent or nearly 43 tBTU of New Mexico's energy consumption and it is primarily used in the electricity sector. Although renewable energy's percentage of the total pie is relatively small, wind and solar energies have seen significant growth, with renewable energy generation quintupling in New Mexico over the last decade.

ENERGY CONSUMPTION BY SECTOR: Net energy consumption for in-state needs was actually 687 tBTU, after subtracting the fuels consumed in-state for exported electricity generation. When looked at by end-user, the industrial and transportation sectors consume the most energy in New Mexico, followed by the commercial and residential sectors. Compared to national averages, residential users in New Mexico use less energy per capita, and all other sectors in New Mexico use more energy per capita, particularly the transportation sector.



2012 New Mexico energy consumption by source, including fuels consumed in-state for electricity exports (total = 810 trillion BTU) [Source: DOE Energy Information Administration]



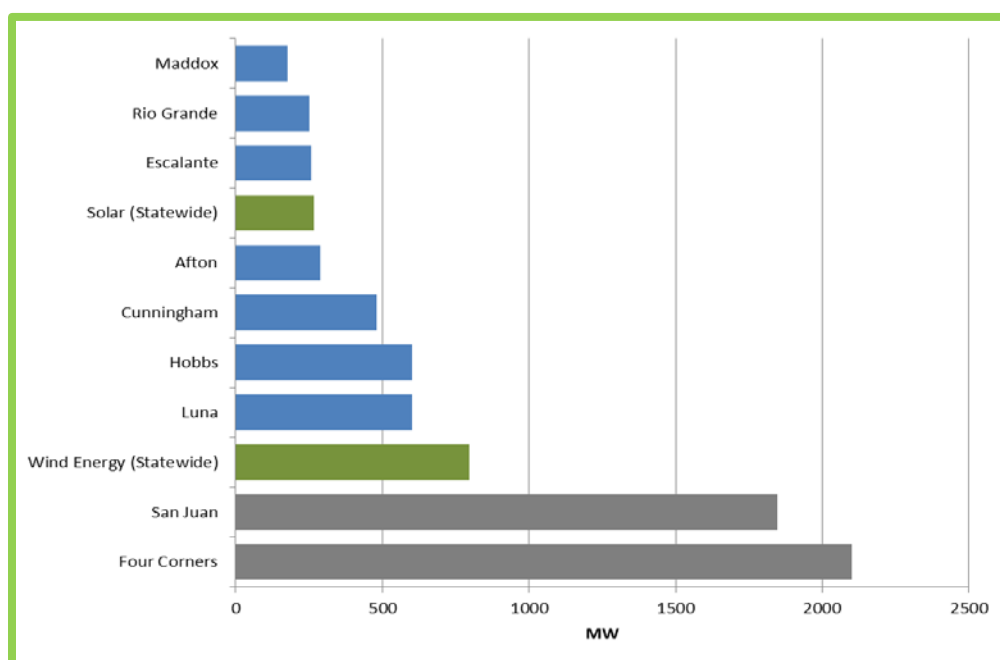
2012 New Mexico energy consumption by Sector (total = 687 trillion BTU) [Source: DOE Energy Information Administration]

2012 energy consumption per capita by sector, compared to national averages [Source: DOE Energy Information Administration]

Energy consumption per capita	New Mexico (million Btu)	National Average (million Btu)	Difference from Nat. Avg.	National Rank*
Residential	55.7	63.5	-12%	47
Commercial	60.3	55.3	+9%	18
Industrial	115.7	98.8	+17%	20
Transportation	98.1	85.1	+15%	14
Total consumption	329.7	302.6	+9%	20

*For the national rank category, number 1 uses the most energy per capita (number 51 would be the lowest per capita energy user, as rankings include the District of Columbia).

ELECTRICITY PRODUCTION: The figure below depicts the largest electricity generating units in New Mexico and wind and solar energy total installed capacity. In 2012, electricity generation in New Mexico was 68 percent coal, 24 percent natural gas, and 8 percent renewable energy.



Installed capacity of major electricity generating units in New Mexico (2012); primary fuels are natural gas (blue), coal (gray) and renewables (green)

RENEWABLE ENERGY: Of the total electricity produced in 2012, 6 percent was from wind, 1 percent was from solar, and 1 percent was from hydroelectric power. In 2014, the first commercial geothermal electricity facility opened near Lordsburg in the state's boot heel, adding 4 megawatts (MW) of baseload geothermal capacity to the state's renewable electricity mix, with another 6 MW planned. On a per capita basis, New Mexico is among the top states in distributed grid-connected PV capacity. All utility-scale renewable energy generating units operating in 2012 are depicted in the table below.

Utility-scale (>1 MW) renewable energy facilities in New Mexico (2012)

Name	Type	Capacity (MW)	Commenced Operation	County
New Mexico Wind Energy Center	Wind	204	2003	De Baca, Quay
San Juan Mesa Wind Project	Wind	120	2005	Roosevelt
Red Mesa Wind Energy Center	Wind	102	2010	Cibola
High Lonesome Mesa Wind Ranch	Wind	100	2009	Torrance
Aragonne Wind Facility	Wind	90	2006	Guadalupe
Caprock Wind Ranch	Wind	80	2004	Quay
Macho Springs Wind Power	Wind	55	2011	Luna
SPS 1–5 Solar Facilities	PV	50	2011	Lea, Eddy
Cimarron Solar Facility	PV	30	2010	Colfax

Utility-scale (>1 MW) renewable energy facilities in New Mexico (2012) continued

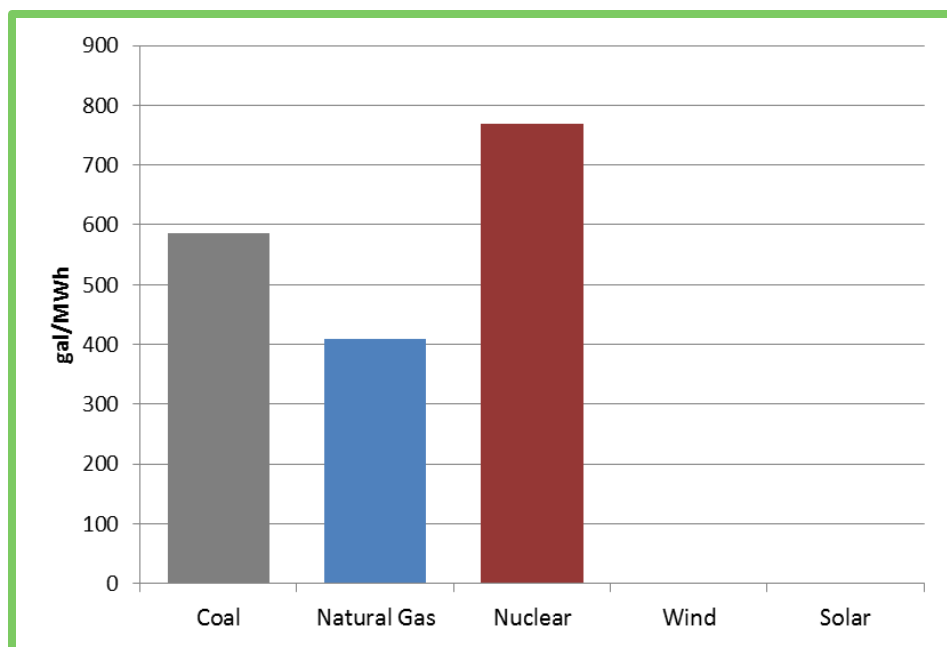
Navajo Dam	Hydro	30	1983	San Juan, Rio Arriba
Elephant Butte	Hydro	28	1940	Sierra
Wildcat Wind	Wind	27	2012	Lea
SunEdison EPE 1–2	PV	23	2012	Doña Ana
Solar Roadrunner	PV	20	2011	Doña Ana
Abiquiu Dam	Hydro	16	1990	Rio Arriba
El Vado Dam	Hydro	8	1990	Rio Arriba
Los Lunas Solar Energy Center	PV	5	2011	Valencia
Las Vegas Solar Energy Center	PV	5	2012	San Miguel
Alamogordo Solar Energy Center	PV	5	2011	Otero
Hatch Solar Energy Center	PV	5	2011	Doña Ana
Deming Solar Energy Center	PV	5	2011	Luna
White Sands Missile Range	PV	4.5	2012	Doña Ana
Albuquerque Solar Energy Center	PV	2	2011	Bernalillo
Llano Estacado Wind Ranch	Wind	2	1999	Curry
Kit Carson/Amalia	PV	1.5	2012	Taos
Mesalands Community College	Wind	1.5	2008	Quay
Questa Solar	PV	1	2011	Taos
Los Alamos	PV	1	2012	Los Alamos
Santa Fe Wastewater	PV	1	2011	Santa Fe
Albuquerque Academy	PV	1	2010	Bernalillo



Wind Turbines in New Mexico. Photo from ECMD.

ELECTRICITY AND WATER USE: The electricity sector uses large quantities of water for cooling of thermal (coal and natural gas) and nuclear generation facilities. While there are no nuclear

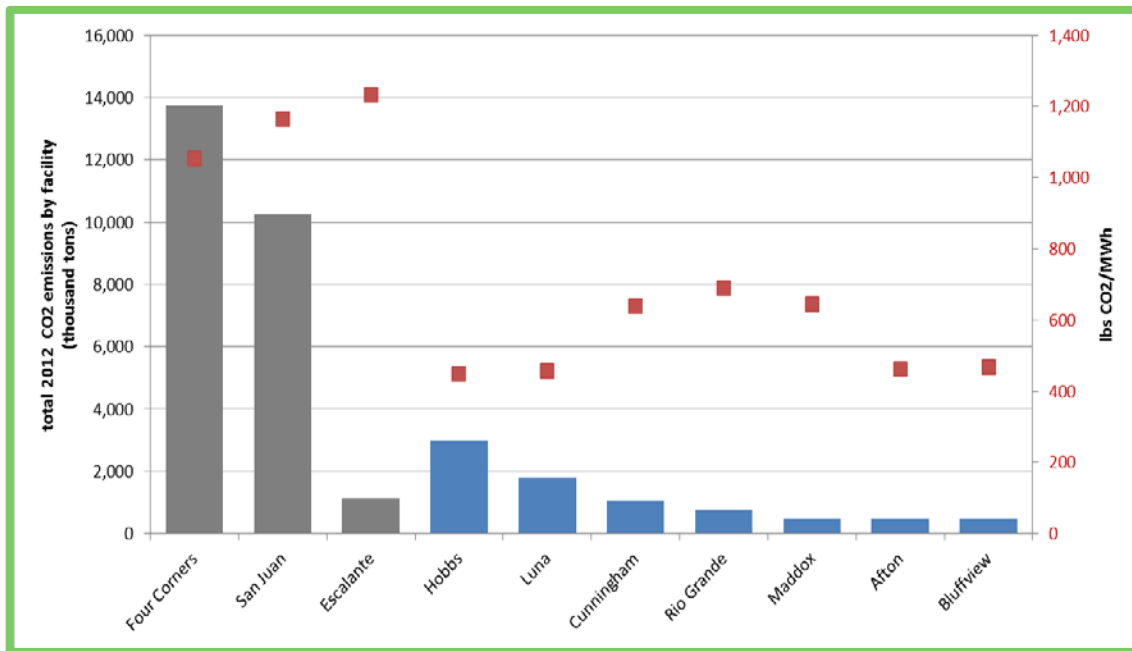
generating facilities in New Mexico, Public Service Company of New Mexico (PNM) and El Paso Electric (EPE) own and purchase power from Palo Verde, a nuclear generating station in Arizona. As a whole, nuclear energy consumes the most water on a gallons-per-megawatt-hour (MWh) basis, though the Palo Verde station uses recycled municipal wastewater for cooling. Natural gas generators vary widely with water use: steam turbine plants (generally peaking plants) consume the most gallons per MWh, while combined cycle plants use less. Thermoelectric facilities equipped with “dry cooling” or hybrid cooling use the least water of all, but these systems can compromise plant efficiency. Solar and wind technologies do not require any water for operation, while geothermal energy uses water generally in a closed-loop system.



Approximate water intensity for New Mexico’s generating resources (2011–2013, average gallons/MWh). Note: NM does not have any nuclear generating capacity in-state and imports it from AZ. In addition, water used at the Palo Verde Nuclear Generating Station is largely recycled wastewater [Source: Public Service Company of New Mexico – Integrated Resource Planning 2014].

CARBON DIOXIDE EMISSIONS: In June 2014, the U.S. Environmental Protection Agency (EPA) released a draft rule for regulating carbon dioxide (CO₂) emissions from existing electricity generation facilities. A final rule is expected in June 2015. Nationwide, the plan aims to cut carbon emissions from the power sector by 30 percent from 2005 levels. This rule uses four building blocks (heat rates improvements at coal plants, re-dispatch to natural gas generators, renewable energy, and energy efficiency) to set a 2030 CO₂ emissions target for each state.

It is anticipated that states will be able to comply with the plan via a variety of approaches to CO₂ emissions reductions. As the draft EPA rule is currently written, New Mexico is expected to reduce carbon emissions 34 percent by 2030, or from an average emissions rate of 1,586 pounds of CO₂ per MWh (lbs CO₂/MWh) to 1,048 lbs CO₂/MWh. Coal-fired power is the primary CO₂ emitter in the electricity sector in New Mexico.



Largest CO₂-emitting power plants in New Mexico (2012); grey are coal facilities and blue are natural gas power plants. Total CO₂ emitted is on the primary y-axis and the red dots indicate emissions rates in lbs CO₂/MWh, as reflected on the secondary y-axis. Note that the Four Corners Power Plant is on Navajo lands and therefore does not impact New Mexico's draft EPA CO₂ emissions reduction targets. [Source: DOE Energy Information Administration]



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Forestry Division



Forestry Division

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

Forestry is responsible for fire suppression on 43 million acres of non-municipal, non-federal and non-tribal land across the state and assists New Mexico communities by evaluating those most at risk to wildfire and insect infestation by developing appropriate management programs and implementing mitigation projects.

Forestry staff provides technical assistance to landowners for developing sustainable forests that enhance quality of life by providing tree care training, distributing low-cost seedlings, developing resource management plans and delivering forest health project funding.

PROGRAMS: Forestry's priority is to assist in the continued development of the forest products industry (e.g., forest harvesting, landscaping, construction, woody biomass) that uses land treatment byproducts. In addition, Forestry oversees an inmate work camp which utilizes trained minimum security inmate crews for work on conservation projects and wildland fire suppression.

Forestry regulates the harvest of commercial forest species on private forestland and conducts habitat protection projects by studying plant species abundance, defining ecosystems, acquiring easements and purchasing key properties.

Landowners and communities receive assistance with fire prevention and preparedness planning, forest management and improvement, urban and community forest development and management, conservation easement and tax incentive programs, and numerous educational presentations on these topics. Forestry works to implement projects and programs with a goal of improving overall forest and watershed health statewide.

Accomplishments

OVERVIEW: The 2014 fire season in New Mexico had the potential to be extremely active, but favorable weather and increased awareness through fire efforts prevention helped keep the incidence of human caused wildfires below expectations.

Despite a less intense fire season in New Mexico, the western United States continued to face extreme fire danger. Numerous fires burned in Oregon, California, Washington and other western states. Forestry provided equipment and dozens of fire fighters to several states to aid in their response to these fires.

In 2014, Forestry's Military Veterans Fire Crew Pilot Program was made permanent. Military veterans, hired as seasonal firefighters, were assigned to fires in New Mexico, Arizona and Washington and the program was featured on national news.

Forestry continued to work with local, state, federal and tribal partners on a wide range of projects and programs to address not only wildfire, but the state's overall forest and watershed health.

Forestry's work with partner agencies, non-governmental organizations and private landowners resulted in the treatment of thousands of acres of private, state, federal and tribal land during the calendar year.

The health of New Mexico's forests and woodlands continues to be a primary focus for the Division and its partners. New Mexico has been in a period of extended drought, and while 2014 will be recorded as a wetter than normal year, drought-impacted forests and watersheds will continue to feel the detrimental effects of drought for many years to come in the form of wildfire, insect infestation and the spread of disease.

A variety of damaging forest insects and pathogens were identified and mapped in New Mexico during aerial surveys conducted in 2014. A total of 201,000 forested acres of state and private lands were impacted by defoliator and mortality agents in 2014. This is a substantial decrease from the 360,000 acres mapped in 2013. If all jurisdictional lands in New Mexico are included, 552,000 acres were impacted in 2014, which is also a substantial decrease from the 744,000 acres mapped in 2013. Similar to the after effects of wildfire, not all trees located within the impacted area are destroyed.

The Cooperative Forest Health Program (CFHP) works within the State Forestry Division to deliver technical and monetary assistance to landowners and managers of forested lands throughout New Mexico through education programs, trainings and field visits. The goal of the CFHP is to increase forest resiliency to harmful insects and diseases by increasing knowledge and improving management practices of state and private forests. The program provides federal dollars from the US Forest Service for administering cost-share funds to private landowners in the state, and in this way, works to reduce the area that is at high risk of bark beetle attacks.

When infestations move in an uncontrolled manner they can cause major die-offs and decreases in forested area over time. As an example, the greater Ruidoso area has been experiencing a very large amount of bark beetle-caused mortality in several different tree species for several years. Entire strands of trees have died due to this severe infestation.

Land managers can do little to combat the issue beyond waiting for the environment to ameliorate and the populations to crash when disease and insect infestations are extreme. Unfortunately, conditions facilitating improvement are not evident in 2014 climate predictions.



Rocky Mountain king bolete (*Boletus rubriceps*) Native only to the American Southwest, this edible mushroom is considered gourmet fare.

FOREST AND WATERSHED HEALTH - 2014 was a very productive year for the Division's Forest and Watershed Health Office (FWHO). The addition of a new Forest Health Specialist brought fresh skills and energy to FWHO's collaborative work.

The Forest Health Specialist also fills a shared Cooperating Forester position that provides technical assistance to the Natural Resources Conservation Service (NRCS) state office. The Division and NRCS signed a five-year Cooperative Agreement in August, formalizing both agencies' commitment to improving management of private forest lands in New Mexico by allowing NMSF foresters to serve as NRCS Technical Service Providers.

Another arrangement initiated by the FWHO was expanded this year to fund forest treatments near Pinos Altos and rare plant surveys in the White Mountains. Through the Division's Financial Assistance Agreement with the Bureau of Land Management, work was performed across jurisdictional boundaries to benefit both public and private lands.

The Forest and Watershed Health Office and a team of experts developed afterwildfirenm.org, a new product requested by New Mexicans affected by wildland fires. The *After Wildfire Guide* has received national attention for its user-friendly approach to bringing critical information to communities impacted by fire and post-fire flooding. The web-based guide covers immediate safety, community mobilization, financial tips, post-fire treatments, flood information and more.

FWHO staff members serve on regional and national committees that track issues and help guide policies that affect how our natural resources are managed. The Forest and Watershed Health Coordinator represented state forestry organizations on the Western Regional Strategy

Committee for the National Cohesive Wildland Fire Management Strategy and the Southwest Fire Science Consortium. The Forest Health Specialist is a member of the Western Forestry Consortium. Both participated on interagency planning and proposal evaluation teams.

URBAN AND COMMUNITY FORESTRY PROGRAM: The Division's Urban and Community Forestry Program works to empower New Mexico communities to develop and sustain their community forests for the benefit of current and future citizens through technical assistance and support with identifying funding sources.

The Urban and Community Forestry Program strengthened and maintained the number of volunteers, citizens, and communities managing or developing programs to plant, protect and maintain their urban and community trees and forests. Five communities received New Mexico Forest Re-Leaf tree planting grants, and \$140,000 in Community Forestry Assistance grants will soon be awarded.

The Division's Urban and Community Forestry Program Manager led a tri-state initiative to assess and calculate the benefits trees provide to urban communities. Assessments were conducted in Albuquerque, Las Cruces, Phoenix, AZ and El Paso, Texas. The *Growing a Healthier Community* project focused on how trees affect air pollution removal, carbon storage and sequestration, storm water runoff avoidance, oxygen generation and energy savings. In Albuquerque, it was calculated that urban forest areas (the bosque, parks, residential landscaping) have an estimated economic value of approximately \$9 million.

Eleven communities were recognized for the national Tree City USA program. More than half (55 percent) of the state's population lives in a community either fully managing an urban/community forest program or developing one, including having a tree ordinance, a local advocacy/advisory board, professional staff and a community forest management plan. Throughout the state, 58 communities have active local advocacy/advisory organizations such as tree boards, commissions, or non-profit organizations that are formalized or chartered to advise and advocate for planting, protection and maintenance of urban and community trees and forests. Across the state, 5,232 volunteer hours have been logged related to Urban and Community Forestry projects and tree planting.

New Mexico Forest Re-Leaf Grants - In an effort to highlight the importance of establishing community forestry programs around New Mexico, each year Forestry grants funds to public entities for planting trees on public lands. Funds are used to protect, improve or establish parks, playgrounds, outdoor classrooms, public facilities and structures on public lands.

Established in 1990, the program relies solely on private donations to fund grants that benefit communities statewide. The funds help fill a budgetary void for towns, cities, schools, rural fire districts, tribal governments and others that lack funds for tree and shrub planting. Every cent donated to the program goes toward planting trees with no overhead costs. In 2014, five grants for \$20,622 were awarded to projects in Corona, Farmington, Raton, Rio Rancho and Taos.

FIRE MANAGEMENT: 2014 began with the serious potential for an active fire season. Heavy vegetation growth in the eastern plains due to a strong monsoon season the previous year was observed, creating an environment prone to grass and brush fires. However, small, moisture-laden weather systems moved through the state periodically in the spring and early summer which kept the incidence of wildfire below expectations. Only two wildfires posed significant threat to homes and communities during 2014.

The 14,712-acre Assayii Lake Fire, which burned on Navajo Nation tribal land, forced evacuations and destroyed several structures. The 3,626-acre Diego Fire threatened the community of Coyote and numerous structures on private land surrounding the area. Located in the Jemez Mountains, the 4,313-acre Pino Fire was highly visible but posed no immediate threat to structures. Interagency resources were used to manage the fire for resource benefit and improve long-term forest health.

During FY14, 376 fires burned approximately 10,436 acres of state and private land. Human-caused fires totaled 240, approximately 60 percent of all fire starts, remaining consistent with the average percentage of human-caused fires in New Mexico, year to year. Equipment use and debris burning were once again the leading causes. Forestry continues to collaborate with local, state, federal and tribal fire agencies to educate New Mexicans about fire prevention and preparedness. Wildland fire incidents are reflected in the location map in the Data and Statistics section of this report. In 2014, more than 1,000 county, municipal, state, federal and tribal firefighters had wildland fire training.



The 4,313-acre Pino Fire caused by lightning near Jemez Springs, NM, burned on private and federal land and was utilized for resource benefit to improve forest and watershed health and improve wildlife habitat. Dozens of local, state and federal firefighters were assigned to help manage the incident. Photo by Robert Brown.

Returning Heroes Fire Crew Program – Following the successful pilot program launch in 2013, Governor Martinez signed legislation making Forestry’s Military Veterans Fire Crew Pilot Program permanent in 2014. Re-named the *Returning Heroes Program*, the crews fought fires in New Mexico, Arizona and Washington and the program was featured on national news. Additionally, the *Returning Heroes Program* will hire a full-time staff that will be available for wildfire assignments as well as forest and watershed restoration treatment projects on a year-round basis.



Pino Prescribed Fire Vet Crew. Photo by Todd Haines.

Fire Prevention Program – The threat from wildfires continues to grow across New Mexico and the rest of the western United States. The importance of educating residents and visitors grows, too. Forestry’s fire prevention and education programs continued to see much activity and growth in 2014, with the expansion of existing programs and the participation in new initiatives.

Forestry helps facilitate *Firewise Communities, Ready, Set, Go!* and the *Living with Fire Homeowners Guide* Programs, and is participating in the *Fire Adapted Communities* and *One Less Spark* Programs as well. These programs work in concert to teach visitors and residents what they need to know about preventing wildfires and being prepared for them.

Firewise Communities USA is a community-based and operated recognition program where residents, businesses and elected bodies work together to create cities, towns and

neighborhoods to address the issues of wildfire. In 2014, New Mexico added eight new communities to the *Firewise* Program, bringing the total to 22. At least a dozen other communities are in the progress of completing the requirements needed for *Firewise* recognition.

Ready, Set, Go! (RSG!), a sister program to *Firewise*, focuses on being prepared for a wildfire, both inside and outside the home. Residents work with Forestry and their local municipal or county fire departments and emergency management offices to become better prepared should a wildfire approach their community. Currently, there are 56 New Mexico local, state, federal and tribal agencies partnered with the *Ready, Set, Go!* Program, an increase of 16 from 2013. The number of *RSG!* partner programs in New Mexico constitute 22 percent of the programs active nationwide.

Information about these programs and Forestry's other wildfire education efforts can be found on the Division's website: www.nmforestry.com.

RESOURCE MANAGEMENT AND PROTECTION: Forestry works with private landowners, state and federal agencies to protect land from future development that could fragment the landscape. Through various incentive programs, landowners can place large tracts of land into conservation easements that allow them to retain ownership while protecting it.

The Forestry Division prepared 25 new forest stewardship plans in 2014 for a total of 8,334 acres on private forested land in New Mexico. The overall total number of acres in New Mexico covered by stewardship plans reached 488,138 acres in 2014.

Additionally, 318 landowners received technical assistance on private forest lands, with another 736 landowners participating in educational programs related to forest stewardship, fire prevention, and forest management, which is a significant increase from 2013.

Conservation Seedling Program - Each year, tens of thousands of tree and shrub seedlings are planted on private and public lands throughout New Mexico through Forestry's Conservation Seedling Program. The program provides economically priced tree and shrub species to New Mexico landowners for the establishment of windbreaks, erosion control, crop and livestock protection, Christmas tree farm establishment, energy cost savings and landscape aesthetics. In 2013, the Conservation Seedling Program distributed 118,154 seedlings through sales during the New Mexico State Fair, New Mexico Agriculture Expo, educational donations, and for the spring and fall sales and distribution cycles.

The Endangered Plants Program - Forestry has statutory responsibility for the State Endangered Plant Species List. Section 75-6-1 NMSA 1978 directs the investigation of all plant species in the state for the purpose of establishing a list of endangered plant species.

Forestry's Endangered Plant Program gathers information related to population abundance, distribution, habitat requirements, threats, limiting factors and other biological and ecological

data. The information is used to develop conservation measures necessary for the species' survival. The Program also promotes the conservation of listed endangered plant species including research, inventory and monitoring, law enforcement, habitat maintenance, education and propagation.

Currently, New Mexico has 37 plant species that are listed as endangered, including 13 federally listed species.

In 2014, working with federal agency partners, the program completed post-wildfire impact studies on rare and endangered plants in the Lincoln and Gila National Forests as well as Carlsbad Caverns National Park.



**Crewmembers from the Division's Inmate Work Camp in Los Lunas work to remove invasive tree species in Santa Rosa that threaten the endangered Pecos sunflower.
Photo by Daniela Roth.**

Additionally, the program worked with the City of Santa Rosa to protect endangered plant species on city property, near Forestry's Blue Hole Cienega. The 23-acre project removed invasive salt cedar and Russian olive trees from the property as a way to help the endangered Pecos sunflower recover and prosper.

Throughout 2014, the program manager completed numerous surveys on rare and endangered plants, as well as provided technical expertise for volunteer trainings on projects by partner agencies that could impact plants protected by the state and federal governments.

The Endangered Plant Program is primarily federally funded through Section 6 of the Endangered Species Act for endangered plant research and management.

Endangered plant projects included annual monitoring and status evaluation of Knowlton's Cactus and the Holy Ghost *Ipomopsis*, a population genetics study on Holy Ghost *Ipomopsis*, status surveys for Tharp's Amsonia on New Mexico state lands in southeastern New Mexico, post-fire status surveys for nine rare and endemic plant species on the Lincoln and Gila National Forests, and the establishment of post-fire monitoring plots at Carlsbad Caverns National Park for the federally listed Lee's Pincushion Cactus.

LAND CONSERVATION TAX INCENTIVE PROGRAM: In 2014, Forestry received and processed 12 Assessment Applications for the Land Conservation Incentive Act Tax Credit Program. Four applications were approved to move forward to the Certification Application phase.

Currently, four applications are awaiting final certification for a tax credit with the New Mexico Department of Taxation and Revenue's Property Appraisal Review Division. This year \$870,000 in tax credits have been paid to landowners on a total appraised land value of more than \$4.11 million for 13,480 acres.

Forest Legacy – The Division's Forest Legacy Program completed the third and final phase of its Vallecitos Ranch Conservation Easement project in 2014. The Forest Legacy program uses federal funds to purchase conservation easements to protect vital or endangered land from any kind of development. Under the program, the land remains in private hands and can be sold, but there can be no subdividing of the land and it may not be developed in a way that would prove harmful to forest and watershed health.

The Vallecitos Ranch Legacy Project in Rio Arriba County began in 2008, and with the completion of phase three, 11,655 acres is now protected from any future development. The Forestry Division is the holding agency for the easements and works with The Trust for Public Land, the US Forest Service and private landowners to facilitate the purchase of the conservation easements as a part of the Legacy Program.

INMATE WORK CAMP PROGRAM: Forestry's Inmate Work Camp Program was established in 1997 for the purpose of conducting forest health and urban interface projects on public land in New Mexico. The crews are also 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 is comprised of 8-12 minimum security inmates. The crews are transported from the Los Lunas Minimum Security Prison Facility to project areas and supervised by Forestry Division Crew Supervisors. The program has the ability to field six crews per workday throughout the year. In 2014, the program provided crews to work on 13 projects for eight different local, state and federal co-operators, performing 5,522 man-days of work and 46,937 man-hours of work. Crews were assigned to four wildfires, performing 16 crew-days of fire suppression.

Data and Statistics

2014 SEEDLING CHART: Forestry's Conservation Seedling Program provides landowners the ability to take advantage of fall and spring planting seasons with two distribution periods. With the combined distribution periods, 104,066 tree seedlings were distributed through the program's annual sales, sales at the New Mexico Agriculture Expo and New Mexico State Fair and through educational donations. More than 12,000 tree seedlings were sold to the EMNRD Mining and Minerals Division as part of a mine rehabilitation project in Sugarite Canyon and Yankee Canyon in northern New Mexico.



Seedling Program – total trees distributed

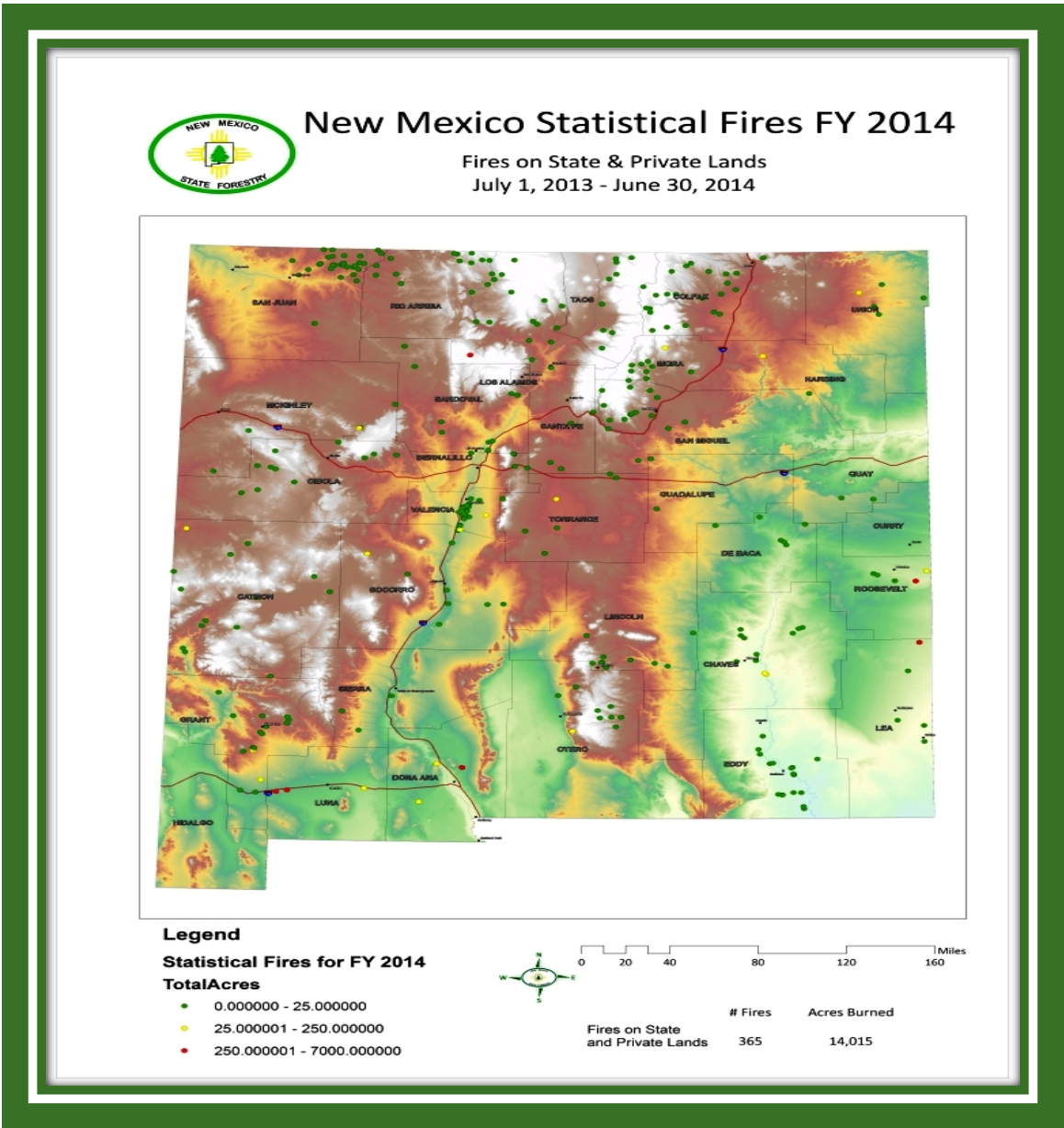
2014 RE-LEAF GRANTS: The New Mexico Forest Re-Leaf Program awarded \$20,622 in grant funding to recipients including the communities of Corona, Farmington, Raton, Rio Rancho and Taos. The program provides funds for tree planting for conservation purposes, educational outreach, windbreak establishment and general aesthetic enhancement. Re-Leaf grants are funded completely through corporate and private donors. Since 1990, more than \$607,000 has been distributed to New Mexico communities for tree and shrub planting.



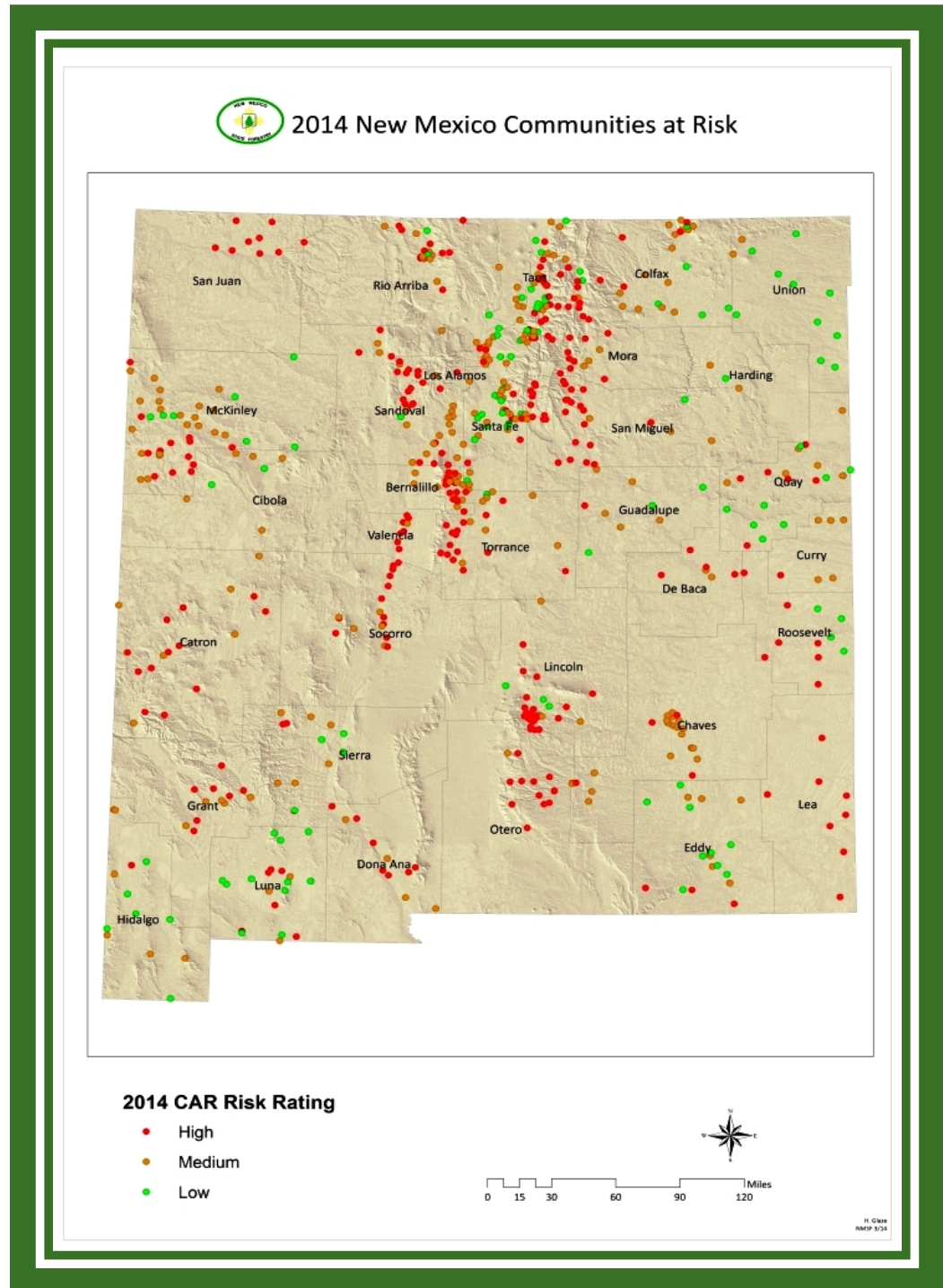
New Mexico Forest Re-Leaf – 2010-2014 Grants

Annual applications are solicited in April and submittals are due in August. Eligible applicants include schools, municipalities, or local non-profit organizations.

2014 FIRE MAP: In FY14, 420 fires were reported on state and private land. These fires burned 8,804 acres.



2014 COMMUNITIES AT RISK MAP: The New Mexico Communities at Risk Report for 2015 lists 649 communities across the state and ranks them regarding the risk they potentially face from wildfire.



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**Mining
and
Minerals
Division**



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.

Programs and Accomplishments

MINING ACT RECLAMATION PROGRAM (MARP): MARP is responsible for regulating hard rock mines on all 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. MARP has permitted approximately 538 mining and exploration projects encompassing over \$693.6 million in financial assurance. The overall disturbed acreage under permit with MARP is 26,044 acres as of the end of 2013. The total number of acres reclaimed since 1994, when the program was started, is 6,659 acres as of the end of 2013.

Interest in gold mining continued in 2014, with two operating gold mines in the Steeple Rock Mining District in Grant County. The mining of iron, gold, garnet, rare earth elements, and copper in Otero County's Orogrande Mining District continued during 2014 with the ongoing operation of existing mines and implementation of several new exploration projects.

In 2013, a petition was submitted to the New Mexico Mining Commission ("Commission") requesting an increase in the number of acres that can be disturbed for minimal impact humate mines. The petition requested the Commission's consideration of an increase from 10 acres to 60 acres for both new and existing minimal impact humate mining operations. The Commission approved an increase to 20 acres, and the change to the Mining Act Rules went into effect in early 2014. Interest in humate mining has since dropped off slightly in 2014, with some humate operators reclaiming their sites and requesting financial assurance release.

In early 2014, the legislature provided for changing the language in the Mining Act Rules eliminating the prohibition on more than one financial assurance release per operation per year. The legislature left it up to the Mining Commission to write language to define the frequency of those releases. The Commission is expected to develop language in 2015 to address the change.

In early June 2014, Chevron Mining Inc. made the decision to permanently close the Questa Mine in Taos County. The Mining Act requires the initiation of reclamation soon after permanent cessation of a mining operation. The Questa Mine is a Superfund site with a developing CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) remediation plan. For a number of years, MARP, other state agencies and the EPA have been working on a remediation and reclamation plan for the site. Now the operator and agencies are in an accelerated mode to complete related remediation studies and start reclamation of the Questa Mine and Tailings facility.



Aerial view of the Questa Mine and Mill, February 2012. A Superfund site, the mine is now closed and undergoing reclamation. Photo from Google Earth.

Permitting of revised closeout plans and expansions at the state's three largest copper mines in Grant County continued in 2014. A number of permitting actions were initiated in 2014 and more will come in 2015. Also this year, MARP staff continued the review process of four large-scale, Part 6 permit applications – three uranium mines: the Roca Honda, La Jara Mesa, and Cebolleta mines; and one copper mine: the Copper Flat Mine.

These online resources provide more program information: [MARP annual report to the New Mexico Mining Commission](#), the [Pending Permit Activities](#) web page, and queries of [MMD Online](#).

MINE REGISTRATION, REPORTING AND SAFEGUARDING PROGRAM: This program provides comprehensive information 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.

To facilitate the program’s public outreach and information dissemination, a new website tool, [MMD Online](#), launched in 2014. The *Mine Registrations and Permits* search application provides data for all New Mexico mines (except coal, which has its own search feature accessible from the same page). Users can easily search by multiple parameters, or a multitude of combinations of parameters, including mine name, operator, commodity, location and dates. All real time query results are exportable to Excel spreadsheets containing up to 20 fields of information. (By statute, confidential production information is not made public.) Other pages of MMD’s website, www.NMMines.com, provide information to mine operators and the public regarding abandoned mine safeguarding projects and current and proposed mining operations. Projects can be tracked by status or county, and project documents are downloadable from various pages within the website. Another public outreach component celebrates operators who have performed outstanding reclamation in New Mexico. Annually, MMD staff select worthy candidates for the Excellence in Reclamation Award, which is presented at the New Mexico Mining Association’s convention. 2014’s awards were for reclamation and safeguarding projects in the Coal and AML programs; more information is available [here](#).

The screenshot displays the 'Mine Registrations and Permits' search application. At the top, there is a navigation bar with the New Mexico Mining and Minerals Division logo on the left and a 'RETURN TO MMD MAIN PAGE' link on the right. Below the navigation bar, the page title 'New Mexico Mining and Minerals Division' is centered. The main content area is titled 'Mine Registrations and Permits' and contains a search form. The form is organized into several sections: 'General' with fields for Name, Operator, Status, Type, Commodity, and Permit Number; 'Location' with dropdown menus for County, Quad, Grant, Township, Range, and Section; 'Date' with fields for Submission/Registration and Approval, each with 'From' and 'To' date ranges; and 'Owner' with dropdown menus for Mineral Owner and Surface Owner. At the bottom of the form are 'Search' and 'Reset' buttons. A footer at the very bottom provides contact information for the Mining & Minerals Division and a copyright notice for 2014.

MMD Online – search application for New Mexico mines

COAL MINE RECLAMATION PROGRAM: The Coal Program is responsible for regulating coal mines on all federal, state and private lands within New Mexico, with the exception of Indian lands. The program oversees more than 85,000 acres of permitted mine lands and nearly \$500 million in financial assurance.

Evaluation of bond release applications continues to be a significant part of the workload. Peabody Natural Resources Company (Peabody) has applied for partial release on 730 acres at the Lee Ranch Mine. Applications for partial bond release for 1,056 acres at La Plata Mine and for final bond release for portions of San Juan Mine totaling 1,193 acres are also under review.

As remotely-sensed products (e.g., satellite imagery, LiDAR (Light Detection and Ranging), digital photo surveying, and unmanned aerial vehicle imagery) became more readily available, MMD's GIS Specialist took on additional responsibilities with respect to evaluating and acquiring remote sensing software, and processing remotely-sensed data.

Peabody earned a 2014 Excellence in Reclamation Award for its initial reclamation efforts at El Segundo Mine in McKinley County. The mine has been in operation since 2008, uncovering and selling 5-8 million tons of coal per year. At El Segundo Mine, Peabody has taken a lead role in implementing geomorphic principals into contemporaneous reclamation. A new approach to traditional reclamation was needed to ensure the proper drainage density, drainage configuration and overall landform stability of the mine's reclamation, while maintaining a high level of production for customers. Additional information and photographs are [here](#).



First-year revegetation establishment at El Segundo Mine. The coal stockpile and load-out facilities are in the background. (Photo by Emily Worthen, P.E., Peabody Natural Resources Company)

Additional Coal Program information is searchable through the MMD Online [Coal Mines Query](#) application, which provides data for coal mines in New Mexico including location, various statistics, notices of violations, water quality samples and more.

ABANDONED MINE LAND (AML) PROGRAM: The AML Program works to identify dangerous abandoned mine areas across the state and to abate their hazards. MMD estimates that more than 10,000 hazardous mine openings remain un-reclaimed throughout New Mexico.

In 2014, the AML Program completed seven construction projects at abandoned mine sites in New Mexico. Four of these were coal-related projects – the Sugarite Gob Pile Reclamation – Phase VIII/Yankee Maintenance II Project (Colfax County), which completed remedial reclamation on coal mine waste piles at two sites in the Raton Coal Basin; the Swastika Mine Stream Crossing Maintenance Project (Colfax County), which rebuilt a low-water crossing at a location where large culverts had been severely damaged by flooding; the Madrid Low Impact Stormwater Construction – Hillside Erosion Control Project (Santa Fe County), where rock channels were constructed around mine waste piles to protect property in the community from flooding and erosion; and the Madrid French Adit and Subsidence Backfill Project to close a small subsidence feature and to backfill an adit opening more securely.

On the non-coal side, the Program completed three projects – an emergency project in the village of Santa Clara (Grant County) to fill a subsidence in a subdivision with concrete; a project at the Hogan Mine (McKinley County) to place a precast concrete cover over a large uranium shaft; and a project to build two bat compatible closures at adits in Cookes Peak (Luna County).



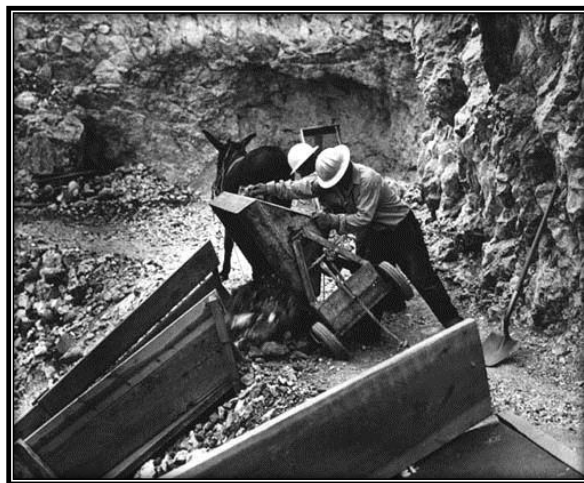
Constructing rock channels in Madrid (AML Staff Photo)



Concrete slabs over the Hogan Mine shaft prior to covering with earth (AML Staff Photo)

The AML Program continues to develop projects in areas of New Mexico impacted by historic mining, including Silver City, Raton, San Pedro Mountains, Cerrillos Hills, and Tierra Amarilla. Additional work is also planned in Madrid, the Grants area, and Cookes Peak.

For the second time, the AML Program received national recognition for its exemplary work at the Harding Pegmatite Mine Safeguard Project, completed in 2011, near Dixon. The Bureau of Land Management presented its 2013 “Fix a Shaft Today” Award for this project at a ceremony in Washington, D.C., in October.



Harding Pegmatite Mine shaft – before safeguarding (AML Staff Photo)



Harding Pegmatite Mine shaft – after safeguarding (AML Staff Photos)

An AML Program project received a Mining and Minerals Division 2014 Excellence in Reclamation Award. Duran Bokich Enterprises, LLC, of Elephant Butte, was honored for its creativity in meeting access challenges and for displaying a high level of craftsmanship in safeguarding abandoned hard rock mines in Luna County in the Little Florida Mountains at the Bradley Group Mine Safeguard Project – Phase I. The project included constructing 21 different features at multiple abandoned mine openings, many incorporating designs that allow continued bat and small animal access. Due to the lack of access at one feature that was too big to safeguard by conventional means, materials to build a steel picket fence to completely encircle the feature had to be hand-carried to the site after being conveyed part of the way by a pulley system built across the drainage. Additional information and photographs of this project are [here](#).

The Bureau of Land Management remains a strong AML partner, providing funding for abandoned hard rock mine reclamation that supplements AML's regular annual grants received from the federal Office of Surface Mining that are earmarked primarily for work at abandoned coal mining sites.

MINERAL RESOURCES: EMPLOYMENT, PRODUCTION and VALUE

For the second year in a row, operators reported an all-time high mineral production value – more than \$2.82 billion worth of minerals were extracted from New Mexico mines in 2013, almost one percent over 2012's total (Table 1 and Figure 1). Reported potash production increased more than 40 percent from 2012 (although at a lower price per pound in 2013), and copper production and value were up 18 percent and 9 percent, respectively, from 2012.

Table 1 and Figure 1

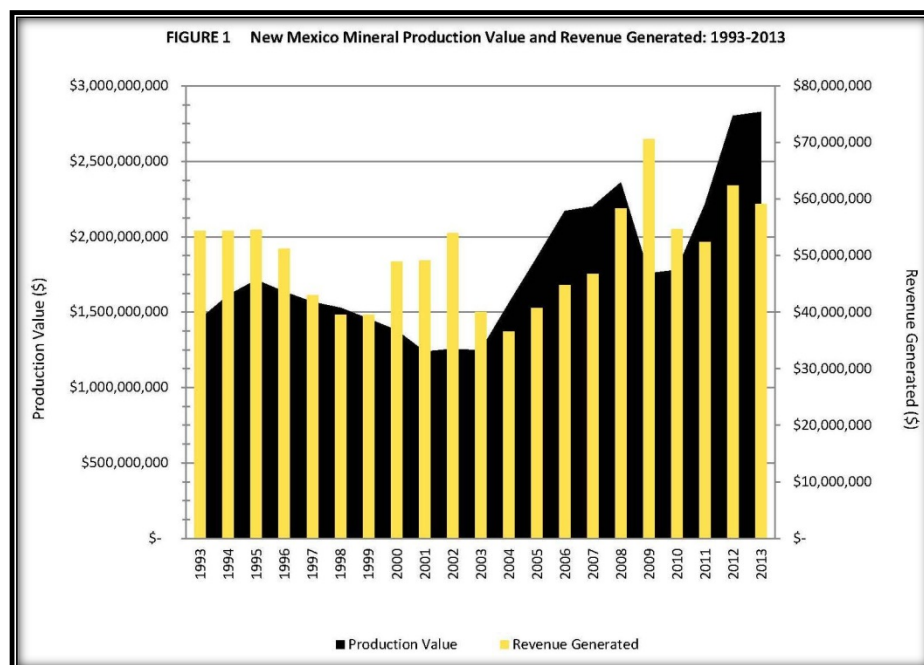
TABLE 1 New Mexico Summary of Commodity Production, Production Value, Employment, Payroll, Revenue and Ranking: 2013

Mineral	Production ¹	Production Rank ²	Production Value \$	Employment ³	Reclamation Employment	Payroll \$ ⁴	Revenue Generated \$ ⁵	
							State	Federal
Coal	21,968,639	12	\$ 816,628,814	1,623	183	\$ 85,145,465	\$ 22,700,382	\$ 8,068,407
Copper	266,483,184	3	\$ 890,357,625	1,885	88	\$ 106,936,573	\$ 7,259,514	\$ -
Gold	2,943	-	\$ 3,994,109	59	-	\$ 2,392,294	\$ 58,068	\$ -
Industrial Minerals ⁶	1,248,312	-	\$ 91,113,849	471	11	\$ 17,860,998	\$ 1,028,914	\$ 212,690
Aggregates ⁷	9,393,307	-	\$ 81,505,531	937	101	\$ 14,264,197	\$ 2,498,063	\$ -
Other Metals	512,323	-	\$ 2,539,625	65	-	\$ 1,877,897	\$ 651,719	\$ -
Molybdenum	2,384,509	-	\$ 24,739,281	461	-	\$ 19,028,960	\$ -	\$ -
Potash ⁸	2,188,874	1	\$ 914,659,051	1,600	15	\$ 95,988,330	\$ 5,254,275	\$ 11,369,170
Silver ⁹	68,523	-	\$ 1,867,207	-	-	\$ -	\$ 33,886	\$ -
Uranium ¹⁰	-	-	\$ -	11	18	\$ 1,164,144	\$ -	\$ -
TOTAL			\$ 2,827,405,091	7,112	416	\$ 344,658,858	\$ 39,484,821	\$19,650,267

Source: Mining and Minerals Division, unless otherwise noted.

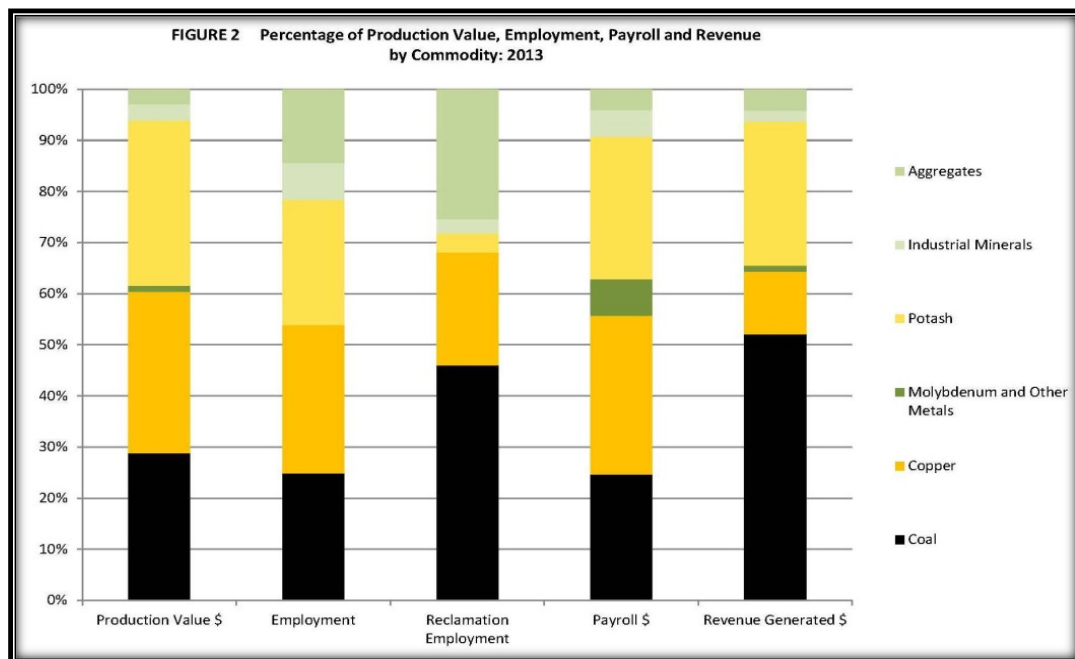
¹ Production is in short tons for coal, industrial minerals, aggregates, other metals and potash; in pounds for copper and molybdenum; and in troy ounces for gold and silver.² Production rank, where available, is based on 2013 production value (except coal which is based on 2012 coal production value, latest available at publication date) in relation to other U.S. states.Sources: Metals, potash, industrial minerals and aggregates: Mineral Resources Program, United States Geological Survey (minerals.er.usgs.gov)Coal: Energy Information Administration, United States Department of Energy (www.eia.gov/coal)³ Employment category includes direct and contract employees.⁴ Payroll does not include benefits.⁵ State revenue includes state trust land mineral lease royalties, rentals and bonuses; and severance, resource excise and conservation tax revenues.

Federal revenue includes 50% state share of federal royalties.

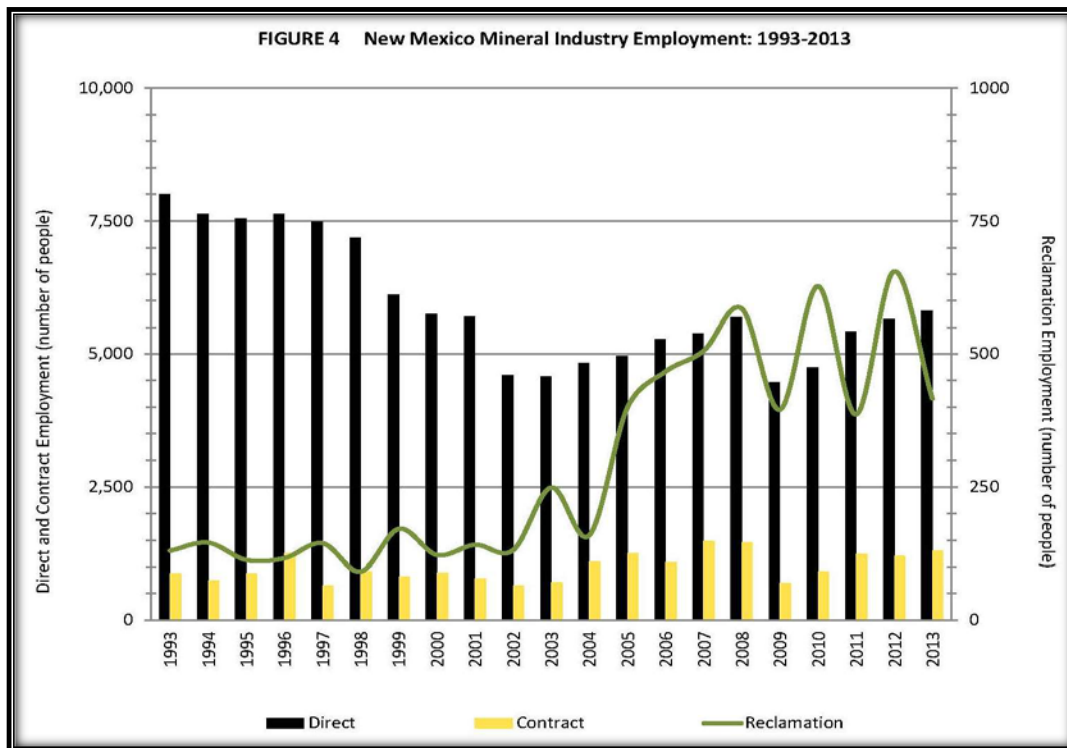
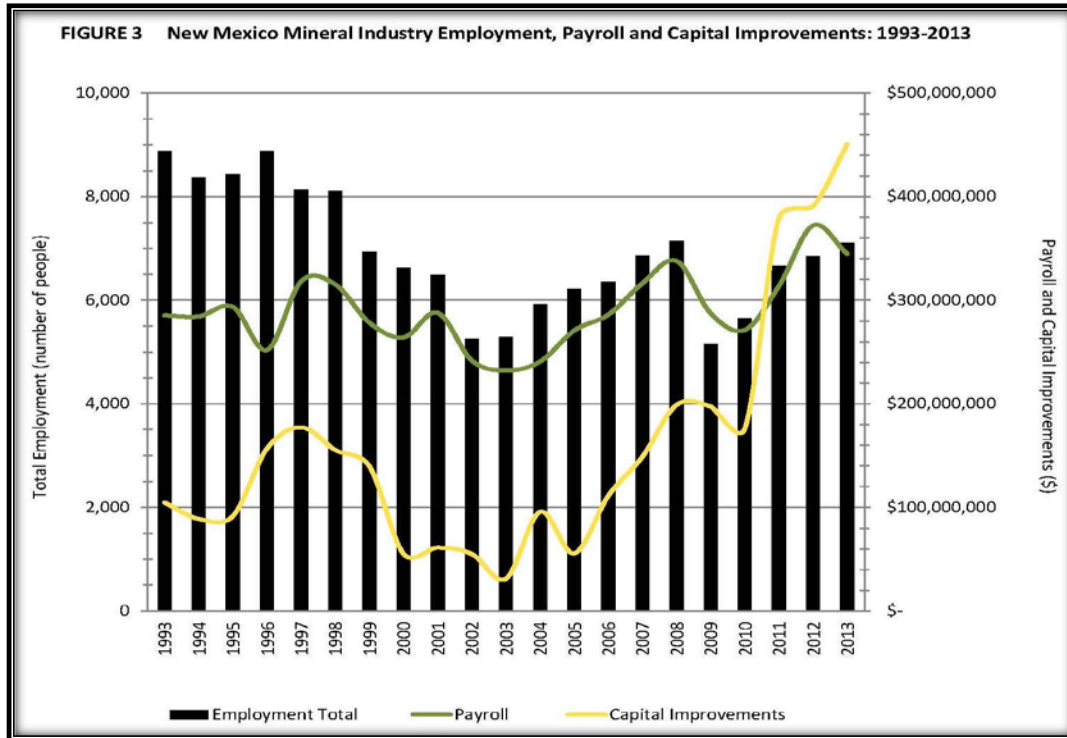
Sources: State data: New Mexico Taxation and Revenue Department (www.state.nm.us/tax), New Mexico State Land Office (www.nmstatelands.org)Federal data: Office of Natural Resources Revenue (www.onnr.gov)⁶ Category includes brick clay, calcite, dimension stone, gypsum, humate, perlite, Portland cement, pumice, salt, silica, and zeolite.⁷ Category includes base course, caliche, clay and shale, crushed rock, flagstone, fill dirt, gravel, limestone, red dog, rip-rap, sand, scoria and topsoil.⁸ Potash production is K₂O mill production.⁹ Employment and payroll for silver included in copper and gold.¹⁰ Employment/payroll numbers are for licensing/permitting at proposed uranium mines, and reclamation activities/maintenance at closed mines and mills.

New Mexico remains a leading United States mineral producer, with 2013 rankings of first in potash, perlite and zeolite; third in copper, as reported by the U.S. Geological Survey (USGS); and twelfth in coal (latest available information), as reported by the U.S. Energy Information Administration. The principal minerals, in descending order of 2013 production value, were potash, copper and coal. According to USGS, for 2013, New Mexico ranked thirteenth when ranking states by the production value of non-energy minerals, producing 2.07 percent of the total U.S. production value of non-energy minerals (up from fourteenth and 1.95 percent in 2012, respectively).

Potash again claimed the top spot for production value, copper reported the largest payroll, while coal generated the greatest revenue for the state in 2013 (Table 1 and Figure 2). Total 2013 revenues (state and federal) generated by mineral production in New Mexico slightly declined (5 percent) from 2012 levels to \$59.1 million (Figure 1). State revenues include state trust land mineral lease royalties, rentals and bonuses and associated taxes; whereas federal revenue includes a 50 percent state share of federal royalties. In any production year, these revenues only accrue if the lessee is actually mining and producing commodities on federal or state land.

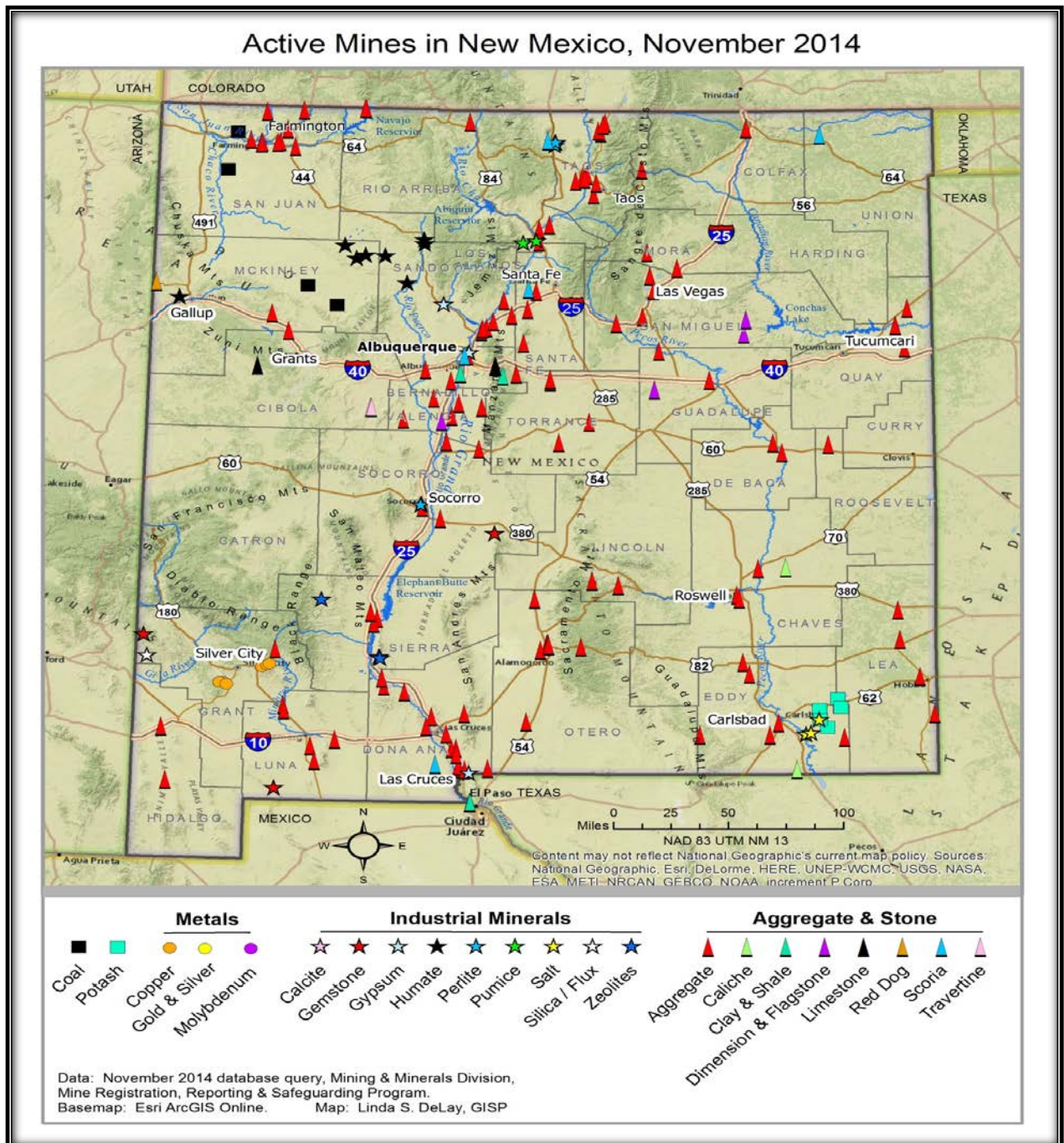


Industry payroll (excluding benefits) fell off 7 percent from last year's all-time high of \$372 million to close to \$345 million (Figure 3). Copper was the largest employer in New Mexico's mining industry, followed by coal and potash operations. Total mining sector direct and contract employment increased slightly from 2012 to 2013. Direct and contract employees in the mining industry numbered 7,112 in 2013, an almost 4 percent increase from 2012: direct employment increased almost three percent to 5,806 employees; contract employment increased almost 9 percent to 1,306 workers; reclamation employment decreased significantly in 2013 (nearly 37 percent) to 416 workers (Figure 4).

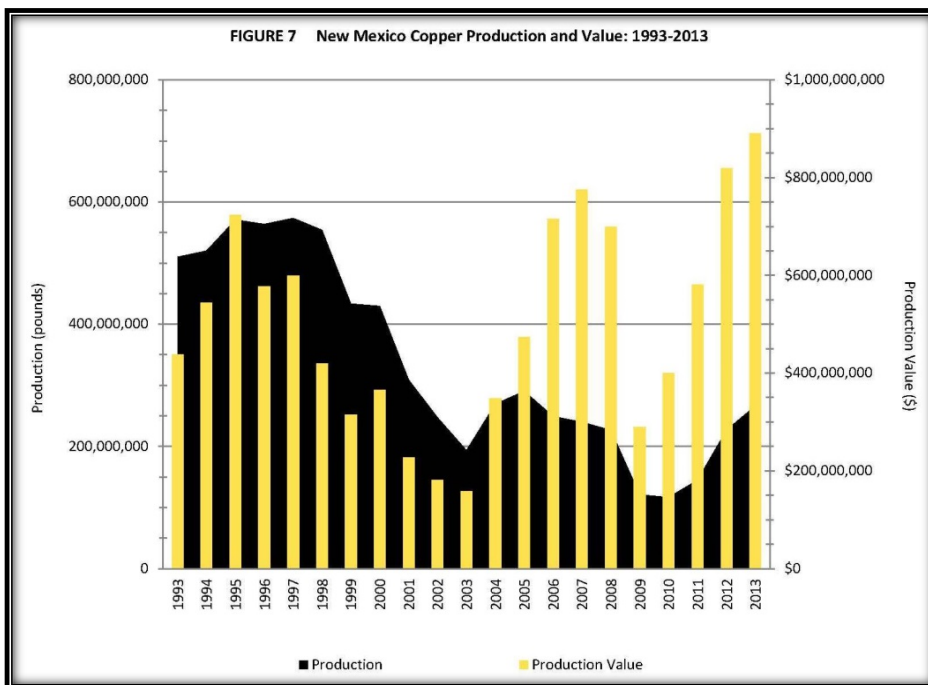
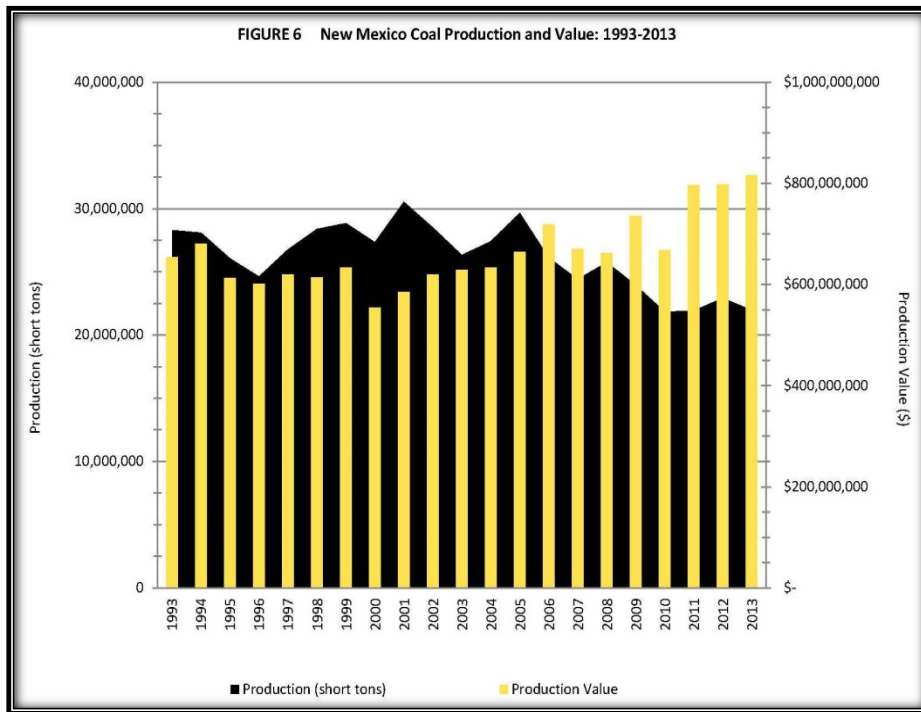


Capital improvement expenditures increased more than 15 percent from 2012 to 2013. New Mexico mining companies invested just over \$450 million in capital improvements and equipment in 2013, another record setting amount (Figure 3). The spike in monies put into improvements in the past several years is primarily a result of projects in potash and copper country.

Registered active mining operations in New Mexico in 2013 numbered 217: four coal mines; eight potash operations (includes mines, refineries and compaction plants); nine metal mine, mill and SX/EW operations; 15 industrial mineral mines; 22 industrial mineral mills; and 159 stone and aggregate operations (Figure 5 – any discrepancies are due to map data run date).



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



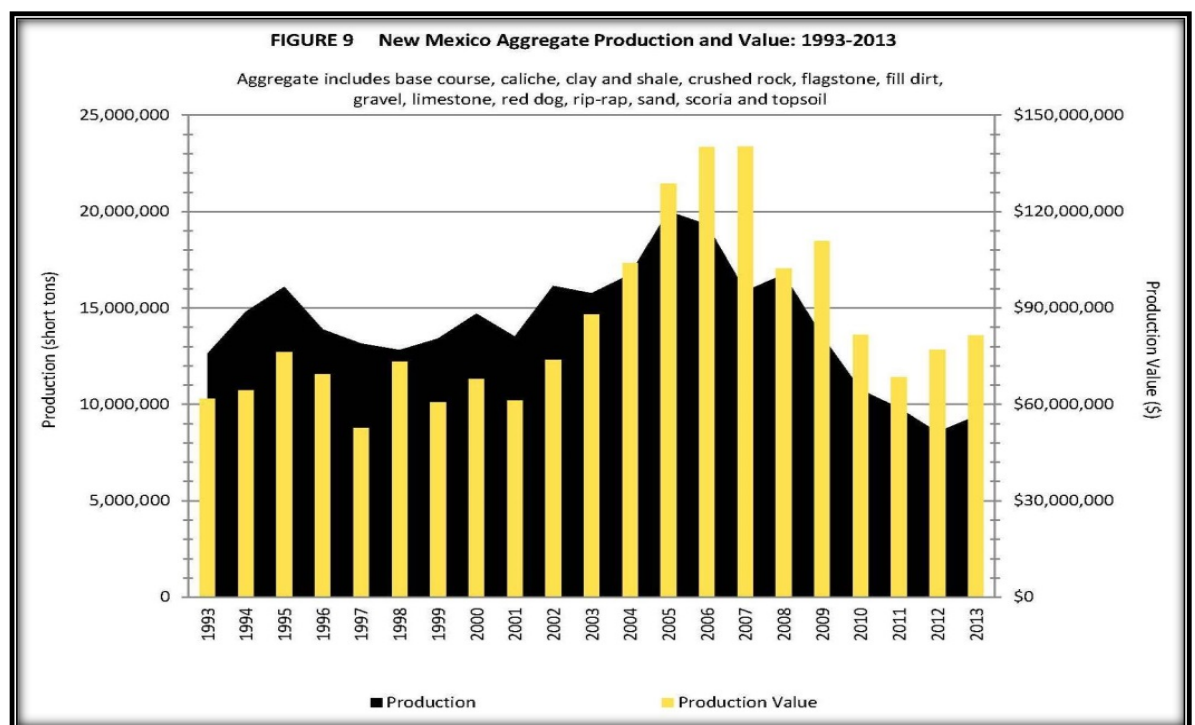
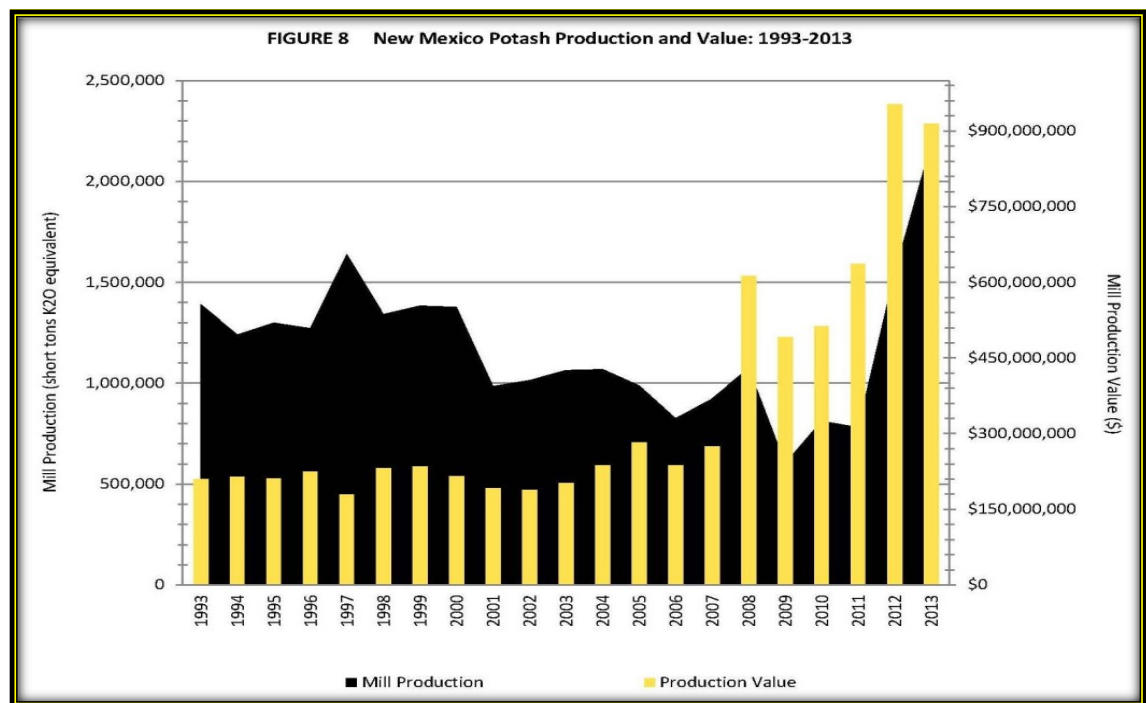
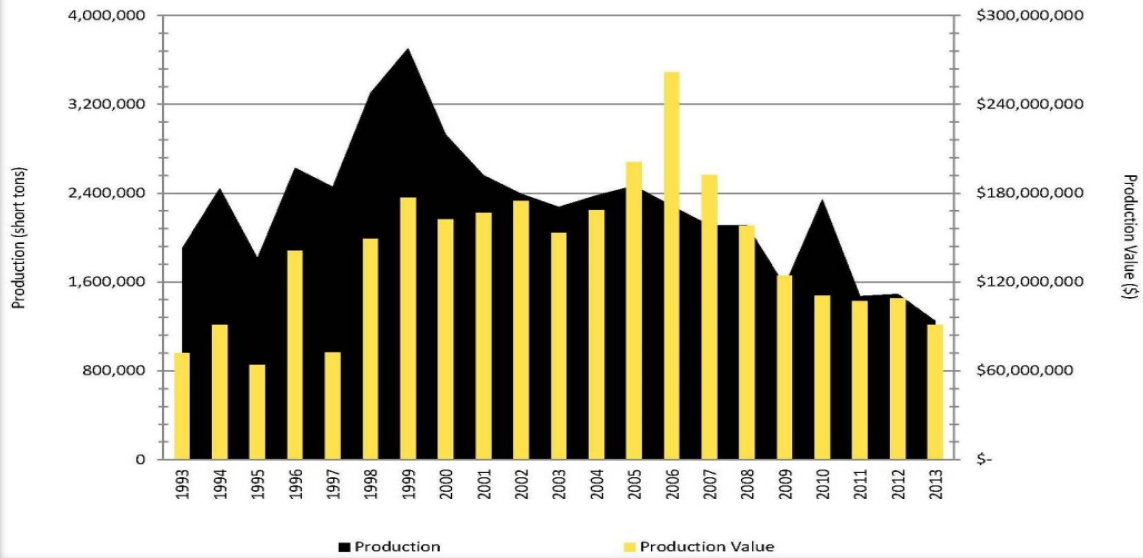


FIGURE 10 New Mexico Industrial Mineral Production and Value: 1993-2013

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



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**Oil
Conservation
Division**



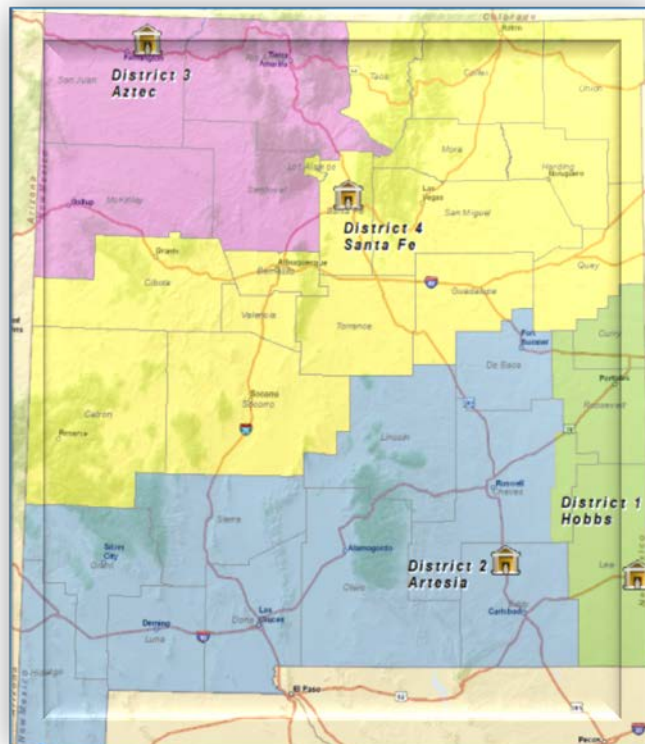
Oil Conservation Division

MISSION: To assure the protection, conservation, management, and responsible development of oil, gas, and geothermal resources through professional, dynamic regulation and advocacy for the ultimate benefit of New Mexico.

OVERVIEW: OCD is organized into four district offices and five bureaus responsible for different aspects of regulating the oil and gas industry. The district offices issue drilling permits, inspect wells and associated facilities, respond to spills, investigate violations, and institute enforcement actions.

The Four District Offices

Hobbs – District 1
Artesia – District 2
Aztec – District 3
Santa Fe – District 4



FIVE BUREAUS

The *Engineering Bureau* processes administrative applications for exceptions to OCD rules, and the staff serves as Director-appointed hearing examiners for OCD hearings.

The *Environmental Bureau* enforces environmental rules and programs in the oil and gas industry for the protection of New Mexico's freshwater, public health, and the environment.

The *Compliance Bureau* ensures that activities comply with regulations and do not result in the waste of oil, gas and geothermal resources and to protect human health and the environment.

The *Administrative Bureau* is responsible for tracking statistics and oversees the division's budget and procurement needs. It provides administrative support, manages the plugging bond program, and maintains records of cases and orders.

Legal Bureau staff from Office of General Counsel provides legal advice and support, works with well operators to develop Agreed Compliance Orders, and participates in the formulation of OCD rules and proposed legislation.

RULEMAKING: OCD works with representatives from diverse groups to consistently enforce its rules and identify areas where rules can be improved. OCD is actively involved in nationwide federal, state, and industry organizations that share information on new technologies and discuss best practices on topical issues such as hydraulic fracturing and horizontal well drilling.

OIL CONSERVATION COMMISSION: The three-member commission, chaired by the Oil Conservation Division Director, makes rules governing oil and gas production in New Mexico, conducts hearings on matters of significant interest, and hears appeals of examiner decisions. The OCC emphasizes the commitment to promulgate regulations based on science by including university researchers in work groups for rule development and amendment recommendation.



Fracking Operation in Eddy County, New Mexico. Photo from OCD Files.

PERFORMANCE

In FY14, OCD has already exceeded its performance target (23,500) for the number of inspections performed (36,449 as of December 4, 2014), and will exceed the adjusted FY13 inspection count (37,806). Moreover, a large number of Underground Injection Control (UIC) inspections were conducted in the final quarter, meeting the goals set by the federal UIC program. In addition, OCD plugged 32 wells in FY14 using Oil Reclamation Fund monies, a number that represents almost half of the state well plugging obligations and that exceeds the target performance metric of 25. For the first time in FY14, OCD recouped almost \$100,000 in salvage revenue from well plugging. In FY14, the Engineering Bureau issued approximately 50 percent of all administrative applications within 30 days of receipt. The other 50 percent of administrative applications were issued after 30 days, with overall average turnaround time of 36 days.

BRINE WELL CAVERNS: OCD has been deeply involved in the monitoring and characterization of a large and unstable brine well cavern which threatens a developed portion of southern Carlsbad since the spring of 2009. Brine wells are UIC Class III injection wells that operate by injecting freshwater into salt formations to generate saturated brine in caverns that is used for oil and gas drilling operations. The responsible party in Carlsbad filed for bankruptcy shortly after the situation came to light, leaving the problem as an orphan. Using monies from the Reclamation Fund, OCD has installed an automated ground movement monitoring system which is integrated directly into the local emergency response infrastructure. OCD has overseen an effort to characterize the cavern using state of the art geophysical techniques. Upgrades to the monitoring system have recently been made, and all historic data has been independently reviewed. OCD also advanced multiple exploratory borings in the area along with the installation of a micro-seismic recording system. A feasibility process was undertaken incorporating all stakeholders and the resulting feasibility study was completed in July 2014, providing possible solutions along with estimated costs for implementation. To date, total state expenditures for outside services on the project exceed \$4.6 million, of which \$1.6 million was reimbursed by the bankruptcy estate. In addition to providing data analysis, monitoring and re-entry efforts, Division staff members provide technical guidance to other government entities involved in the project and participate in all of the committees that have been formed to plan for a successful resolution to the situation. **RE-USE OF PRODUCED WATER:** The Energy, Minerals and Natural Resources Department Secretary and OCD Director support the growing interest in the re-use of produced water for oil and gas operations. The OCD posted a Public Notice on the website, under Announcements and Notifications on the Re-Use of Produced Water.

No OCD permit or authorization is required for the re-use of produced water, drilling fluids or other oil field liquids as a drilling or completion fluid or other type of oil field fluid. This includes makeup water, fracturing fluid or drilling mud at a permitted drilling, production or plugging operation.



Drilling Rig in the San Juan Basin

INTERAGENCY COLLABORATION

STATE LAND OFFICE (SLO): OCD is currently working with the SLO for elimination or reduced right of entry, water well easements and borrow dirt fees associated with the OCD's ongoing well plugging, reclamation and re-vegetation activities on State Trust Lands.

BUREAU OF LAND MANAGEMENT (BLM): OCD and BLM meet quarterly both in the Southeast and Northwest portions of the State. Staff from both agencies discuss, analyze and streamline issues that need to be addressed in the field and at our district offices. The quarterly meetings have given both agencies opportunities to work jointly on current issues that need to be improved upon.

JOINT INDUSTRY TECHNICAL COMMITTEE: OCD personnel are also attending Joint Industry Technical Committee (JITC) Meetings, with both industry and the BLM, to administer the U.S. Secretary of the Interior's Order No. 3324, which deals with Oil, Gas and Potash Leasing and Development within the Designated Potash Area of Eddy and Lea Counties in New Mexico. The provisions apply to concurrent operations in prospecting for, developing, and producing oil, gas and potash deposits owned by the United States within the Designated Potash Area.

ELECTRONIC SYSTEMS LEADERSHIP: The Division worked with the agency's IT department to increase efficiency, transparency and availability of information to the public. The division's microfilm store of historical case file documents stretching back to the 1930's were converted into PDF documents and made available to the public. An indexing search capability was added to our image search website so that the public may search the entire OCD document repository for any particular search term or terms. Finally, the division retired our usage of the obsolete ONGARD mainframe system improving data entry, validation and efficiency.

FUTURE RULEMAKING

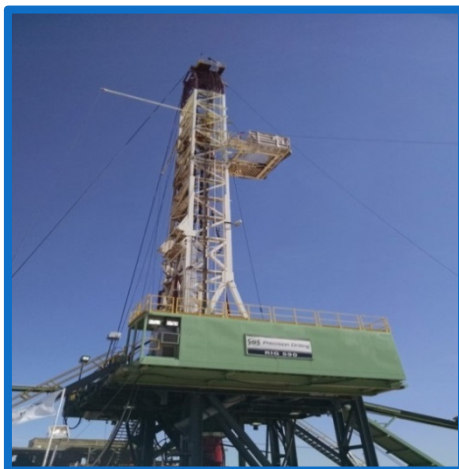
Throughout 2014, the division met with stakeholders to draft proposed amendments to the following rules.

Amend Part 26 (Injection): The proposed new rule will amend existing definitions and add new definitions to clarify the rule, create a more efficient method of making application that provides more data needed in the decision-making process and clarifies the notice requirements; clarify the administrative approval process for injection; allow for certain administrative approval for pressure maintenance projects and require additional data for applications for pressure maintenance projects; create special rules for acid gas disposal wells, and otherwise amend 19.15.26 NMAC to protect water, public health and the environment; prevent the waste of oil and gas; and protect correlative rights.

Amend Part 36 (Surface Waste Management Facilities): The boom in drilling horizontal wells has increased the need for permitted land farms and landfills. The current rule is unnecessarily cumbersome and confusing in its requirements, creating lengthy delays in processing permit applications. A more efficient permitting protocol is necessary, while still protecting freshwater, public health, and the environment.

Amend Part 34 (Produced Water): Streamline re-use and recycling of produced water. The current rule does not encourage the beneficial re-use of produced water and other oil field liquids. Part 34 needs to be evaluated for best management practices for reasonable alternative disposition of liquid wastes and for supportive decrease in freshwater usage in oilfield activities.

PIT RULE: The Pit Rule was amended effective June 28, 2013. Appeals are ongoing. Staff has conducted well-attended seminars in both the Northwest and Southeast to answer questions on the new Pit Rule. The PowerPoint presentation used in the seminar covers a variety of topics and is posted on the OCD's website, under Announcements and Notifications.



Drilling Rig in Lea County, New Mexico. Photo from OCD Files.

HIGHLIGHTED MANAGEMENT INITIATIVES

OCD is currently working to modify its electronic system to record wells using 14-digit APIs. The API number is the oil and gas industry standard for identifying a well and was designed to meet needs for accurate information. As wells have become more complex, for example horizontal well drilling with more than one lateral, the challenges of information management have increased. The current 10-digit API number does not adequately capture all the information needed for newer, modern well designs and data systems. An expansion of this identifier to 14 digits will allow OCD systems to adhere to industry standards while enabling OCD to capture information about every wellbore at the same time.

BUDGET: Fiscal staff utilized statewide price agreements with reclamation funds to provide improved oversight and to eliminate cost overruns on well plugging. Plugging activity has increased dramatically the past two years, with 57 wells plugged in FY13 and an anticipated additional 50 well pluggings scheduled for FY14.

TRAINING AND OUTREACH: OCD plans to deploy training videos to the OCD website to assist in such areas as navigating the OCD website, submitting an online permit and using OCD's Online Imaging System. Future seminar topics OCD is considering include: C-115 processing, potash, remediation and SLO regulations.

HIGHLIGHTED INITIATIVES

OCD is committed to water reuse, and in 2014 approved two applications for the treatment, reuse and recycling of produced water for oil and gas companies to utilize produced water for drilling and hydraulic fracturing operations. Less freshwater used in drilling equates to more freshwater to conserve for future generations of New Mexicans. The facilities are constructed with stringent engineering designs to assure protection of groundwater, public health and the environment.



Permanent Pit constructed for produced water reuse.

OCD is coordinating efforts with Junior Colleges and State Universities and utilizing students enrolled in environmental engineering and oil and gas sciences. Students will be trained by the colleges and OCD to help work with field inspection staff.

OCD has sent several of field inspectors to valuable training provided by the TOPCORP Energy Training Program, a consortium of three universities working with the Interstate Oil and Gas Compact Commission initiative of continuous regulatory improvement. The invaluable training focuses on the latest science and technology surrounding oil and gas operations.

The Division is working collaboratively and monitoring the new San Juan Basin Mancos Oil Play, where oil and gas operators are forming new units to prudently produce and extract the hydrocarbons resources. Oil production in Northwest New Mexico has increased from an average of 79,138 barrels of oil per month in 2011 to an average of 254,097 barrels of oil per month in 2014 (January to November).

OCD is working closely with EMNRD's IT Division in all our district offices to streamline approvals of permits. Timely application and permit approvals equates to a faster revenue stream coming to the state.

For FY14, OCD is working diligently to review and assess orphaned and abandoned wells and is on track to plug 50 wells in FY14.

OCD played an integral administrative and regulatory part in helping the state oil and gas industry produce 100.8 million barrels of oil for calendar year 2013. Last year's production was the highest rate since 1973 (40 years). New Mexico is now experiencing the longest running boom since the 1970s.

In 2013, oil and gas production accounted for more than one third of all state revenue. OCD staff was vital and served a very important role in the generation of these essential state profits. Production for calendar year 2014 is currently 17 percent greater than 2013.

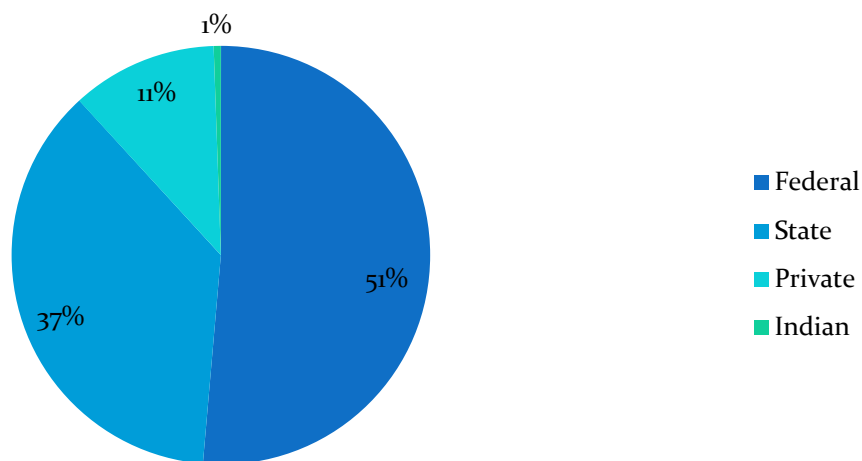
OIL CONSERVATION DIVISION GOALS:

- ✓ To make balanced, consistent, fair and transparent decisions delivered in a timely and resourceful manner.
- ✓ To provide efficient processes that support industry's needs while ensuring compliance with rule requirements.
- ✓ To conduct transparent activities and provide public access to reports and information.
- ✓ To strive for balance that supports the industry while protecting the environment, with decisions based on sound science and not politics.
- ✓ To fill vacancies to enhance public service, well inspections and application processing.

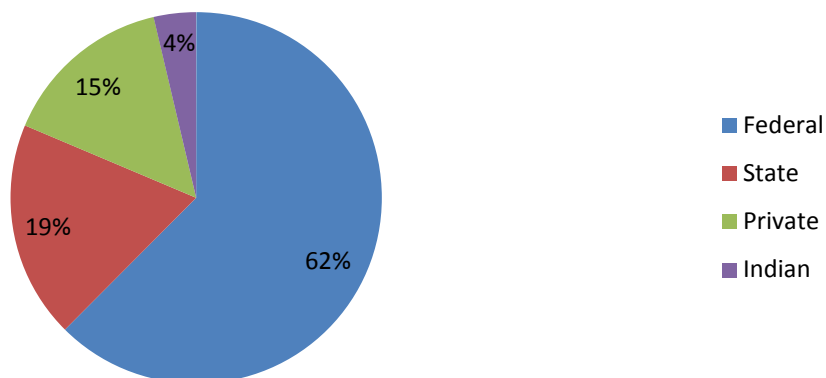
- ✓ To work collaboratively with other agencies, divisions and our constituents for the betterment of the division.
- ✓ To maintain providing seamless production data to the Taxation and Revenue Department and the State Land Office for the efficient processing and disbursement of taxes and royalties due to the state of New Mexico.

DATA & STATISTICS

2014 Oil Production by Land Type



New Mexico Gas Production by Land Type



2013 Oil and Gas Production by County

Rank	Oil (Barrels)	Rank	Gas (Thousand Cubic Feet, MCF)
1. Eddy	51,881,901	1. San Juan	427,328,747
2. Lea	43,570,768	2. Rio Arriba	303,595,462
3. Chaves	1,558,989	3. Eddy	266,310,545
4. Rio Arriba	1,259,587	4. Lea	174,131,604
5. San Juan	1,477,775	5. Colfax	25,397,912
6. Roosevelt	221,027	6. Chaves	19,767,285
7. Sandoval	776,946	7. Sandoval	3,198,579
8. McKinley	60,514	8. Roosevelt	1,792,892
		9. McKinley	177,956
Total	100,807,507		1,221,700,982

Source: Oil Conservation Division as of December 4, 2014

Oil Production by Calendar Year

Year	SE Crude	SE Condensate	NW Crude	NW Condensate	Total
2009	54,619,858	4,041,886	953,695	1,527,199	61,142,638
2010	59,691,454	3,409,002	874,323	1,399,372	65,374,151
2011	66,066,517	2,803,584	949,664	1,418,125	71,237,890
2012	79,914,301	2,871,439	1,104,722	1,450,520	85,340,982
2013	94,604,507	2,628,178	2,071,778	1,503,044	100,807,507

Volumes are adjusted to reflect amended production reports filed with the Oil Conservation Division

Source: Oil Conservation Division as of December 4, 2014

Gas Production by Calendar Year

Year	SE Casinghead	SE Dry Gas	NW Casinghead	NW Dry Gas	NE Dry Gas	Total Natural Gas	Coalseam Gas (Not included in total)
2009	207,556,923	247,621,242	10,853,359	905,349,943	26,124,386	1,397,505,853	449,839,844
2010	218,249,320	213,206,404	10,339,025	844,514,969	26,195,178	1,312,518,769	407,383,303
2011	236,920,737	173,564,551	10,552,931	814,701,430	26,541,065	1,262,357,914	379,137,795
2012	281,754,004	151,815,818	10,655,636	781,050,492	27,012,215	1,252,288,165	359,380,419
2013	332,683,005	129,319,321	12,237,756	722,062,988	25,397,912	1,221,700,982	323,550,131

Volumes are adjusted to reflect amended production reports filed with the Oil Conservation Division

Source: Oil Conservation Division as of December 4, 2014

Well Inspections by Fiscal Year					
	2014	2013	2012	2011	2010
Quarter 1	8,933	8,525	8,411	6,246	11,594
Quarter 2	7,954	8,873	8,912	6,901	8,393
Quarter 3	8,523	8,732	9,093	8,063	9,679
Quarter 4	11,039	11,676	9,124	8,852	9,294
Total	36,449	37,806	35,540	30,062	38,960

The Oil Conservation Division performs well inspections throughout the year to ensure operators are in compliance.

Wells Drilled and Completed by Calendar Year by Well Type				
Year	Gas	Oil	Other	Total
2004	1,202	570	74	1,846
2005	1,295	612	94	2,001
2006	1,262	780	89	2,131
2007	1,036	641	49	1,726
2008	853	857	88	1,798
2009	454	714	98	1,266
2010	262	946	97	1,305
2011	249	1,174	105	1,528
2012	160	1,187	65	1,412

“Other” includes saltwater disposal wells, carbon dioxide, and injection wells.



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State Parks Division



State Parks Division

OVERVIEW: The State Parks Division (State Parks) oversees New Mexico's 35 parks that offer a great diversity of natural and cultural resources, providing recreational and educational opportunities for 3.89 million visitors in FY14.

HISTORY: State Parks was founded in 1933 in conjunction with the Civilian Conservation Corps efforts during the Great Depression. The State Parks system began with four parks, and today there are 35 parks encompassing 19 lakes and 196,677 acres of land and water.

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

State Parks is committed to this mission, employing professional, dedicated staff to ensure that parks are cared for and preserved to the highest professional standards. State Park programs provide safe, fun and educational experiences – and a visit to a state park is a true value.

Outdoor recreation is a driving force in New Mexico's economy and State Parks is a key player. Connected to communities statewide, State Parks are often economic drivers for local businesses, towns and cities. Many rural communities rely upon State Parks as a major source of economic development.

VISITATION AND REVENUE: A total of 69 percent of the State Parks' budget is supported by self-generated revenue and 31 percent is general fund. Visitation in FY14 totaled 3,888,854, and the numbers of passes for non-residents, veterans and disabled individuals all increased from the previous fiscal year. Camping fees totaled \$2,288,034, day use fees totaled \$1,218,724, and concession fees totaled \$344,708.

In FY14, taxpayers directly supported State Parks through Personal Income Tax Check-offs. A total of \$15,381 in revenue was realized for the Kids 'n Parks transportation grant program and the Vietnam Veterans Memorial State Park fund.

PROGRAM ACCOMPLISHMENTS

CAPITAL IMPROVEMENTS: State Parks strives to make the capital investments necessary to continuously improve visitor facilities and services, streamline park operations, increase revenue, and provide a wide variety of recreational opportunities. State Parks' projects completed during 2014 included the following:

Living Desert Zoo and Gardens State Park

Living Desert Zoo and Gardens received a sizable grant for facilities improvement from a private donor. They chose to update their antiquated reptile exhibit, originally built in the late 1960s. Construction of a new 3,000 square foot building commenced in early 2013 and was completed in 2014. The grand opening was held June 26, 2014. The total grant, which included the new building, exhibits and equipment, landscaping and a shade structure amounted to \$1,230,000.



Reptile House at Living Desert Zoo and Gardens State Park

Oasis State Park

The State Park Force Account Crew built six new full-service campsites and private contractors upgraded power and water to the other developed campsites. We also began construction on a new solar heated and powered comfort station to serve the enlarged campground.



New Campsite at Oasis State Park

Navajo Lake State Park

Electrical service to the Pine Campground was upgraded to correct electrical faulting caused by overloads and age. Electrical service was also upgraded at Cottonwood Campground and water service was extended to all the campsites there. Additionally, we re-paved and enlarged the parking area at Texas Hole day use area.

Pancho Villa State Park

We completed an extensive remodeling to two comfort stations, originally built in the 1960s and 1980s and long due for refurbishing. In lieu of demolishing and rebuilding in an area dense with archaeological resources, we renovated the existing structures, providing solar heating and electrical power along with all new plumbing, lighting and finishes.



New Comfort Stations at Pancho Villa State Park

Elephant Butte State Park

The 30-year-old Ridge Road Comfort Station was renovated. Work included new plumbing, lighting, and fixtures, as well as the addition of outdoor beach showers. Quail Run campground received three up-to-date accessible camping sites with new access to the existing comfort station. The 35-year-old septic system at Quail Run campground was also replaced.

Rockhound State Park

The dump station was upgraded with a new concrete apron, foot valve and signage. In addition, the new comfort station/shop was completed, with a rooftop solar array, 13 new shelters were installed and the entry to the campground was repaved after storms washed out sections of the 40-year-old access.

Villanueva State Park

The visitor center was re-stuccoed and a new fence was installed to enclose the shop area. In addition, the park's 40-year-old septic system was replaced.



Improvements at Rockhound State Park



Sugarite Canyon State Park

Renovation of the Soda Pocket campground was completed to address damage caused by the Track Fire. Work included re-grading of several campsites, extensive roadwork and culvert replacement, installation of new shelters at each campsite, installation of three new vault toilets, and improvements for ADA accessibility.

Boat Access

In addition to these projects, the Boat Access Improvement and Enhancement Program provided boaters with new and improved launching, docking, and parking facilities at Eagle Nest Lake, Heron Lake, El Vado Lake, and Clayton Lake State Parks.



Eagle Nest Lake State Park, South Ramp, During and After Construction



Eagle Nest Lake State Park, North Ramp, During and After Construction

Park Management Plans

Park Management Plans were completed for the Navajo Lake River Area, Cerrillos Hills State Park, and Bluewater Lake State Park. Park Management Plans were initiated for Sugarite Canyon State Park, Ute Lake State Park, and Vietnam Veterans Memorial State Park.

Water/Wastewater Engineering

The State Parks Engineer worked extensively with NM Environment Department regulators on the implementation of new guidelines for the management of septic systems and wastewater treatment systems, as well as the disposal of RV wastes.

MARKETING PROGRAM: State Parks focused on marketing special events, working with partners and increasing State Parks' social media presence in FY14. Key events that were marketed included: First Day Hikes on January 1, star parties, fishing derbies and tournaments, Memorial Day and 4th of July events, plant sales and programs, history and music events, marathons, National Hunting and Fishing Day, and car shows. Special events, such as the re-opening of Manzano Mountains State Park, were widely publicized.



Marketing funds were expended on radio buys, print advertisement, a television commercial, and a digital lift project with a company called Local Digital Reach. Partnerships were critical to the success of State Parks marketing in FY14, and collaboration with the NM Broadcasters Association (NMBA) allowed State Parks to leverage

funds throughout the state and streamline both television and radio buys. New partners were also gained through NMBA links.

State Parks had regular meetings with the NM Tourism Department in FY14 and began partnering on several projects. State Parks branded some print advertisements and posters with the “NM True” brand. Tourism filmed several episodes of “NM True TV” at State Parks and provided footage to the Division. State Parks also provided monthly events for inclusion on the Tourism calendar as well as articles for the Tourism newsletter.

State Parks participated in the first-ever Media Day in May at Elephant Butte Lake State Park. This was a joint program between the City of Elephant Butte Lake State Park, local businesses and volunteers.

State Parks worked closely with the Department’s Public Information Office on many significant articles, press releases and events throughout 2014. A total of 53 press releases were distributed in FY14.

A partnership with a firm called Good Solutions from California allowed State Parks to create and distribute 50,000 State Park brochures for free. Through a five-year donation agreement, Good Solutions will continue to provide free brochures.

The Marketing Program began partnering with the Business Enterprise program, sending out e-card blasts every other month to the national Reserve America system, to approximately 16,000 visitors.

State Parks participated in RV shows, the Department of Game and Fish Hunting and Fishing Expo, and had an increased presence at State Fair through more staffing and improved exhibits.

In 2014, New Mexico State Parks invested in social media marketing through the use of Facebook, Twitter and Pinterest to reach a wider demographic. By December 2014, State Parks had 2,018 “likes” on Facebook, and nearly 743 “followers” on both Twitter and Pinterest. The steady increase of the numbers of people who are “following” State Parks effectively spread the message through the networking capabilities of these mediums.



LAW ENFORCEMENT AND BOATING SAFETY PROGRAM: State Parks is dedicated to achieving compliance with parks and recreation management laws. Law Enforcement and Boating Safety Programs provide responsive visitor services, resolution of conflicts within park jurisdictions, and promotion of resource protection. State Parks currently employs 62 of 79 park officer positions. These officers partner with local communities, visitors, and other agencies to develop and sustain the diverse environments in New Mexico's state parks while balancing the demand for recreation.



Elephant Butte Lake State Park Boating and Law Enforcement Staff

State Parks constantly faces new challenges including resource threats, new laws to administer and enforce, new standards to follow, or other public service/safety issues. In order to meet these challenges, park officers receive the most current, professional training while striving to improve cooperation with the public, coworkers and other agencies. In 2014 for example, State Parks partnered with the Federal Law Enforcement Training Center (Artesia) and the State Department of Homeland Security & Emergency Management to provide all state park rangers with nationally accredited advanced law enforcement training through a state/federal cost share program. This partnership allowed State Parks to leverage and effectively manage the modest law enforcement program budget while supporting officers' ongoing professional development.

State Parks operates and manages the majority of the state's recreational boating opportunities. The primary goal is zero boating-related injuries and fatalities each year while ensuring safe and memorable experiences for boaters. Statistically, New Mexico averages 1.5 boating-related deaths per year. However, this year SPD accomplished the goal of zero boating related fatalities! This can be attributed to the dedicated efforts of park officers and partners who provide educational programs regarding operator and equipment requirements, navigation, and boating hazards. Officers stress the importance of wearing life jackets, operating safely in inclement weather, and not operating under the influence of alcohol or drugs. Boating safety classes are provided throughout the state in person and via the Internet, and many school-aged children receive boating and water safety programs.

In FY14, more than 700 students successfully passed a boating safety course. Partnerships with volunteers, non-profits, local, county, state, regional, and federal agencies are critical to fulfilling the mission. State Parks receives support from the U.S. Coast Guard Auxiliary. For example, SPD partnered to provide the biennial search and rescue training exercise that involved the U.S. Coast Guard Auxiliary, the U.S. Civil Air Patrol, the U.S. Coast Guard's Sector Corpus Christi, and Sierra County emergency response units. The two goals of this partnership were to enhance the ability of emergency response agencies to communicate and work with each other; and to improve search and rescue skills to better serve the recreational boating public on New Mexico's lakes.

In 2014, State Parks proudly showcased New Mexico to western neighbors by hosting the Western States Boating Administrators Association (WSBAA) Annual Conference. For 53 years, WSBAA's mission has been to identify and share best practices in boating education, law enforcement, search and rescue, and waterway management; promote uniformity in boating laws; encourage cooperation between boating agencies; advance interstate cooperation in administration, law enforcement, and search and rescue; and serve as a forum for discussing laws and other boating safety issues in the west. This successful conference provided recreational boating professionals and leaders with a forum to share best management practices for their state programs.

EDUCATION PROGRAM: State Parks provides quality, interpretive experiences and educational programming for visitors. A total of 2,398 programs were delivered to 52,171 attendees in FY14.

The Statewide Outdoor Classroom Program provides students with hands-on, curriculum-based outdoor experiences. The program is heavily funded by taxpayers through the Kids 'n Parks Personal Income Tax Check-off for transportation grants to parks. Since 2007, State Parks has provided 149,867 outdoor classroom experiences for kids statewide, and in FY14, various state parks were visited by 15,743 students. Teacher trainings are critical, and 13 training sessions sponsored by State Parks equipped 230 teachers to utilize outdoor classroom curriculum guides in FY14.



Transportation Grants at work at Fenton Lake State Park

The program was evaluated and teacher participation was captured. On a 10-point scale, teachers gave the program a 9.6 rating for their overall experience and 9.5 for meeting goals and objectives. One teacher who visited Santa Rosa Lake State Park said, “The best part of the day was when we found a tarantula on the trail and Ranger Cribbs allowed it to crawl on his shoe. This led to a great tie in with animal classification, needs and adaptations and made all the kids incredibly excited.” Many teachers commented that these field trips support science, math and reading and that there is no substitute for children connecting to nature in parks.

Partnerships are critical to the success of the Outdoor Classroom Program. In 2014, State Parks partnered with the NM State Land Office in featuring the “NM Outdoor Children’s Bill of Rights,” at the State Legislature and in working on joint outdoor recreation projects. State Parks also worked with the Middle Rio Grande Education Program work groups throughout 2014, hosting one of the meetings at the Rio Grande Nature Center State Park. The group is spearheaded by the US Fish and Wildlife Service and has multiple state, federal, private and non-profit partners.

Finally, partnering with the NM Department of Game and Fish has continued to be important in educational programming. In 2014, State Parks hosted a very successful Hunting and Fishing Day in partnership with Game and Fish at Fenton Lake State Park and provided hands-on archery programs, live raptor demonstrations, kayaking and aquatic education programs.



Archery programs and live raptor demonstrations at Fenton Lake State Park

RESOURCE PROTECTION PROGRAM: As part of its mission, State Parks documents and preserves the unique cultural and natural resources within its system. In 2014, much of the focus was on a series of maintenance and repair projects, and three State Park staff reviewed over 70 park projects, which required inventory, research, and reporting. Resource staff successfully coordinated with partner and regulatory agencies that were critical to the compliance process. Major compliance efforts were accomplished in support of critical infrastructure projects at Bluewater Lake, Caballo Lake and Leasburg Dam State Parks.

In addition to legal compliance, State Parks continued important resource protection partnerships with the New Mexico Department of Game and Fish, New Mexico Interstate Stream Commission, Bureau of Reclamation, U.S. Army Corps of Engineers, Audubon New Mexico, U.S. Fish and Wildlife Service and other entities. State Parks partnered with the New Mexico State Forestry Division to implement forest health projects on 130 acres at Manzano Mountains and Hyde Memorial State Parks. The tree thinning projects will improve forest health by restoring forest density back to a more natural state and will decrease the risk of catastrophic fire.

Resource Protection staff also played a crucial role in the excavation and collection of a 3 million-year-old *Stegomastodon* fossil discovered at Elephant Butte Lake State Park in 2014. The fossil is currently being cleaned and studied while on display at the New Mexico Museum of Natural History.

VOLUNTEER PROGRAM: State Parks values its many volunteers and works hard to ensure that both volunteers and Friends Group members have the guidance and support they need. Tracking volunteers has been a difficult issue for State Parks for many years. The agency is now working to contract for an online, web-based tracking system that will give volunteers and managers the ability to submit and approve volunteer time from anywhere. It will also provide the ability for staff to access accurate and timely reports about the volunteers and the program's status.

State Parks currently works with 21 established support groups. In 2014, State Parks renewed cooperative agreements for Friends Groups at Pancho Villa, Rockhound, Sugarite Canyon and Eagle Nest Lake/Cimarron Canyon State Parks. New Friends Groups are in progress for Bluewater Lake and Brantley Lake State Parks.

Finally, State Parks was proud to honor the 12 new Emeritus Volunteers who achieved more than 5,000 hours of service in 2014.

BUSINESS ENTERPRISE: State Parks relies heavily upon relationships with concessions and private business. State Parks manages 17 concessions throughout its system and values the services that they offer. Such concessions include: marinas, fishing guides and outfitters, a horseback riding concession, stores and gift shops. Keeping contracts up to date is significant and in 2014, State Parks began negotiating critical contracts for two of the four marinas at Elephant Butte Lake State Park.

SPD had a very successful year with the ReserveAmerica (RA), the online reservation system for State Parks. The system allows visitors to make reservations online and provides accurate reporting capabilities.

Nearly 60 percent of RA customers making reservations at New Mexico's State Parks are from New Mexico, and nearly 20 percent come from Texas. SPD had a 5 percent increase in RA revenue from FY13 to FY14. State Parks also enabled a donations feature in April 2014, and has collected nearly \$1,100 in online donations to date.

The top five parks in both total nights booked on ReserveAmerica and in revenue generated (from RA) are (respectively): Navajo Lake State Park, Elephant Butte Lake State Park, Brantley Lake State Park, Heron Lake State Park and Bottomless Lakes State Park.

The Business Enterprise Coordinator has been working with the Design and Development Bureau on the Statewide Comprehensive Outdoor Recreation Plan and will be conducting an economic impact analysis for State Parks in the coming year. Finally, Business Enterprise is working with the Marketing Program to disseminate email blasts and advertisements through the reservation system.



MANZANO MOUNTAINS STATE PARK REOPENS!

Make Your Reservation!

New Mexico State Parks proudly announces the reopening of Manzano Mountains State Park on April 21, 2014.

Online reservations will be available starting April 1, 2014. Book your favorite camping spot, or discover new adventures in this gem, idyllically set in the majestic Cibola National Forest.

For more information or to make a reservation visit nmparks.com, or call New Mexico State Parks toll free at 1.888.667.2757. Contact Manzano Mountains State Park at 505.847-2820.



Photo by: Lauren Aguilar

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- 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)
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www.emnrd.state.nm.us

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