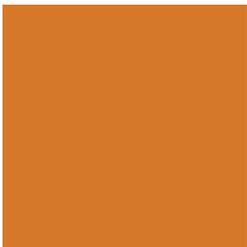
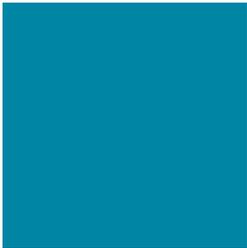


2015



# ANNUAL REPORT

New Mexico Energy, Minerals & Natural Resources Department





# Table of Contents

Message from Secretary Martin.....	3
Organizational Chart.....	4
Program Support.....	5
Oil Conservation Division.....	8
Forestry Division.....	17
Mining and Minerals Division.....	27
Energy Conservation and Management Division .....	37
State Parks Division.....	53



David Martin  
Cabinet Secretary

## Energy, Minerals & Natural Resources Department

### Message from David Martin

2015 was a banner year for the Energy, Minerals & Natural Resources Department. With Governor Martinez, we unveiled New Mexico's first comprehensive energy policy and plan in nearly 25 years – "Seizing our Energy Potential: Creating a more Diverse Economy in New Mexico". This plan will ensure the state will expand its role as an energy leader while continuing to provide income and create jobs across energy industries.

Also in 2015, Governor Martinez signed House Bill 563 which created the Rio Grande Trail Commission. The Commission, led by the Energy, Minerals and Natural Resources Department, will establish the Rio Grande Trail to run the length of the state from Colorado to Texas and is charged with providing visitors with unique recreation opportunities and beautiful views. The Trail will pass through six state parks: Elephant Butte Lake, Caballo Lake, Leasburg Dam, Mesilla Valley Bosque, Percha Dam, and Rio Grande Nature Center State Parks.

While we embark on the trail, or path, forward, we remain dedicated to our mission. Department highlights for 2015 include:

- The Oil Conservation Commission, chaired by the Oil Conservation Division (OCD) Director, amended OCD Rule No. 19.15.34, Produced Water, Drilling Fluids and Liquid Oilfield Waste, which will reduce the oil and gas industry's fresh water consumption by promoting recycling and reusing produced water;
- The Watershed Restoration Initiative was expanded significantly. State Forestry received an additional \$3.5 million from state sources. A further \$5 million of Federal Pittman-Robertson funds were made available to Forestry from the New Mexico Game and Fish Department. These monies funded eight new projects and significantly expanded the scale of three 2014 projects. In total, the 2015 expansion will treat 11,000 additional acres;
- New Mexico State Parks saw an increase in visitation in FY15 and park staff provided safe and fun recreational opportunities for 4.2 million visitors. Even with increased visitation, for the second year in a row, there were no boating-related fatalities in New Mexico due to the efforts of park staff, through enforcement, educational and marketing efforts;
- The Energy Conservation and Management Division enhanced the public buildings energy efficiency program. \$39 million in public building energy improvements have been achieved through Energy Savings Performance Contracting. This finance mechanism, especially useful when project capital funds are unavailable, provides investment in energy conservation through public-private partnerships, guarantees energy savings, and is entirely paid for through energy cost savings. Additionally these projects provide much needed improvements to infrastructure while creating lower monthly energy bills for public buildings;
- The federal Office of Surface Mining Reclamation and Enforcement presented its 2015 National Abandoned Mine Land Reclamation Award to the Mining and Mineral Division's AML Program for its exemplary work at the Lake Valley Project site in Sierra County, where 297 mine openings were safeguarded in several phases of construction. Bat compatible closures were used at 69 of the openings to preserve bat habitat found in the underground mine workings.

We've worked hard this year --it is my pleasure to present our 2015 Annual Report.



Governor  
Susana Martinez

# Energy, Minerals and Natural Resources Department



\*Administratively Attached

## 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.

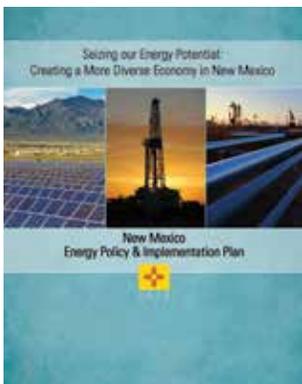
### Office of the Secretary

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, Communications/Public Information Office, 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 and marketing direction to the divisions.

### New Mexico Energy Policy & Implementation Plan

Developed by Governor Martinez and Cabinet Secretary David Martin, the State Energy Policy & Implementation Plan, 'Seizing our Energy Potential: Creating a More Diverse Economy in New Mexico', was unveiled in 2015. This is New Mexico's first comprehensive energy policy and plan in nearly 25 years. It will ensure the state's expansion as an energy leader while continuing to promote production from all sources as a means of creating jobs, diversifying a key sector of our economy and supporting our nation's efforts to achieve energy



independence. [http://www.emnrd.state.nm.us/EnergyPolicy/documents/EMNRD\\_EnergyPolicy.pdf](http://www.emnrd.state.nm.us/EnergyPolicy/documents/EMNRD_EnergyPolicy.pdf)

### Rio Grande Trail Commission

In 2015, Governor Martinez signed House Bill 563 establishing the Rio Grande Trail Commission led by the Energy, Minerals and Natural Resources Department. The Commission is charged with developing a trail which will run the length of the state from Colorado to Texas - nearly 500 miles - minimizing environmental impacts and preserving sensitive habitat while providing visitors with unique recreational and viewing opportunities.

The Commission makes recommendations to the legislature as needed and reports annually to the governor and appropriate interim committees. <http://www.emnrd.state.nm.us/admin/rgtc/about.html>



### Communications/Public Information Office

The Communications/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. The office works closely with all divisions and oversees marketing and public relations for the department. 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 intranet, newsletters, memos, award ceremonies, and other department-wide events.



**Administrative Services**

The Administrative Services Division (ASD) oversees the department’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 EMNRD. 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 state and federal rules, regulations, and laws governing employment; guides managers and supervisors through a variety of employment issues; and assists employees in understanding state and federal rules, regulations and laws. HRB helps employees with

position classification, compensation and discipline. HRB also provides guidance on medical leave and workers’ compensation.

**Information & 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 21 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.

**New Mexico Radioactive Waste Consultation Task Force - Waste Isolation Pilot Plant Transportation Safety Program**

Under EMNRD’s leadership, and through the New Mexico Radioactive Waste Consultation Task Force, six other state agencies (Department of Public Safety, Department of Homeland Security and Emergency Management, Department of Health, Environment Department, Department of Transportation, and State Fire Marshal’s Office) collaborate on the Waste Isolation Pilot Plant (WIPP) Transportation Safety Program. The program ensures the safe and uneventful transportation of radioactive waste in the state of New Mexico. The program includes setting and updating of policies and operating procedures; training and equipping emergency responders along all of New Mexico’s WIPP shipping routes; keeping the public informed on radioactive materials issues; monitoring and maintaining highway safety; and inspecting all WIPP shipments at their points of origin or at the New Mexico ports of entry.



F. David Martin  
Cabinet Secretary

Brett F. Woods, Ph.D.  
Deputy Secretary

Bill Brancard  
General Counsel

Beth Wojahn  
Communications Director

Louise Martinez, Director  
Energy Conservation &  
Management Division

Tony Delfin, State Forester  
Forestry Division

Fernando Martinez, Director  
Mining and Minerals Division

David Catanach, Director  
Oil Conservation Division

Christy Tafoya, Director  
State Parks Division

Ron Cruz, Director  
Administrative Services Division



## 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.

---

Edited by: Beth Wojahn  
Designed by: Lauren Aguilar



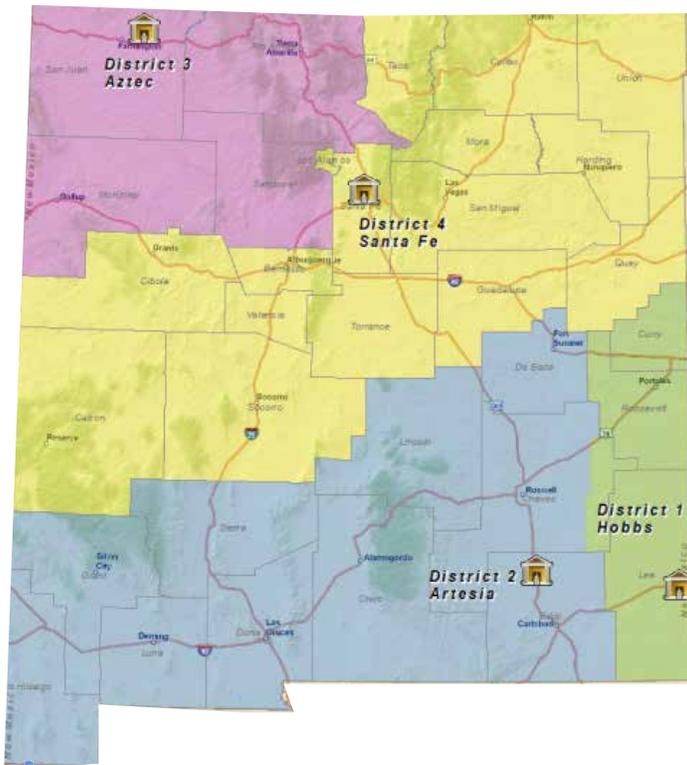
# Oil Conservation Division



# 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 to protect human health and the environment, and do not result in the waste of oil, gas and geothermal resources.

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 with 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.

## PERFORMANCE

**Inspections & Plugging** - In FY15, OCD exceeded its performance target (37,500) for the number of inspections performed (47,399), and also exceeded FY14 inspection count (37,743) by 9,656. In addition, a large number of Underground Injection Control (UIC) inspections were conducted in FY15, meeting the goals set by the federal UIC program.

OCD plugged 31 wells in FY15, which was below its performance target of 50 wells. The number of wells plugged was in line, however, with the number of wells plugged in 2014, which was (32). OCD did not have any wells available to plug for several months in FY15. Several compliance cases were brought to hearing in FY15. There is currently a waiting list of approximately 200 wells available for OCD to plug using Oil Reclamation Fund monies.

**Engineering** - In FY15, the Engineering Bureau's goal for administrative orders was to review, approve, and issue 75 percent of all administrative applications within 30 days of their receipt. In FY15, OCD issued 80 percent of all administrative applications within 30 days of their receipt. In addition, the overall average turnaround time for all administrative orders issued was 25 days. OCD exceeded its performance target during FY15 despite an increase in the number and complexity of administrative applications filed.

**Brine Well Cavern** - Since the spring of 2009 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. Brine wells are UIC Class III



*Specialized drilling equipment being used to re-enter the I&W brine cavern in Carlsbad.*

injection wells that operate by injecting fresh water into salt formations to produce saturated brine 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 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. OCD is also involved in developing a plan to stabilize the cavern by injecting solid material to fill the void space.

Upgrades to the monitoring system were recently made, and all historic data have 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 service on the project exceed \$5 million, of which \$1.6 million was reimbursed by the bankruptcy estate. In addition to providing data analysis, monitoring and re-entry efforts, OCD 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. In FY15, the Oil Conservation Commission amended OCD Rule No. 19.15.34 (Produced Water, Drilling Fluids, and Liquid Oilfield Waste), to permit by rule the disposition by use of produced water for drilling, completion, producing, secondary recovery, pressure maintenance or plugging of wells. In addition, the rule was amended, and recycling containments that meet siting and construction standards were established by the OCD. This rule encourages operators to recycle and re-use produced water for oil and gas operations in lieu of utilizing fresh water. The rule also provides procedures that facilitate permitting these recycling facilities and containments.

**PARTNERSHIPS & COLLABORATION**



NEW MEXICO  
STATE LAND OFFICE

**STATE LAND OFFICE (SLO)**

- OCD works closely with the SLO and in FY15, finalized a Memorandum of Understanding (MOU) 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. The MOU will provide OCD with the expedited ability to clean up well sites.



**BUREAU OF LAND MANAGEMENT (BLM)**

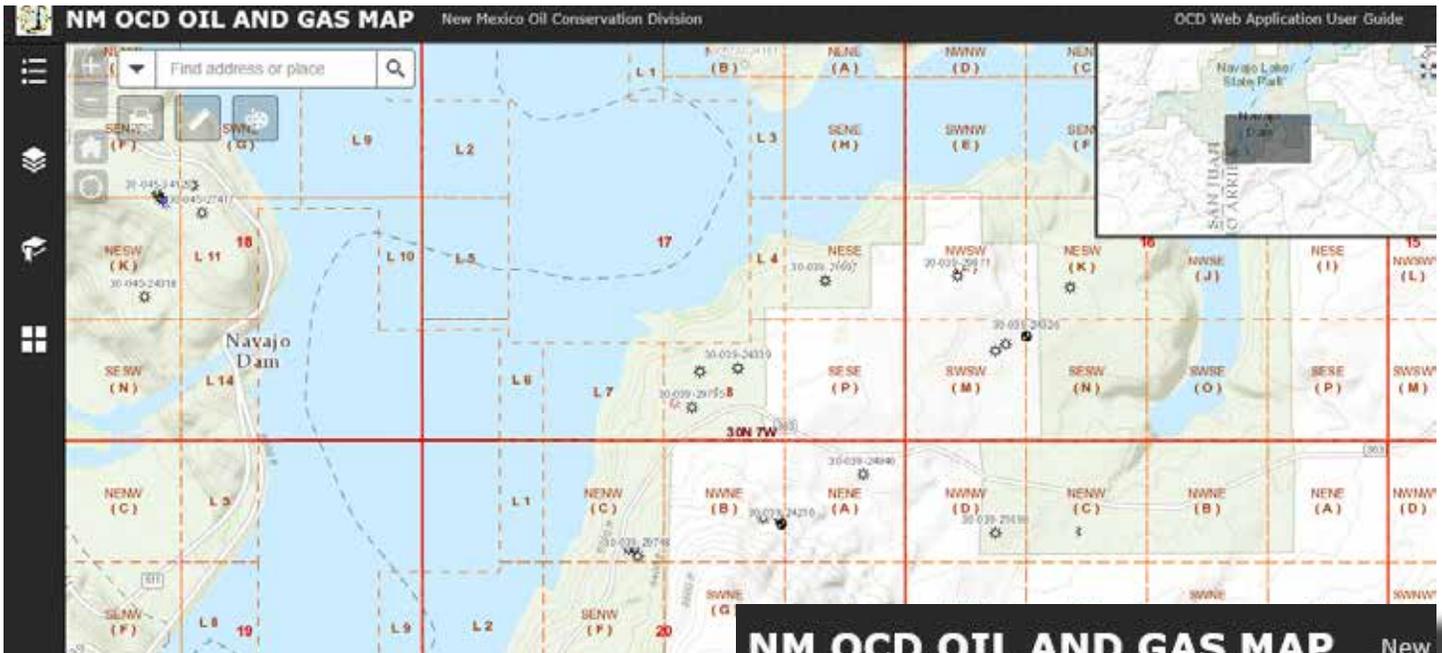
- OCD and BLM continue to meet quarterly in the southeast and northwest portions of the State. Staff from both agencies discuss, analyze and streamline issues that need to be addressed in the field and at OCD district offices. The quarterly meetings have given the agencies opportunities to work jointly on current issues that need to be improved upon.

Also, beginning in FY15, the OCD Director and technical staff meet quarterly with the BLM State Office in Santa Fe.

**INDUSTRY ADVISORY GROUP** - In FY15, OCD formed an Industry Advisory Group (IAG) consisting of eight industry representatives that the IAG meets quarterly with OCD. New Mexico Oil and Gas Association, Independent Petroleum Association of New Mexico and the Permian Basin Petroleum Association are represented in the group. The purpose of the IAG is to provide a forum for discussion of issues of mutual interest, including new industry technology and OCD rule changes.

**ELECTRONIC SYSTEMS LEADERSHIP** - OCD worked with the agency's IT division to increase efficiency, transparency and availability of information to the public. The microfilm store of historical case file documents stretching back to the 1930s was 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 scan the entire OCD document repository for any particular search term or terms. Finally, OCD retired it's usage of the obsolete ONGARD mainframe system, thereby improving data entry, validation and efficiency.





**NEW GIS (GEOGRAPHIC INFORMATION SYSTEM):**

- OCD developed a GIS module
- GIS module is now publicly available on OCD Online
- Module will initially contain a well layer linked to OCD Online, land ownership and spacing unit layers

**OCD RECENT ACTIONS**

- Amended Financial Assurance Rule to allow operators to post a blanket financial assurance for wells held in TA status
- Amended Rule 34 for Recycling of Produced Water; operators can now apply to construct recycling facilities and containments to utilize produced water for drilling, producing, fracture stimulation and plugging programs
- Established procedures within the Engineering Bureau to speed the processing of administrative applications
- Obtained FY-16 legislative funding to purchase land and design a new office building in Artesia
- Currently in the process of hiring nine additional staff in all three district offices and Santa Fe



## POSSIBLE RULE CHANGES

### Rule 19.15.16.15: Special Rules for Horizontal Wells

- Rule 19.15.16.15 was established in 2012
- Horizontal drilling techniques and operator business practices have greatly advanced since that time
- In order to keep pace with changing technology, OCD anticipates that the horizontal well rule will be revised and updated in the near future

### Rule 19.15.36 Surface Waste Management Facilities

- Rule 19.15.36 was last updated in 2008
- Permitting process for landfarms and landfills under Rule 36 is unduly burdensome for the OCD and the applicant
- OCD has worked with industry to revise Rule 36 for the purpose of streamlining the permitting process
- An OCD application to amend Rule 36 will be filed for the OCC hearing in January, 2016

### SPECIAL RULES & REGULATIONS FOR THE BASIN-MANCOS GAS POOL -

Order No. R-12984

- The special rules for the Basin-Mancos Gas Pool were established in 2008 by Order R-12984
- Subsequent development indicates this pool, or a portion thereof, should be reclassified as an oil pool
- OCD is currently reviewing the existing rules to determine what changes are necessary
- OCD/Industry Committee has been formed to recommend changes to the existing rules. A hearing before the OCD is anticipated to occur in January, 2016



### OIL CONSERVATION DIVISION GOALS:

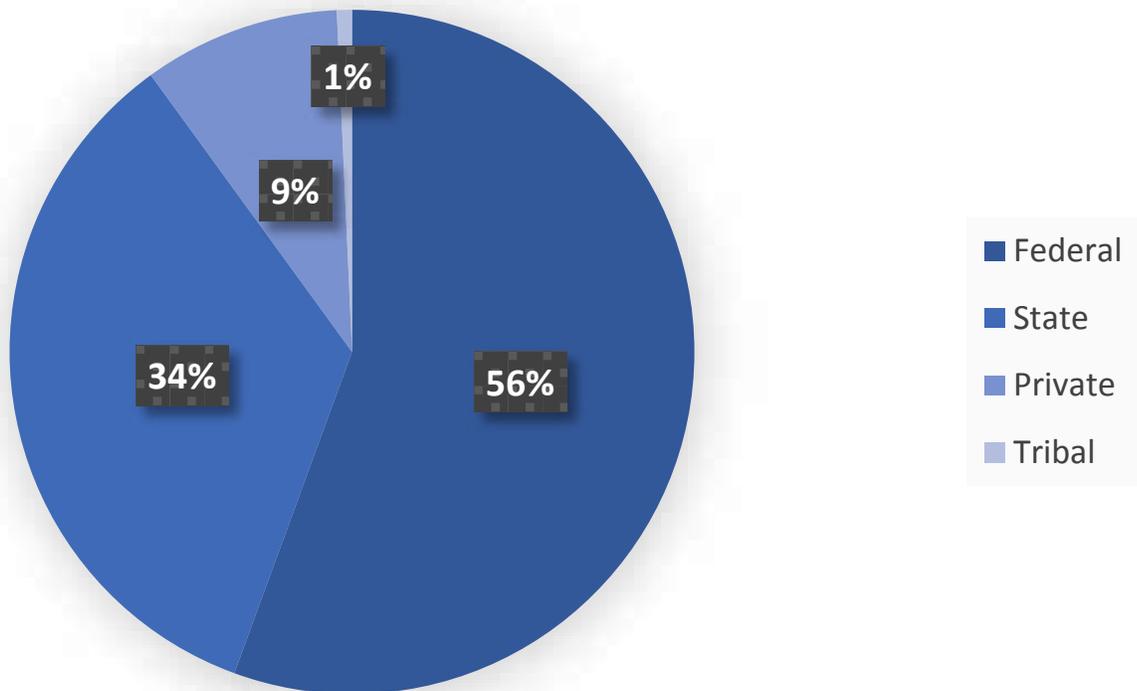
- To make balanced, consistent, fair and transparent decisions delivered in a timely and resourceful manner
- To provide efficient processes that support industry's needs while ensuring compliance with rule requirements
- To conduct transparent activities and provide public access to reports and information
- To strive for balance that supports the industry while protecting the environment, with decisions based on sound science
- To maintain staffing levels 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

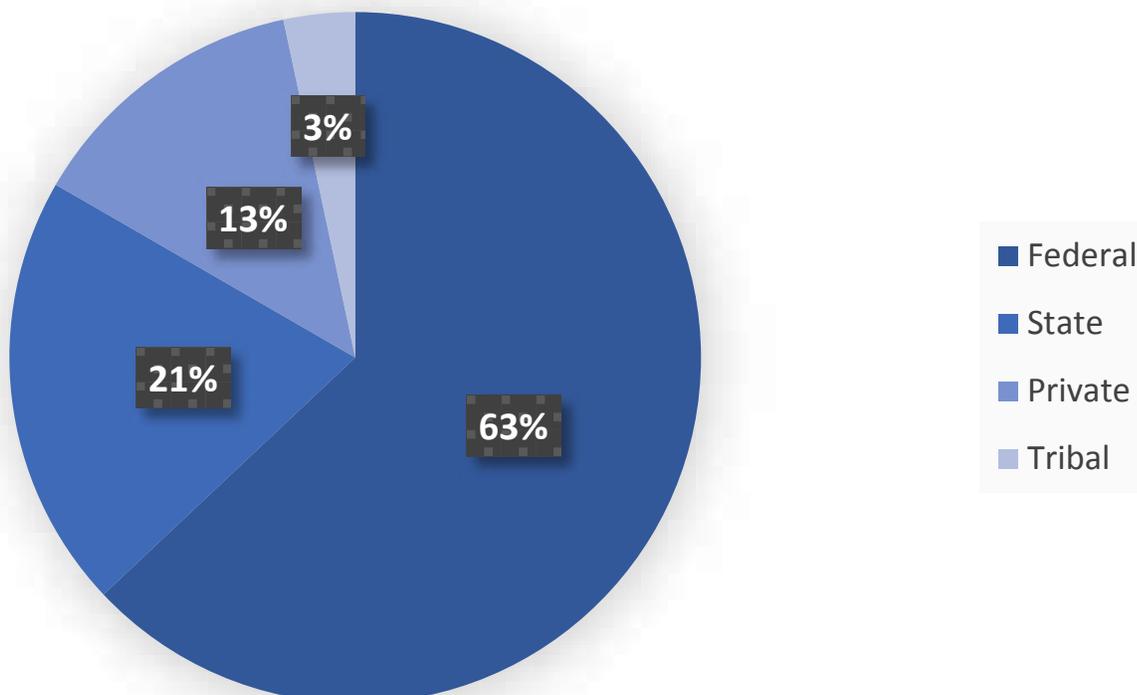
Through September 2015 Reporting Period



## 2015 Oil Production by Land Type



## 2015 Gas Production by Land Type



## 2015 Oil & Gas Production by County

Rank	Oil (Barrels)	Rank	Gas (Thousand Cubic Feet, MCF)
1. Lea	52,770,125	1. San Juan	303,341,133
2. Eddy	49,354,149	2. Eddy	231,545,471
3. San Juan	3,285,911	3. Rio Arriba	203,795,517
4. Rio Arriba	2,098,999	4. Lea	168,674,888
5. Sandoval	1,628,196	5. Colfax	16,894,338
6. Chaves	988,828	6. Chaves	13,658,860
7. Roosevelt	136,225	7. Sandoval	10,397,220
8. McKinley	21,060	8. Roosevelt	1,808,611
		9. McKinley	122,726
<b>Total</b>	<b>110,283,493</b>		<b>950,238,764</b>

Source: Oil Conservation Division as of December 4, 2015  
Oil and Gas Production through September, 2015

*Volumes are adjusted to reflect amended production reports filed with the Oil Conservation Division.  
Source: Oil Conservation Division as of December 7, 2015*

## Oil Production by Calendar Year

SE Crud	SE Condensate	NW Crude	NW Condensate	Total
66,037,728	2,841,354	949,642	1,419,781	71,248,505
79,866,828	2,892,542	1,104,688	1,450,015	85,334,073
95,619,495	2,595,802	2,072,538	1,501,240	101,789,075
114,782,174	2,602,450	4,735,937	1,621,171	123,741,732
103,302,663	2,194,248	5,516,797	1,550,874	112,564,582

*Volumes are adjusted to reflect amended production reports filed with the Oil Conservation Division  
Source: Oil Conservation Division as of December 4, 2015. 2015 Oil production is through reporting period for September, 2015*

## Gas Production by Calendar Year

Year	SE Casinghead	SE Dry Gas	NW Casinghead	NW Dry Gas	NE Dry Gas	Total Natural Gas	Coalseam (Not included in total)
2011	236,958,887	173,546,008	10,553,297	815,090,503	26,541,065	1,262,766,960	379,328,299
2012	281,655,555	151,598,351	10,705,775	781,049,818	27,012,215	1,252,021,714	359,373,782
2013	334,805,342	129,193,000	13,262,226	722,231,860	25,397,912	1,224,890,340	323,578,956
2014	386,529,806	119,550,344	24,868,105	686,130,458	23,787,208	1,240,865,921	305,162,952
2015	342,090,786	85,121,793	31,738,126	487,339,496	16,894,338	963,184,539	212,264,630

*Volumes are adjusted to reflect amended production reports filed with the Oil Conservation Division  
Source: Oil Conservation Division as of December 4, 2015. 2015 Gas production is through reporting period for September, 2015*

## Well Inspections by Fiscal Year

	2015	2014	2013	2012	2011
Quarter 1	12,357	8,783	8,233	8,005	5,917
Quarter 2	9,367	7,848	8,486	8,754	6,630
Quarter 3	12,298	8,327	8,600	8,804	7,231
Quarter 4	13,377	10,771	11,583	8,713	8,482
<b>Total</b>	<b>47,399</b>	<b>35,729</b>	<b>36,902</b>	<b>34,276</b>	<b>28,260</b>

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

## Wells Drilled & Completed by Year & Well Type

YEAR	GAS	OIL	OTHER	TOTAL
2006	1,785	1,055	116	2,956
2007	1,497	855	59	2,411
2008	1,232	1,120	112	2,464
2009	869	904	118	1,891
2010	514	1,209	118	1,841
2011	515	1,409	128	2,052
2012	387	1,385	90	1,862
2013	241	1,301	85	1,627
2014	86	1,280	67	1,433
2015	68	682	25	775

*“Other” includes saltwater disposal wells, carbon dioxide, and injection wells. 2015 count as of 12/7/2015 – not complete for the year*



# Forestry Division



# Forestry Division

► **MISSION:** The New Mexico State Forestry Division (Forestry) retains lead responsibility for wildland fire management on non-federal, non-tribal, 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, disease, 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 insect and disease identification assistance as well as forest health project funding.



**PROGRAMS** - Forestry's main priorities are technical assistance to landowners, wildfire mitigation and the assistance in the continued development of the forest products industry (e.g., forest harvesting, landscaping, construction, woody biomass) that uses land treatment byproducts.

Forestry regulates the harvest of commercial forest species on private forestland and conducts habitat improvement 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 2015 fire season in New Mexico had the potential to be extremely active, but favorable weather and increased awareness through fire prevention efforts 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 many other western states. Forestry provided mobilized fire equipment and dozens of firefighters to several states to aid in their response to these fires.

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 watersheds continues to be a primary focus for Forestry and its partners. Projects created from Governor Martinez's \$6.2 million Watershed Restoration Initiative had significant progress and expansion in 2015, with several projects across districts being completed this year.

While 2015 will be recorded as having wetter weather than preceding years, New Mexico's period of extended drought has impacted forests and watersheds. These lands will continue to feel the detrimental effects of drought for many years to come in the form of disease, insect infestation, and wildfire.



#### **CONSERVATION SEEDLING PROGRAM -**

Each year, tens of thousands of tree and shrub seedlings are planted on private and public lands across 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, reforestation, crop and livestock protection, Christmas tree farm establishment, energy cost savings and to improve wildlife habitat. In 2015, the Conservation Seedling Program distributed 80,100 seedlings through sales during the New Mexico State Fair, educational donations, and for the spring and fall sales and distribution cycles.

#### **COOPERATIVE FOREST HEALTH PROGRAM -**

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 educational 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 United States Forest Service (USFS) for administering cost-share funds to private landowners in the state to reduce the risk of bark beetle attacks.



The Forest Health Specialist provided technical assistance through the identification of multiple insect and pathogen samples and by conducting fifteen site visits for private landowners. For outreach development, the Forest Health Specialist provided an educational presentation focused on forest health and local damaging agents of the East Mountains at the Sandia Mountain Natural History Center in Cedar Crest.

When infestations reach an outbreak level they can cause tree mortality and decreased growth in forested areas over time. If disease and insect infestations are extreme, managers can do little to combat the issue beyond waiting for the environment to ameliorate and the populations to crash. Unfortunately, conditions facilitating improvement are not evident in 2016 climate predictions.

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

Forestry's Endangered Plant Program (EPP) gathers information to develop conservation measures necessary for the species' survival. EPP also promotes the conservation of listed endangered plant species including research, inventory and monitoring, law enforcement, habitat maintenance, education and propagation. The Endangered Plant Program is primarily federally funded through Section 6 of



Lee's pincushion cactus



Knowlton's Cactus



Holy Ghost Ipomopsis

the Endangered Species Act for endangered plant research and management.

In 2015, recurring endangered plant projects included annual monitoring and status evaluation of Lee's pincushion cactus, Knowlton's Cactus and the Holy Ghost Ipomopsis.

Working with federal agency partners, the Program completed post-wildfire impact studies on 15 rare and endangered plant species in the Santa Fe, Lincoln and Gila National Forests, as well as Carlsbad Caverns National Park. Surveys to determine the current status and distribution of four species of rare gypsum endemics was completed on BLM and Zia Pueblo lands in Sandoval County.

Additionally, the program manager organized coordinated efforts between agencies and stakeholders involved with the restoration of Santa Rosa wetlands. The 100-acre project removed invasive salt cedar and Russian olive trees from the property to help endangered plants prosper in the area.

**FIRE MANAGEMENT** - As was the case in 2014, 2015 witnessed a fire season that was calmer than anticipated. This was largely due to above-average precipitation in the spring and summer months.

During 2015, 288 fires burned approximately 10,542 acres of state and private land. Human-caused fires totaled 185, or just over 64 percent of all fire starts. The remaining fires were induced by lightning. This is consistent with the annual average percent of human-caused fires in New Mexico. The most significant statistical fire of 2015 was the North Cut Fire in Quay County, the cause of which is unknown. It burned 6,300 acres. 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.

**FIRE PLANNING TASK FORCE** - The New Mexico Fire Planning Task Force (Task Force) is charged with identifying areas most vulnerable to wildfires. The Task Force also approves Community Wildfire Protection Plans (CWPPs), develops model ordinances and standards for building codes, and considers the benefits of thinning, prescribed burns and defensible space to reduce the threat of wildfires to communities. Currently each CWPP must be updated within five years of its adoption by the Task Force, and update requirement notification letters are sent to CWPP participants.

This year, four plans were reviewed and approved by the Task Force. Additionally, 39 communities were added to the list of those at risk to wildfire, making a total of 688 such communities identified in 2015.



**FIRE PREVENTION PROGRAMS** - As the threat from wildfires expands across New Mexico and the rest of the western United States, the importance of educating residents and visitors continues to grow, too. Forestry's fire prevention and education programs continued to see a lot of activity and growth in 2015, with the expansion of existing programs and the participation in new initiatives.

Forestry helps facilitate "Ready, Set, Go!," "Living with Fire Homeowners Guide," "Fire Adapted Communities," and "Firewise Communities USA". Firewise Communities USA (Firewise) is the flagship of these educational endeavors. It is a recognition program that is based and operated within a community. Firewise focuses on residents, businesses and elected bodies working together

to create cities, towns and neighborhoods that address the issue of wildfire on a building and landscape level. In 2015, New Mexico added four new Firewise communities, bringing the total to 26. Several additional communities are in the progress of completing the requirements needed for Firewise recognition.

**FOREST LEGACY PROGRAM** - The USFS Forest Legacy Program (FLP) uses federal funds to purchase conservation easements that will protect vital or endangered land. Under FLP, the land remains in private ownership and can be sold. However, further subdivision or development that would prove to be harmful to the land, forest, or watershed health is prohibited in perpetuity. New landowners must adhere to the same rules as agreed upon by the previous landowner. Forestry is the holding agency for any easements purchased with FLP funds, and works with the Trust for Public Land, USFS, and private landowners to facilitate and purchase easements.

An application for a 3,714 acre parcel was submitted for funding on November 16, 2015. Corkins Lodge, located in Chama, NM, sits in the Carson National Forest and has been open to the public since 1930. The property consists of six miles of the Rio Brazos, 200 acres of rare riparian woodlands, and the lower two-thirds of the Brazos Falls. Notification of funding is expected in early spring, 2016.

**FOREST & WATERSHED HEALTH** - 2015 was a very productive year for the Division's Forest and Watershed Health Office (FWHO).

In 2014, Forestry was granted \$6.2 million allocated for watershed restoration on public land in New Mexico. This money funded 15 separate projects covering 7,700 acres and 14 high-priority watersheds. Since October 1, 2014, there have been just over 3,525 acres have been treated, or approximately 45 percent of the planned acreage. In 2015, the Watershed Restoration Initiative was expanded significantly. Forestry received an additional \$3.5 million from state sources. An additional \$5 million of Federal Pittman-Robertson funds were made available to Forestry from the New Mexico Game and Fish Department. These monies funded eight new projects and significantly



expanded the scale of three 2014 projects. In total, the 2015 expansion will treat 11,000 additional acres.

In anticipation of the development of the 2020 Forest Action Plan (FAP), substantial updates were made to the current plan. This involved many months of collaboration among the Forest and Watershed Health Coordinator, State Timber Management Officer, District Foresters and state office staff.

The FWHO also collaborated with the New Mexico Department of Homeland Security and Emergency Management on an application for a grant funded by the United States Department of Housing and Urban Development. Titled, "Resilient New Mexico: Managing Our Landscape to Recover More Quickly from Natural Disasters", the application requested a total of \$100,619,565. Funds would be applied to restoration and interface projects for the Upper Rio Grande Basin and Cochiti and Santa Clara pueblos, as well as a study on biomass energy development. The application's results should be announced in January 2016.

FWHO staff 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 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 inter-agency planning and proposal evaluation teams.



**INMATE WORK CAMP PROGRAM** - Forestry's Inmate Work Camp Program (IWC) 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 eight to 12 minimum security inmates. The crews are transported from the Los Lunas, Level 1 Minimum Security Prison Facility to project areas around the state. These inmates are supervised by Forestry Crew Supervisors and a Correctional Officer. The program has the ability to field seven crews per workday throughout the year. In 2015, the program provided crews to work on ten projects for nine different local, state and federal cooperators, performing 4,841 man-days of work and 41,149 man-hours of work. Crews were assigned to six wildland and prescribed fires, performing 17 crew-days of fire suppression.

**LAND CONSERVATION TAX INCENTIVE PROGRAM** - Forestry oversees the Land Conservation Tax Credit Program. Charitable donations of land or an interest in land (conservation easement) to public or private conservation agencies for conservation purposes are eligible for a state tax credit. The maximum is 50 percent of the appraised value of the donation and a cap of \$250,000 per individual donor. Land conservation tax credits must be approved by the EMNRD Secretary in consultation with the Natural Lands Protection Committee. A taxpayer has a maximum of 20 years to fully use the tax credit, following the taxable year in which the

donation was made. Otherwise the tax credit may be transferred to another taxpayer through a tax credit broker in minimum increments of \$10,000. Forestry received 12 Assessment Applications in 2015. Of these, eight were approved to move to the Certification Application phase, and four were denied for various reasons. Two applications are awaiting final certification with the New Mexico Taxation and Revenue Department, Property Tax Division.

Tax credits totaling \$1,414,488 were paid to seven landowners; 13,861 acres were conserved with an appraised land value of \$3.9 million.

**RESOURCE MANAGEMENT & PROTECTION** - Forestry works with private landowners, and 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.

Forestry prepared 17 new forest stewardship plans in 2015 for a total of 22,760 acres on private forested land in New Mexico. This brings the total number of acres in New Mexico covered by stewardship plans to 510,898. Additionally, this year 199 landowners received technical assistance on their private forest lands, with another 957 landowners participating in educational programs related to forest stewardship, fire prevention and forest management. Forestry prepared fewer stewardship plans than in 2014, but this year's plans covered 14,426 more acres of land.

**RETURNING HEROES WILDLAND FIREFIGHTERS PROGRAM** - This program provided crews to fight a total of 20 fires in New Mexico, Arizona, Montana, Oregon, and Washington. The crews' involvement with these fires was featured through several local and regional media outlets. This year Returning Heroes hired 12 full-time staff for wildfire assignments as well as year-round forest and watershed restoration treatment projects. An additional 26 military veterans were hired as seasonal firefighters.



Returning Heroes also provides essential firefighting training and courses at its headquarters in Santa Fe. Returning Heroes is currently working with the New Mexico State Parks Division on a hazardous fuel reduction project within Hyde Memorial State Park. Several more forest and watershed restoration treatment projects are scheduled for the program in the coming year.

**URBAN & COMMUNITY FORESTRY**

**PROGRAM** - The Urban and Community Forestry Program (UCF) works to empower New Mexico communities to develop and sustain healthy community forests for the benefit of current and future citizens of the state and the environment. In 2015, the UCF Strategic Plan was updated to focus Forestry’s and the New Mexico Urban Forest Council’s efforts toward accomplishing this mission.

The UCF Program continued to strengthen and maintain the number of communities managing or developing programs to plant, protect, and maintain their urban and community trees and forests. Fifty-eight percent of New Mexico’s population live in a community either fully managing an urban/community forest program or developing one. Throughout the state, 70 communities have active local advocacy or advisory organizations for planting, protection and maintenance of urban and community trees and forests. Eleven communities were recognized for the national Tree City USA program in 2015, including Roswell, which celebrated its 25th anniversary as a Tree City USA.

Community Forestry Assistance funds totaling over \$137,000 were administered this year to support

training, inventories, management programs, and establishment of demonstration urban forest sites. Technical assistance included presentations to city councils in support of urban forestry programs and training, as well as providing resources to address community forest health issues.

Statewide, more than 1,500 volunteer hours were logged in support of urban forestry initiatives in 2015. Forestry also served as a partner to USFS Region 3 in its 25<sup>th</sup> Anniversary of Cooperative Forestry Celebration Facebook Challenge, which challenged 40 communities/organizations across New Mexico to “Grow a Healthier Community.” Each participating community received \$500 to support their urban forestry programs.

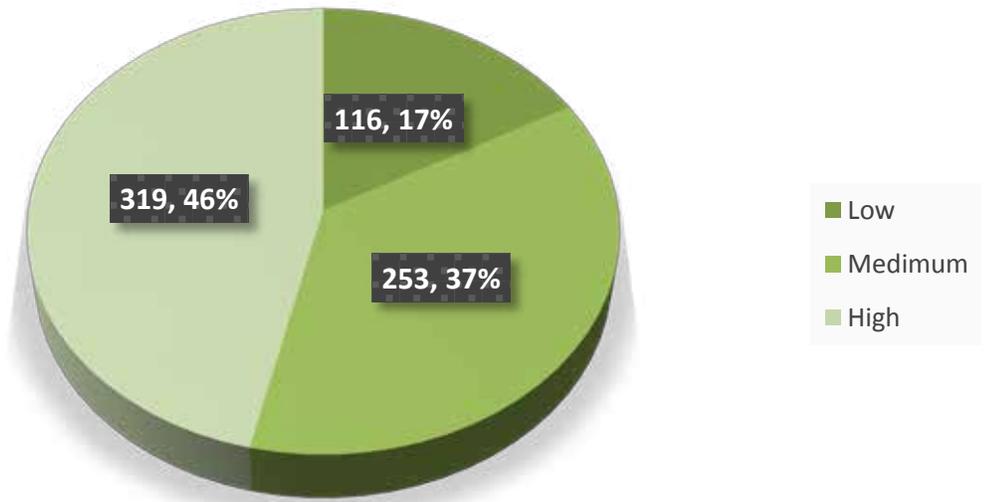
The New Mexico Forest Re-Leaf Program provides public education on tree planting and care, and provides funds for tree planting for conservation purposes, educational outreach, windbreak establishment and general aesthetic enhancement. Re-Leaf grants are funded completely through corporate and private donors. Since 1990, more than \$670,000 has been distributed to New Mexico communities to plant over 19,000 trees and shrubs. Eligible applicants include schools, municipalities, or local non-profit organizations.



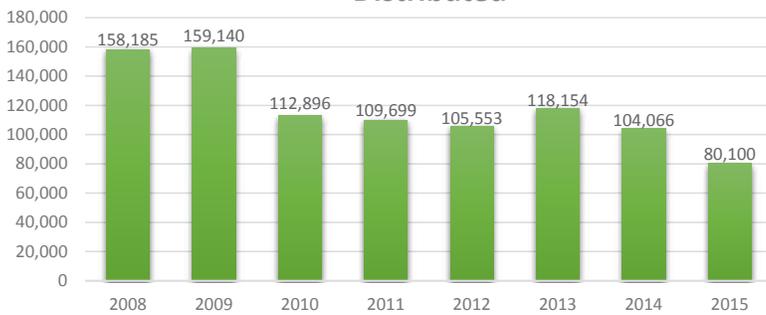
## 2015 COMMUNITIES AT RISK CHART:

The New Mexico Communities at Risk Report for 2015 lists 688 communities across the state and ranks them regarding the risk they potentially face from wildfire.

## Communities At Risk Statewide Totals



## Conservation Seedling Program - Total Trees Distributed



## 2015 CONSERVATION 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 State Fair and through educational donations. More than 5,900 tree seedlings were sold as part of a mine rehabilitation project in Jemez Mountains and 2,450 seedlings were sold to the Philmont Scout Ranch near Cimarron, NM, for forest restoration.

## 2015 RE-LEAF GRANTS:

In 2015, Re-Leaf awarded \$15,715 in grant funding to the communities of Raton, Rio Rancho, Torrance County, and Taos. A well-attended tree planting and care workshop was held, led by Forestry personnel and volunteer tree care professionals.

## New Mexico Forest Re-Leaf

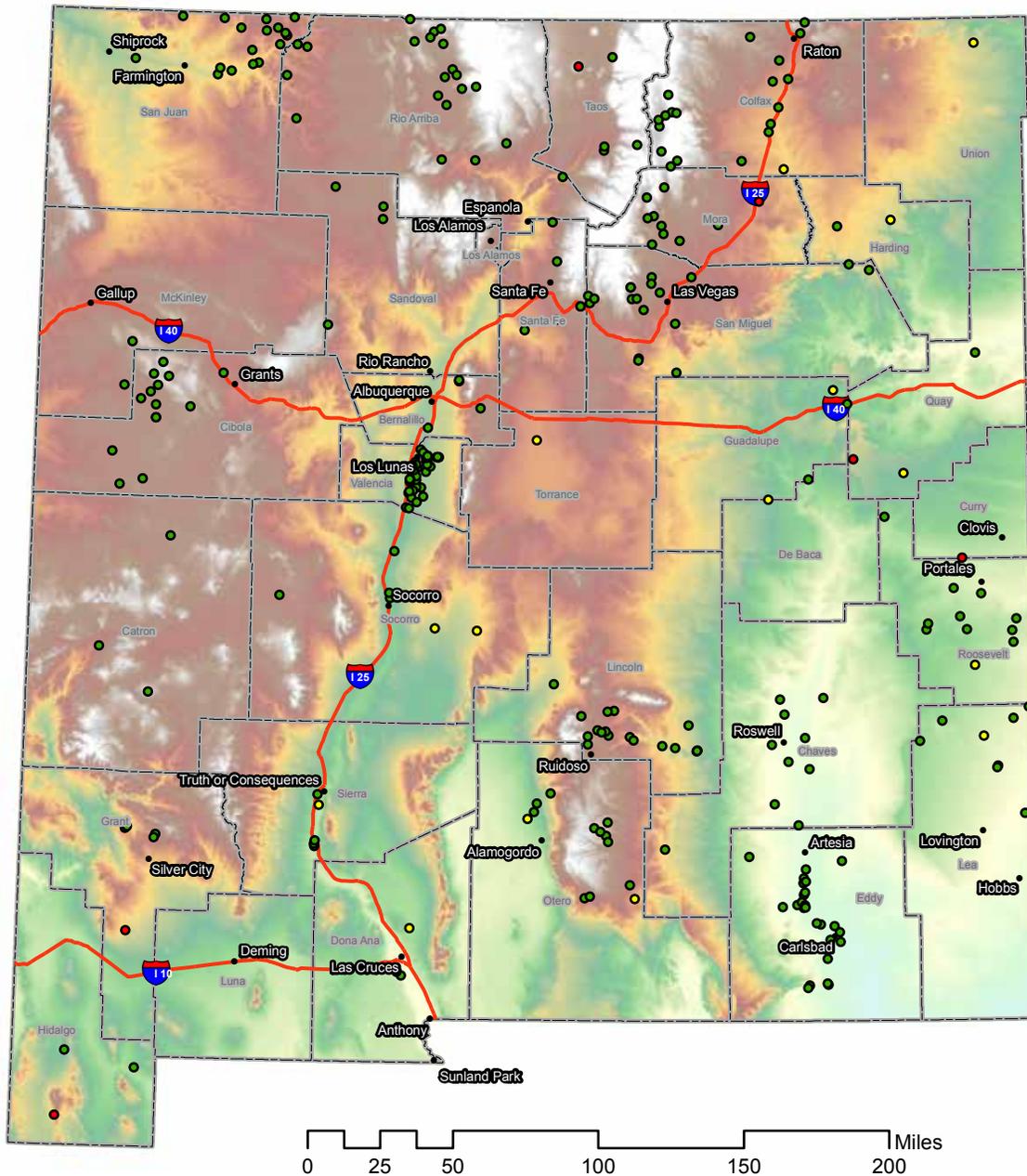


# New Mexico Statistical Fires 2015

Fires on State & Private Lands

July 1, 2014 - June 30, 2015

**FIRE MAPS** - During fire season 2015, 288 fires were reported on state and private land. These fires burned 10,542 acres. The fire maps are on the following pages. The first map indicates the acres burned. The second map indicates the cause of these fires.



T. Howell, Nov. 2015

## Statistical Fires for FY 2015

- 0 - 25 acres
- 25 - 250 acres
- 250 - 6300 acres

Fires on State  
and Private Lands

# Fires

Acres Burned

TOTAL

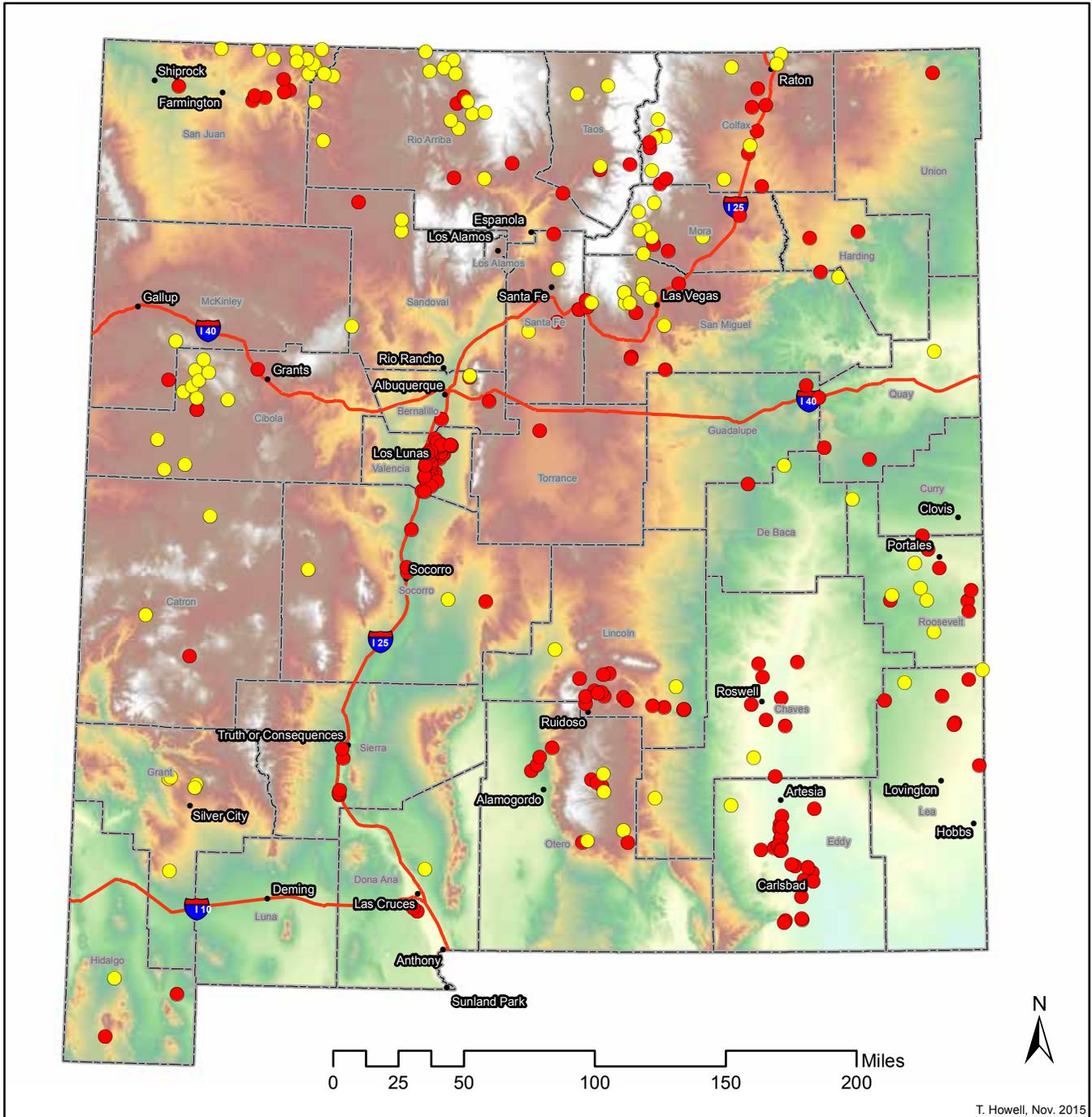
288

10,541.76

# New Mexico Statistical Fires 2015

Fires on State & Private Lands

July 1, 2014 - June 30, 2015



T. Howell, Nov. 2015

## Statistical Fires for FY 2015

- Human
- Lightning

Cause	# Fires	Acres Burned
● Human Caused	185	9,490.84
● Lightning	103	1,050.92
<b>TOTAL</b>	<b>288</b>	<b>10,541.76</b>



# Mining & Minerals Division



# Mining & Minerals Division

► **MISSION:** The Mining and Minerals Division (MMD) seeks to promote the public trust by ensuring the responsible utilization, conservation, reclamation and safeguarding of land and resources affected by mining. MMD strives to make New Mexico a leader in responsible mine operation and reclamation. By statute, MMD enforces and administers laws and regulations relating to mine safety, coal and non-coal surface mine reclamation and abandoned mine lands reclamation, and annually collects statistical information from operators.

## **ABANDONED MINE LAND**

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

In 2015, the AML Program completed ten construction projects at abandoned mine sites in New Mexico. Five of these were coal-related projects – the Swastika Mine Reseeding and Mulch Maintenance Project (Colfax County), which reseeded and mulched bare areas at a previously reclaimed coal mine area; the Madrid-Jones Ventilation Shaft Closure Project (Santa Fe County), where a shaft was plugged using polyurethane foam; the Madrid Low Impact Stormwater Construction-Drainage Infrastructure Project (Santa Fe County), where a deteriorated mining-era box culvert was relined to protect property in the community from flooding; and the Rogersville Safeguard and Maintenance Project (Santa Fe County) to backfill a coal mine adit and shaft and to remove sediment at two previously installed bat gates.

The AML Program also responded to an emergency subsidence event at an abandoned underground coal mine in the unincorporated community of Allison, just outside of Gallup, where a large



*Madrid - Slipline pipe being placed in old box culvert*



*Madrid - New box culvert inlet below mine waste pilew*



Allison Mine sinkhole, August 2015

subsidence hole suddenly opened up in the back yards of two adjacent properties in August 2015. A geotechnical investigation was completed to determine the proximal causes of the event and to recommend further measures to be taken.

At non-coal sites, the Program completed five projects. Four of those were at hard rock sites: the San Pedro Mine Safeguard Project – Phase I, which safeguarded 32 mine openings, including nine bat compatible closures; the Cerrillos Central/Bonanza Creek Project – Phase III, where 70 mine openings were safeguarded, ten of which are bat compatible; the Bradley Group Mine Maintenance Project, to repair a vandalized bat gate and plug a subsidence at previously closed features; and the Cookes Peak West Mine Safeguard Project – Phase I, where three openings were safeguarded with bat compatible closures and one by backfilling. The San Pedro and Cerrillos projects are located in parts of Santa Fe County experiencing increased residential and recreational development and the Bradley and Cookes Peak projects in areas of Luna County with increasing recreational use.



San Pedro - Polyurethane foam closure under construction      San Pedro - Completed bat cupola

The other non-coal project site is located at several closely clustered abandoned uranium mines in Poison Canyon outside of Grants. The Grants Uranium Phase III Safeguard and Reclamation Project plugged about 180 uranium prospect boreholes



Cerrillos Phase III - Completed picket fence at mine shaft

and backfilled 14 shafts and 12 subsidence features in Poison Canyon. 17,300 cubic yards of radioactive mine waste was buried at an on-site repository and the disturbed areas graded, seeded and mulched using Bureau of Land Management (BLM) funds.

The AML Program continues to develop projects in areas of New Mexico impacted by historic mining including Silver City, Florida Mountains, Tierra Amarilla, Gallup, Gage, Hansonburg, Lemitar, Madrid, Cookes Peak, and White Signal.



Checking gamma radiation levels at a uranium waste rock removal site in the Grants Phase III project area

The AML Program received national recognition for its exemplary work at the Lake Valley Project site in Sierra County, where 297 mine openings were safeguarded in several phases of construction between 2004 and 2012. Bat compatible closures were used at 69 of the openings to preserve significant bat habitat found in the underground mine workings. Innovative techniques used included toroid tire plugs, where large spent tires from earthmoving equipment are stacked to close openings. The Office of Surface Mining Reclamation and Enforcement presented its 2015 National Abandoned Mine Land Reclamation Award for this project at a ceremony in Santa Fe in September. Additional information on the award may be viewed here: <http://www.emnrd.state.nm.us/MMD/AML/LakeValleyAward.html>.



*Dumping radioactive mine wastes into the Grants Phase III Repository*

The BLM Las Cruces District Office received the Mining and Minerals Division 2015 Excellence in Reclamation Award for its efforts to reclaim abandoned mines in the Cerrillos, Lemitar, and Florida Mountains mining districts, and for its ongoing work to inventory abandoned mines throughout New Mexico. Additional information may be viewed here: <http://www.emnrd.state.nm.us/MMD/documents/ExcellenceinReclamationAward.pdf>. BLM remains a strong AML partner, providing funding for abandoned hard rock and uranium mine reclamation that supplements AML's regular annual grants received from the federal Office of Surface Mining, a portion of which is earmarked for work at abandoned coal mining sites.

### **COAL MINE RECLAMATION PROGRAM -**

The Coal Program regulates, inspects and enforces on all coal mines on federal, state and private lands within New Mexico, with the exception of Tribal 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 for the Coal Program. Peabody Energy received Phase I bond release on a portion of the Lee Ranch Mine upon successful completion of backfilling and grading of 730 acres of pit reclamation. Applications for partial bond release for 1,056 acres at La Plata Mine, and for full bond release for portions of San Juan Mine totaling 1,193 acres, are also being processed.

Chevron Mining Inc. is requesting a completeness review of an application for partial bond release on 1,504 acres at McKinley Mine; inspection of the reclamation will occur in the spring of 2016.

Transitions in New Mexico coal mine ownership are underway. BHP Billiton has agreed to sell San Juan Coal Company to Westmoreland Coal Company, headquartered in Denver. Peabody Energy has agreed to sell the Lee Ranch and El Segundo surface mines to Bowie Resource Partners of Louisville, Kentucky. Bowie, with coastal loadout facilities in California, hopes to supply New Mexico coal to an overseas market.

These online resources provide more information on the Coal Mine Reclamation Program:

<http://www.emnrd.state.nm.us/MMD/CMRP/cmnp-main.html>, and <http://wwwapps.emnrd.state.nm.us/MMD/CoalMinesQuery/default.aspx>.

### **MINE REGISTRATION, REPORTING & 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. Mining sector information reported by operators for calendar year 2014 is provided in the Mineral Resources section of this report.

To facilitate information dissemination and outreach, the MMD Online Mine Registrations and Permits web application provides data for all New Mexico mines (except coal, which has its own search feature accessible from the same page). Users can search by multiple different parameters, or a multitude of combinations of parameters, including mine name, operator, commodity, location and dates. (By statute, confidential production information is not made public.) All real time query results are exportable to Excel spreadsheets containing as many as 30 fields of information, or to KML (Keyhole Markup Language) to display geographic data in an Earth browser. Additional web applications are linked from the GIS, Maps and Mine Data page including Active Mines

Web Map and a Map Gallery - <http://www.emnrd.state.nm.us/MMD/gismapminedata.html>. Other pages of MMD's website, [www.NMMines.com](http://www.NMMines.com), provide information about 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 performed outstanding reclamation in New Mexico. Annually, a nomination period is announced, then MMD staff selects worthy recipients for the Excellence in Reclamation Award which is presented at the New Mexico Mining Association's convention. Read about 2015's award in the Abandoned Mine Land Program section of this report.

## **MINING ACT RECLAMATION PROGRAM**

**(MARP)** - MARP regulates, inspects and enforces on all hard rock or mineral mines on federal, state and private lands within New Mexico. MARP oversees the reclamation of all exploration and extraction activities conducted at all mines and mills, excluding coal, potash and aggregate mines. MARP has permitted approximately 563 mining and exploration projects encompassing over \$693.6 million in financial assurance. The overall disturbed acreage under permit with MARP is 26,130 acres as of the end of 2014. The total number of acres reclaimed since 1994, when the program was started, is 6,961 acres as of the end of 2014.

Interest in gold mining dropped in 2015 with the closure and bankruptcy of Santa Fe Gold Corp., operator of one of 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 2015 with the ongoing operation of existing mines and implementation of several new exploration projects. Interest in expanding an existing garnet mine in the Orogrande Mining District is developing. Expansion of the existing BOW Mine along with the development of a new mill was proposed in 2015.

In early 2014, the legislature provided for changing the language in the New Mexico Mining Act Rules ("Rules") eliminating the prohibition on more than one financial assurance release per operation per

year, and a petition was subsequently submitted to the New Mexico Mining Commission ("Commission") requesting that rule change. The Commission approved the removal of that language and now there is no cap on the number of financial assurance releases per operation per year, effective July 15, 2015.

In June 2014, Chevron Mining Inc. made the decision to permanently close the Questa Mine in Taos County, a Superfund site. Chevron Mining Inc. initiated reclamation of the Questa Mine in late 2014 with the partial demolition of the mill area and closure of the underground mine. Reclamation and remediation continue in 2015 with further demolition of the mill area, construction of a water treatment plant, removal and disposal of old tailings, and remediation of Eagle Rock Lake. Reclamation will continue for a number of years as plans are approved and then implemented to reclaim the tailings area and the mine/mill area. Three agencies (MMD, New Mexico Environment Department and the Environmental Protection Agency) are working with Chevron to develop reclamation plans and agreements following the federal CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) process.

Permitting of revised closeout plans and expansions at the state's four largest copper mines in Grant County continued in 2015. A number of major permitting actions were initiated in 2015 and more will come in 2016. Even with cutbacks and layoffs, Freeport McMoran is expanding at three of its New Mexico operations. All permitting actions at three of the mines, Little Rock, Chino, and Continental, have to do with expanding the mining operations. As these existing mines expand they must comply with new regulatory standards designed to address new mining impacts.

Also this year, MARP staff continued the review process of two large-scale, Part 6 (New Mining Operations) permit applications – one uranium mine: the Roca Honda, and one copper mine: the Copper Flat Mine. As interest in uranium mining has tapered off, permitting actions related to earlier applications have also tapered off. The Mt. Taylor Mine, an existing uranium mine in Cibola County, has been on standby status since the inception of

the Mining Act in 1993, but recently applied to come off standby. Some of the local non-governmental organizations have opposed any permitting action for the Mt. Taylor Mine, other than reclamation.

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](#).

**MINERAL RESOURCES: EMPLOYMENT, PRODUCTION & VALUE** - For the third consecutive year, operators reported an all-time high mineral production value – more than \$3.1 billion worth of minerals were extracted from New Mexico mining operations in calendar year 2014, almost ten percent over 2013’s total (Table 1 and Figure 1). Operator-reported potash production value increased almost 20 percent from 2013, and copper production value increased 20 percent. These two commodities accounted for the lion’s share of the production value increase.



Coal



Copper



Gold



Potash



Uranium

**TABLE 1 New Mexico Summary of Commodity Production, Production Value, Employment, Payroll, Revenue and Ranking: 2014**

Mineral	Production <sup>1</sup>	Production Rank <sup>2</sup>	Production Value \$	Employment <sup>3</sup>	Reclamation Employment	Payroll \$ <sup>4</sup>	Revenue Generated \$ <sup>5</sup>	
							State	Federal
Coal	21,730,572	12	\$ 757,312,996	1,436	148	\$ 84,557,320	\$ 19,400,137	\$ 8,033,183
Copper	343,292,033	3	\$ 1,071,057,411	1,842	36	\$ 110,877,438	\$ 8,785,019	\$ -
Gold <sup>6</sup>	8,580	-	\$ 10,858,944	-	-	\$ -	\$ 62,924	\$ -
Industrial Minerals <sup>7</sup>	1,199,137	-	\$ 77,800,389	472	14	\$ 17,609,605	\$ 1,030,231	\$ 316,161
Aggregates <sup>8</sup>	11,339,585	-	\$ 93,439,942	830	55	\$ 15,851,577	\$ 3,529,457	\$ -
Other Metals	71,352	-	\$ 982,217	26	-	\$ 1,308,156	\$ 4,429,933	\$ -
Molybdenum	13,183	-	\$ 150,194	431	30	\$ 13,017,482	\$ -	\$ -
Potash	2,130,352	1	\$ 1,093,208,523	1,078	33	\$ 97,754,429	\$ 7,067,326	\$ 10,843,943
Silver	22,617	-	\$ 431,333	-	-	\$ -	\$ 2,912	\$ -
Uranium <sup>9</sup>	-	-	\$ -	30	8	\$ 597,941	\$ -	\$ -
<b>TOTAL</b>			<b>\$ 3,105,241,950</b>	<b>6,145</b>	<b>324</b>	<b>\$ 341,573,947</b>	<b>\$ 44,307,940</b>	<b>\$19,193,287</b>

Source: Mining and Minerals Division, unless otherwise noted

<sup>1</sup> 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.

<sup>2</sup> Production rank, where available, is based on 2014 production value (except coal is based on 2013 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](http://minerals.er.usgs.gov))

Coal: Energy Information Administration, United States Department of Energy ([www.eia.gov/coal](http://www.eia.gov/coal)); rank is for CY2013, latest available data

<sup>3</sup> Employment category includes direct and contract employees.

<sup>4</sup> Payroll does not include benefits.

<sup>5</sup> 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](http://www.state.nm.us/tax)), New Mexico State Land Office ([www.nmstatelands.org](http://www.nmstatelands.org))

Federal data: Office of Natural Resources Revenue ([www.onnr.gov](http://www.onnr.gov))

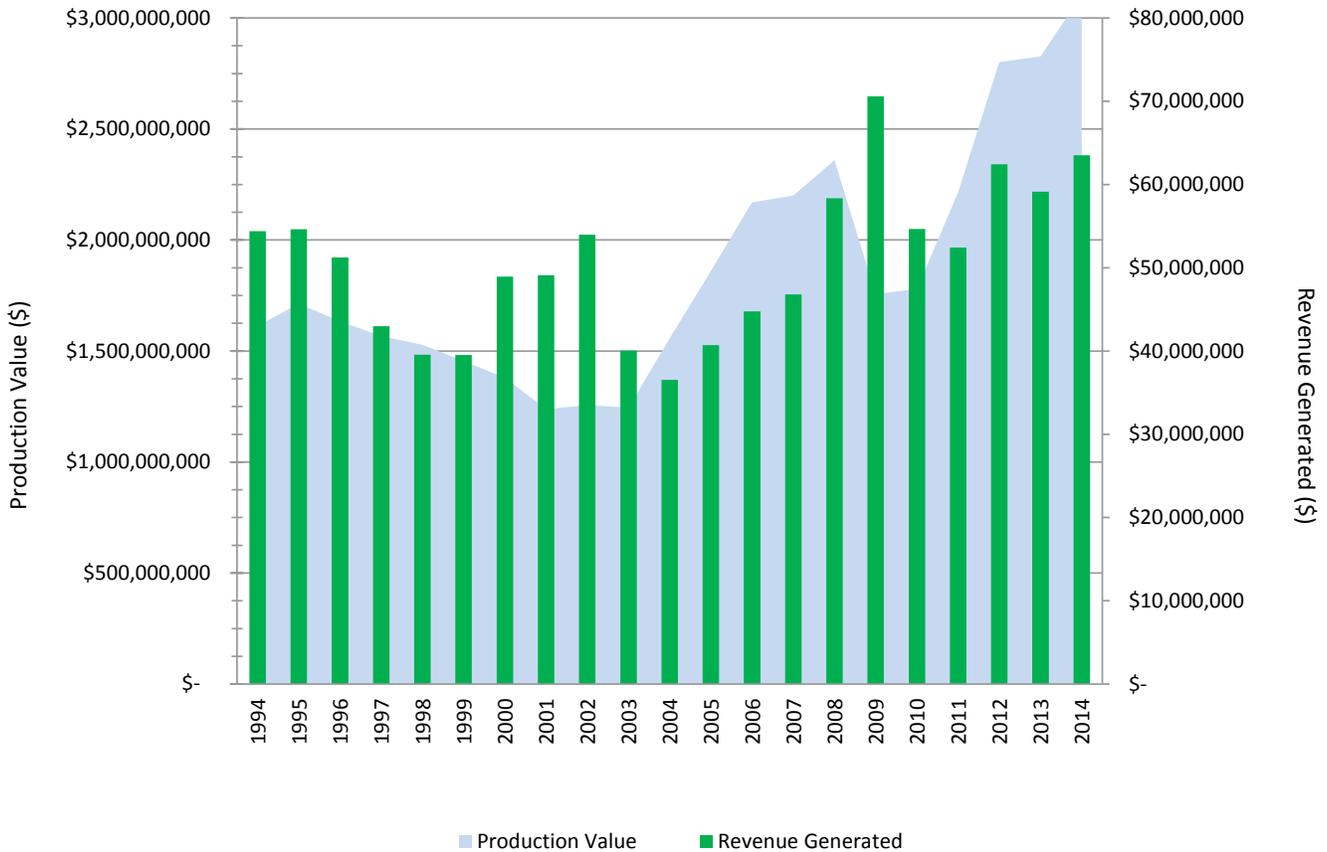
<sup>6</sup> Gold, silver and molybdenum are by-products of copper production. Employment/payroll for gold/silver included in copper.

<sup>7</sup> Category includes brick clay, calcite, dimension stone, gypsum, humate, perlite, Portland cement, pumice, salt, silica, and zeolite.

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

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

**FIGURE 1 New Mexico Mineral Production Value and Revenue Generated: 1994-2014**



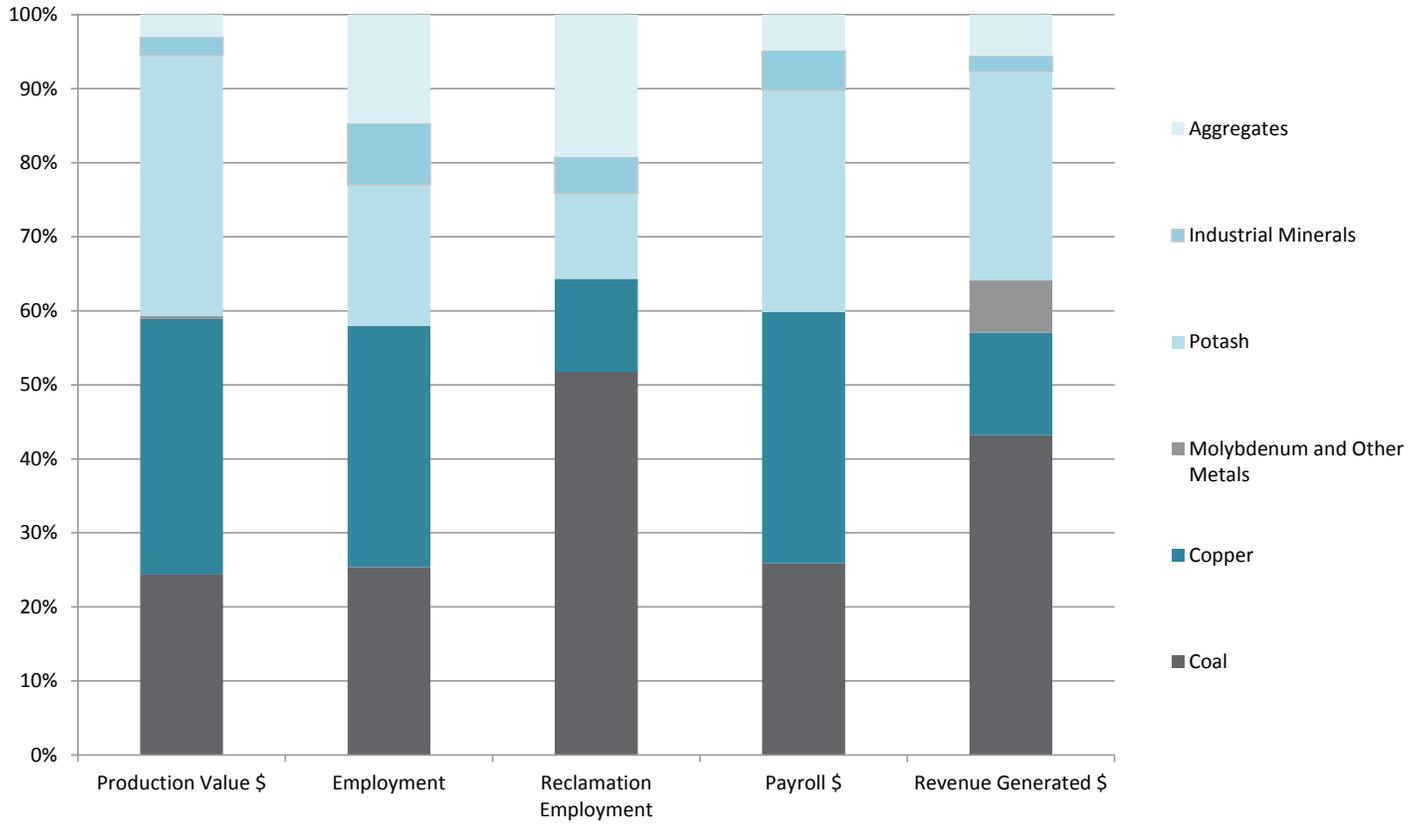
New Mexico remains a leading United States mineral producer with 2014 rankings of first in potash, perlite and zeolite as reported by the U.S. Geological Survey (“USGS”); third in copper, as reported by USGS; and twelfth in coal (2013, latest available information), as reported by the U.S. Energy Information Administration. The principal minerals, in descending order of 2014 production value, were potash, copper and coal. According to USGS, for 2014 (preliminary), New Mexico ranked thirteenth when ranking states by the production value of non-energy minerals, producing 2.40 percent of the total U.S. production value of non-energy minerals (up from 2.07 percent in 2013).

Total 2014 revenues generated by mineral production in New Mexico increased by over seven percent from 2013 levels to \$63.5 million (**Figure 1**). This is the second highest revenue total after 2009’s \$70 million total. State revenue information is provided by the Taxation and Revenue Department and the State Land Office and includes state trust land mineral lease royalties, rentals and bonuses

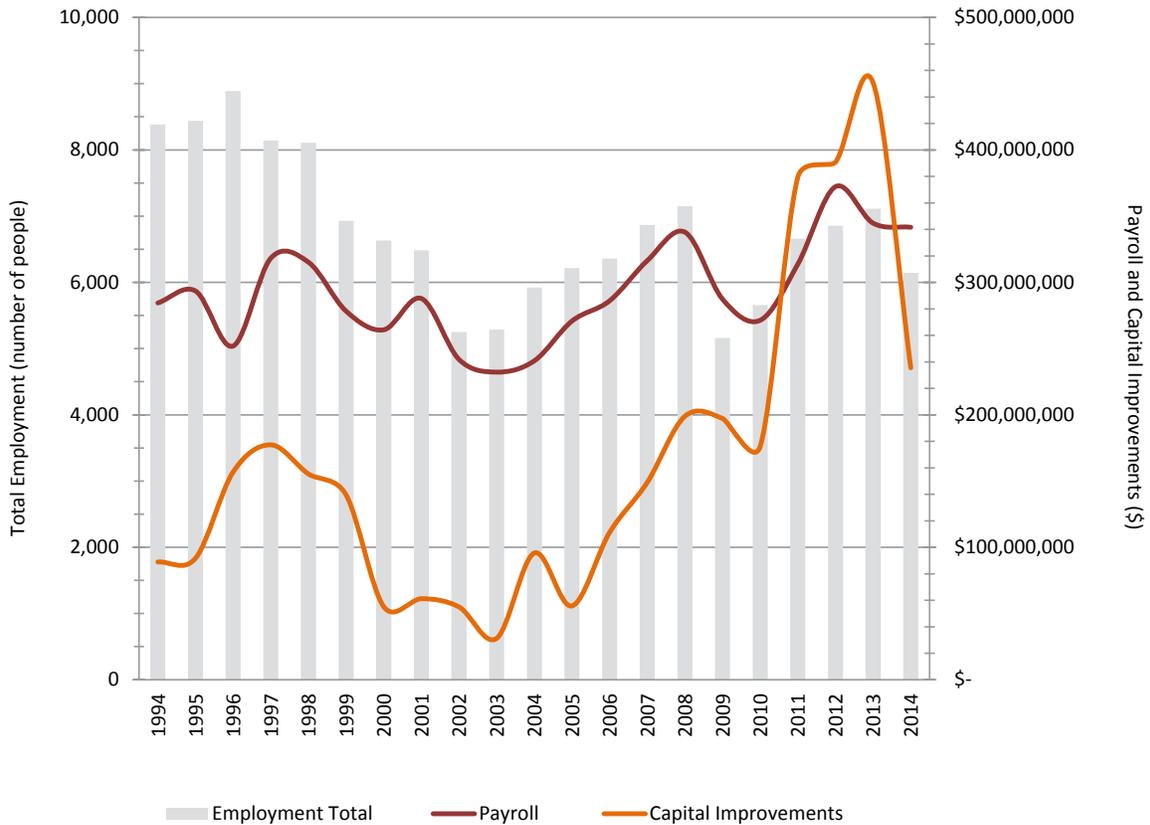
and associated taxes. Federal revenue information is provided by the Department of Interior’s Office of Natural Resources Revenue and includes a 50 percent state share of federal royalties. In any production year, these revenues only accrue if the lessee is actually mining and producing commodities on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

Copper was the largest employer in New Mexico’s mining industry, followed by coal and potash operations (**Figure 2**). Despite an overall employment decrease in 2014, reported industry payroll (excluding benefits) fell off less than one percent from 2013 to just under \$342 million (**Figure 3**). Total mining sector direct and contract employment decreased by 13 percent from 2013 (7,112) to 2014 (6,145): direct employment decreased from 5,806 to 5,055 employees; contract employment decreased from 1,306 workers to 1,090; reclamation employment decreased from 416 workers to 324 (**Figure 4**).

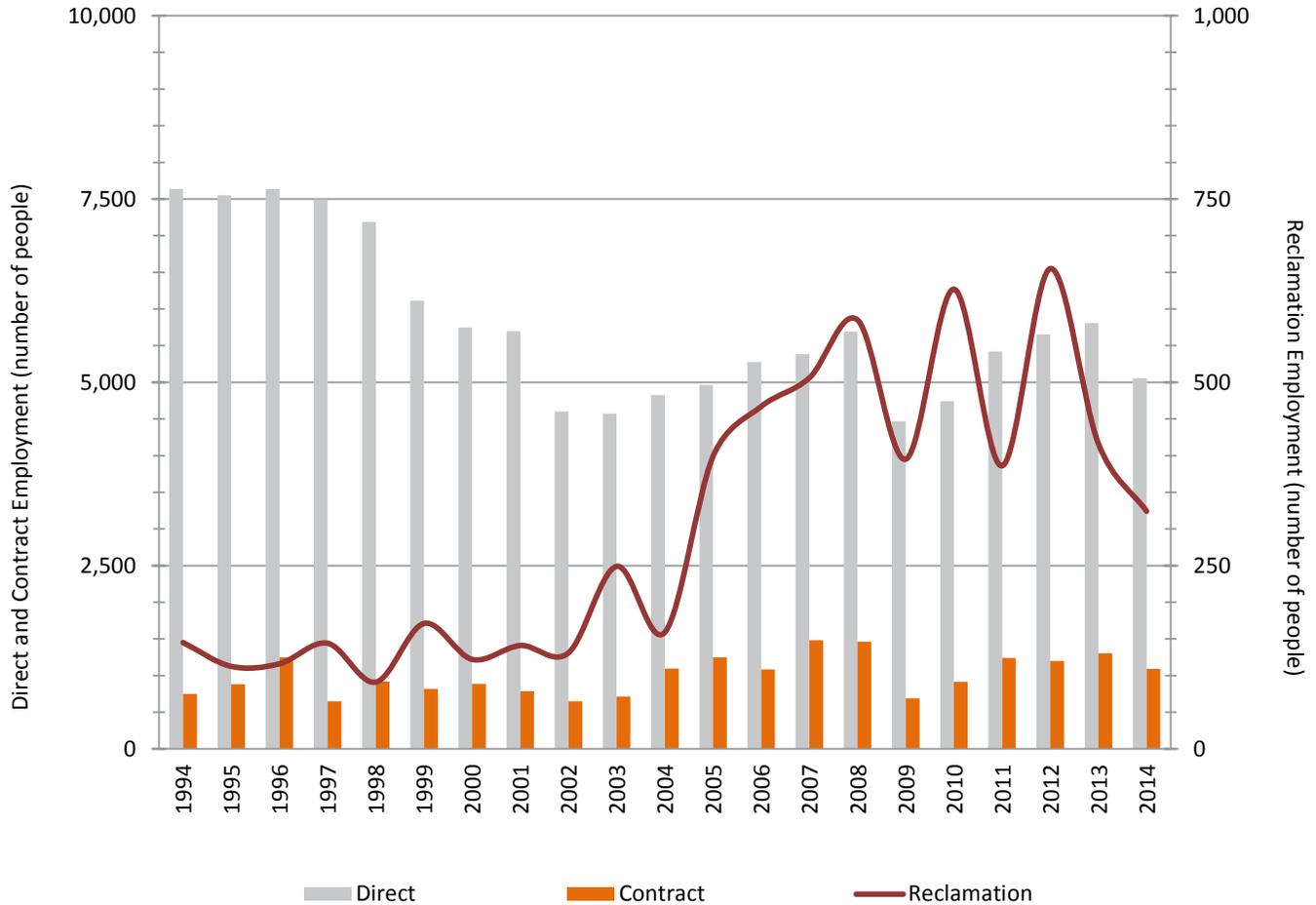
**FIGURE 2 Percentage of Production Value, Employment, Payroll and Revenue by Commodity: 2014**



**FIGURE 3 New Mexico Mineral Industry Employment, Payroll and Capital Improvements: 1994-2014**



**FIGURE 4 New Mexico Mineral Industry Employment: 1994-2014**

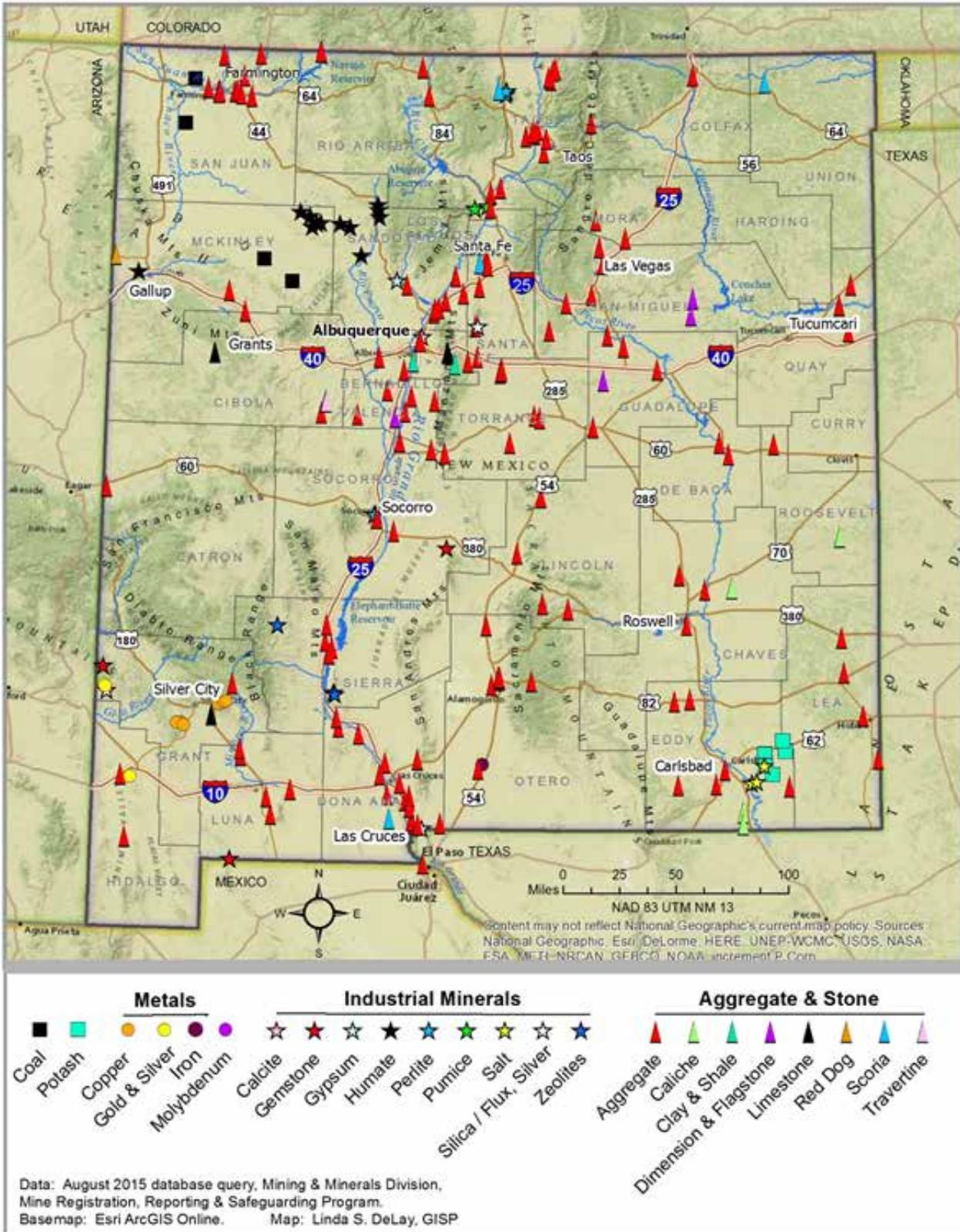


Capital improvement expenditures reported by operators dropped off significantly from 2013’s high of \$450 million due largely to the completion of projects in potash and copper country. New Mexico mining companies reported investments of just over \$235 million in capital improvements and equipment in 2014 (**Figure 3**) – still the fourth highest annual amount reported.

Registered active mining operations in New Mexico in 2014 numbered 226: four coal mines; eight potash operations (includes mines, refineries and compaction plants); 11 metal mine, mill and SX/EW operations; 33 industrial mineral mines and mills; and 170 stone and aggregate operations (**Figure 5** – any discrepancies are due to map data run date).

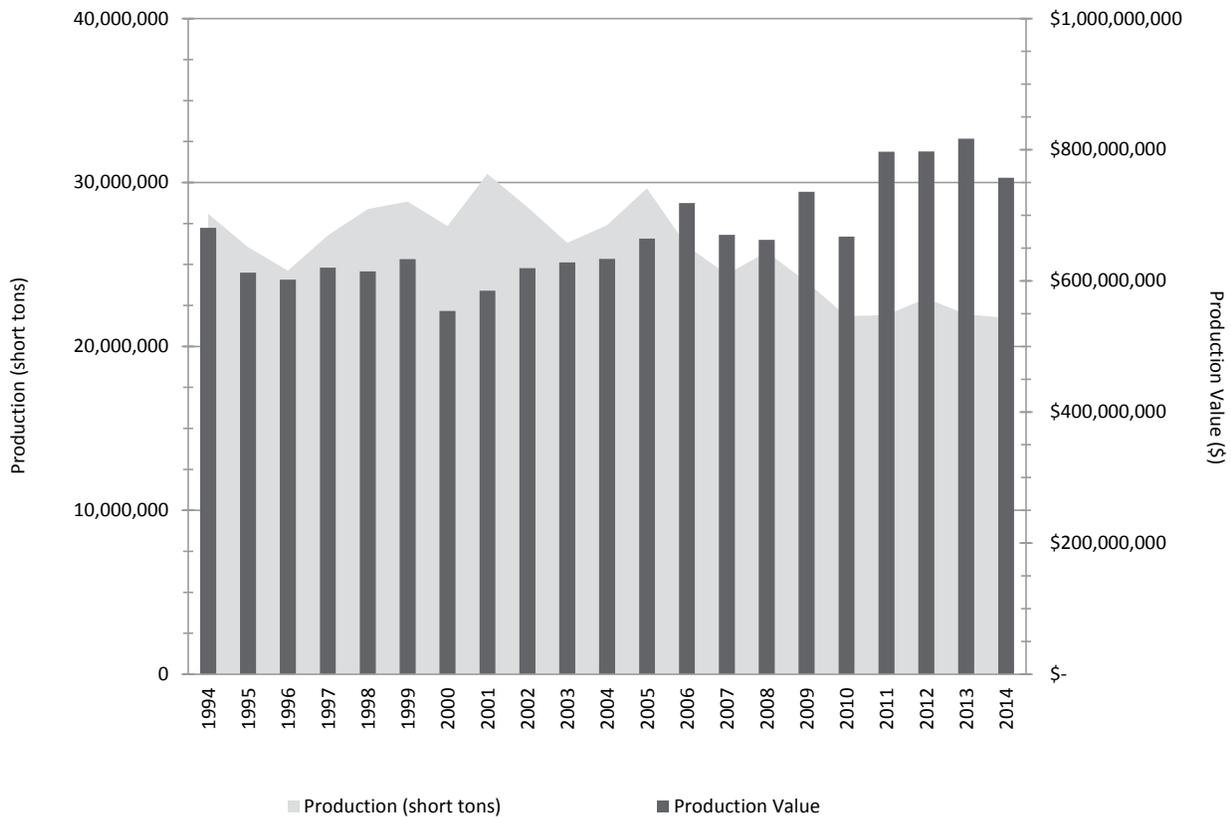
Figure 5

### Active Mines in New Mexico, December 2014

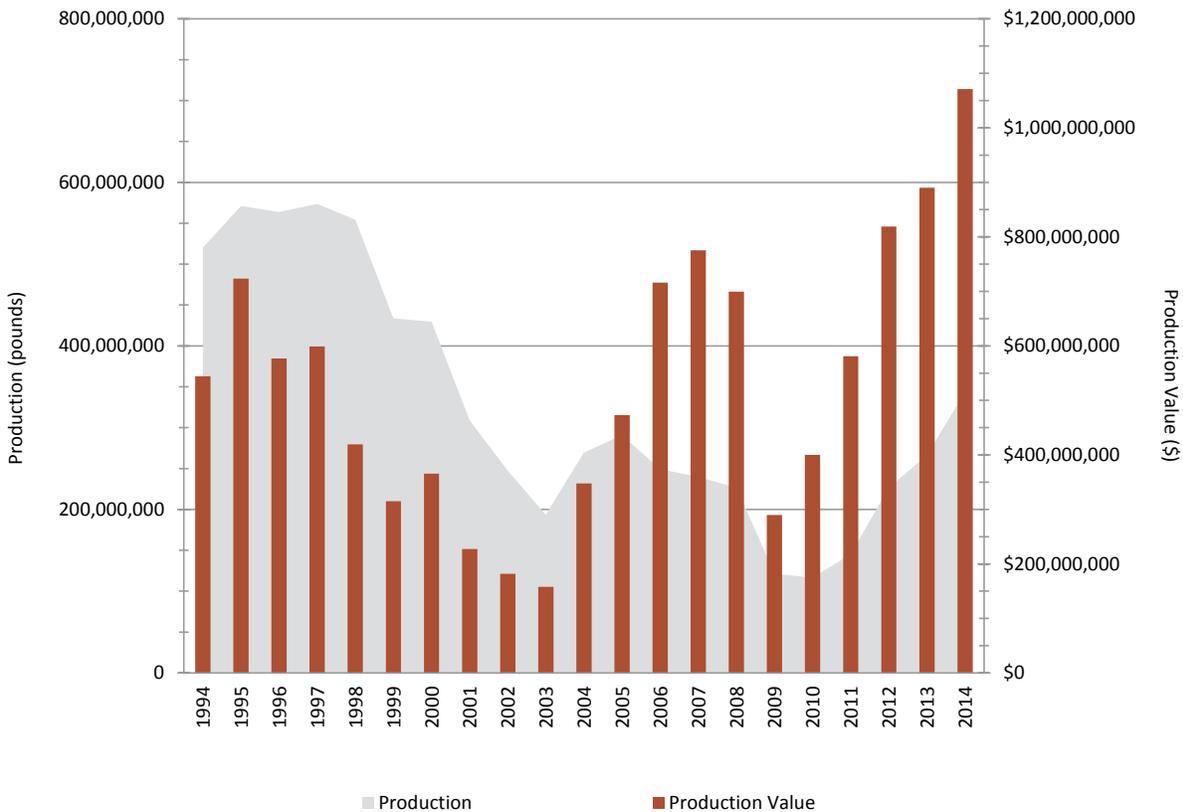


Figures 6 through 10 provide multi-year production amounts and dollar values for coal, copper, potash, aggregate (base course, caliche, clay and shale, crushed rock, flagstone, fill dirt, gravel, limestone, red dog, rip-rap, sand, scoria and topsoil), and industrial minerals (brick clay, calcite, dimension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

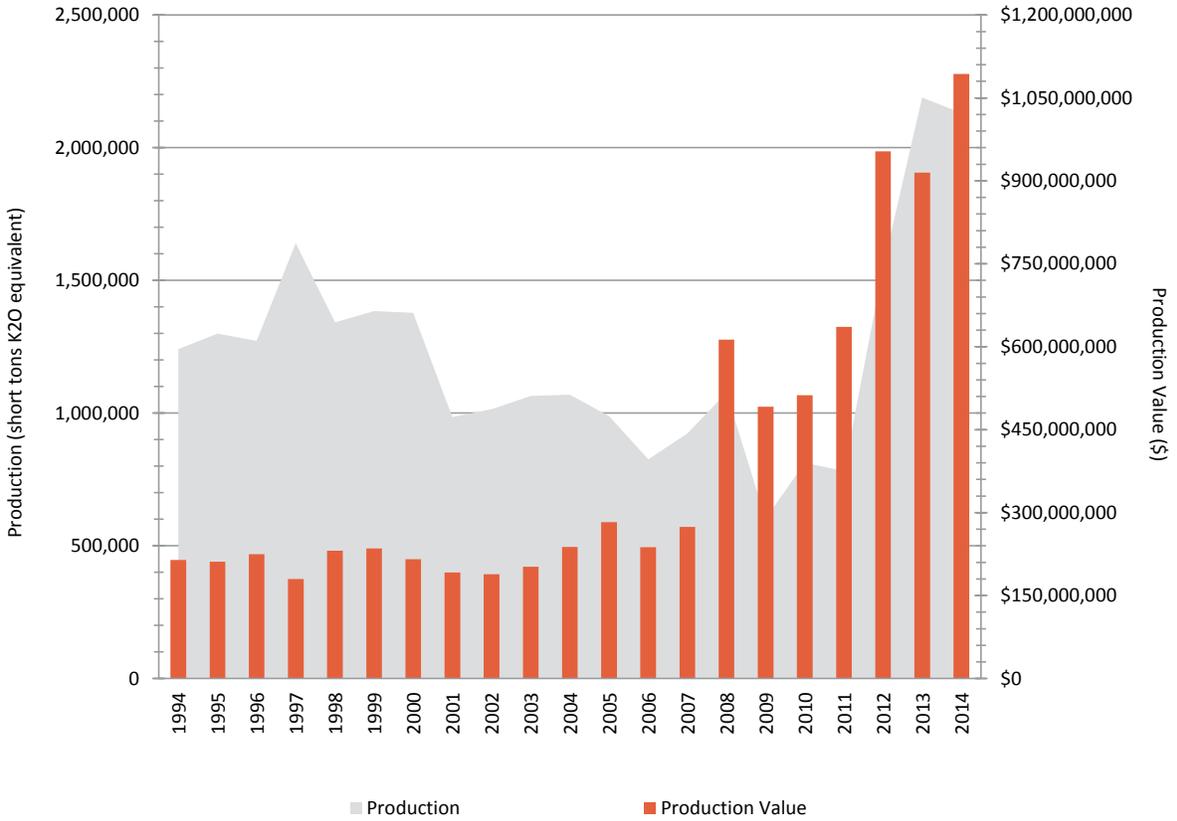
**FIGURE 6 New Mexico Coal Production and Value: 1994-2014**



**FIGURE 7 New Mexico Copper Production and Value: 1994-2014**

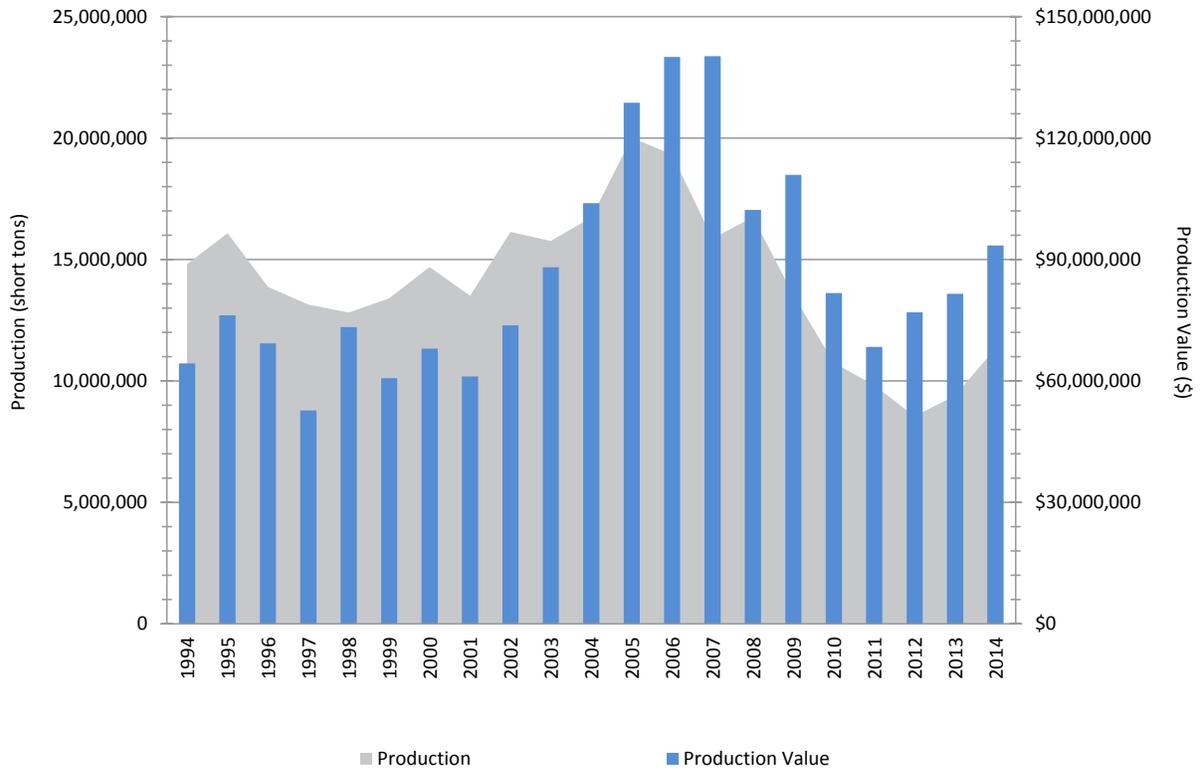


**FIGURE 8 New Mexico Potash Production and Value: 1994-2014**



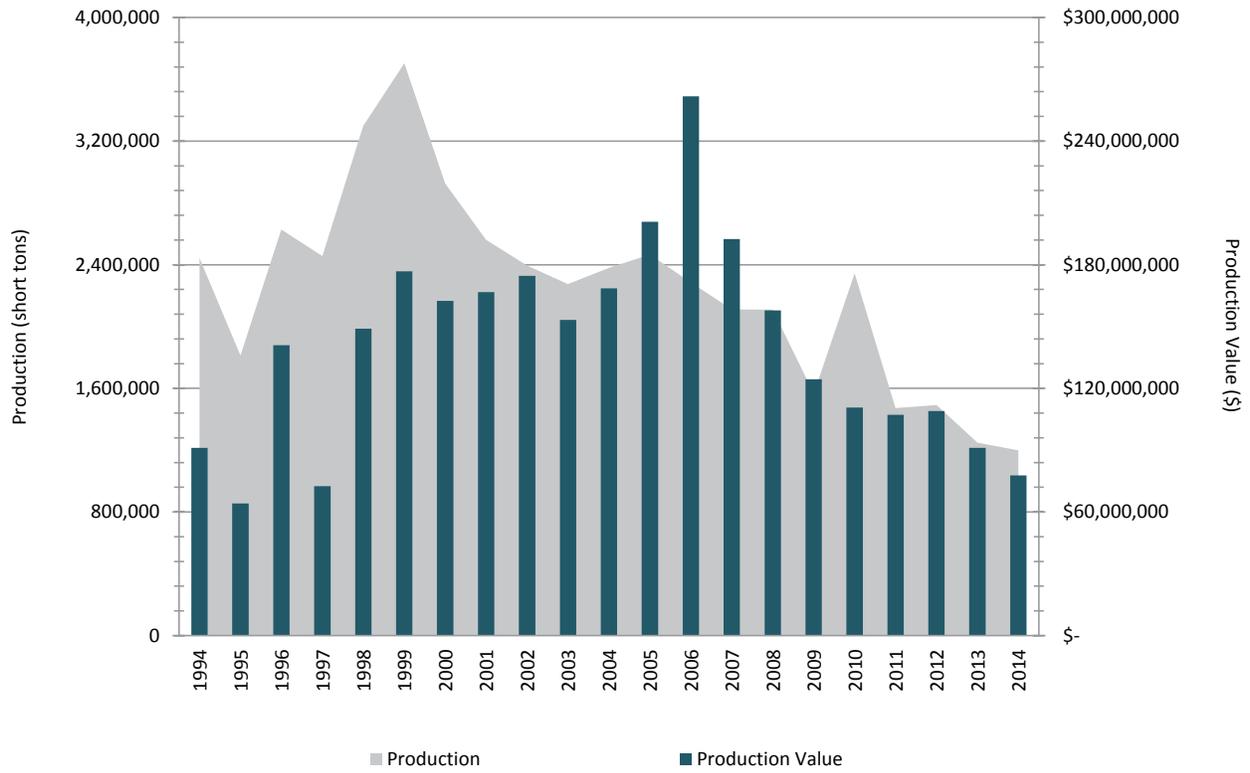
**FIGURE 9 New Mexico Aggregate Production and Value: 1994-2014**

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



**FIGURE 10 New Mexico Industrial Mineral Production and Value: 1994-2014**

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





# Energy Conservation & Management Division



# Energy Conservation & 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. 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 New Mexicans



purchase solar photovoltaic (PV) and solar thermal systems for their residences or small businesses. This program helps reduce energy costs and provides stimulus to the solar energy industry in the state. In 2015, PV tax credits will be fully subscribed to the level of \$3 million of benefits to the residents of the state. This is the fourth year the program has been fully subscribed. With more applications



than available tax credits, a significant number of applications roll over to the 2016 tax credit allotment.

In the 12-month period through October 2015, based on solar tax credit applications received by ECMD, solar development by homeowners occurred in 28 of 33 counties – adding another six counties where solar systems are being deployed. A total of 1,087 system certification applications were received, reviewed, and processed (1079 PV, eight thermal). Most 2015 PV installations were located in Bernalillo (343), Doña Ana (206), Santa Fe (194), Sandoval (119), Grant (38), Otero (31), Valencia (27), Taos (21), Rio Arriba (17) and San Miguel (14) counties. All combined, this year’s PV systems account for 7.1 megawatts (MW) of new electricity capacity. These distributed solar systems help utility companies and cooperatives meet the State Renewable Portfolio Standard, avoid fossil fuel generation costs, emissions, and fuel charges, and lower system owners’ utility bills. During the last 12 months, a total of \$2.5 million was approved for state tax credits to homeowners who paid \$6.8 million in labor charges to install their solar systems.

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 are burned. Solar panels also reduce the risk of higher electricity costs on New Mexico citizens due to volatile fossil fuel prices and cost of pollution.



1 MW Solar Power Parking Lot at the Walmart Parking Lot in Truth or Consequences (Photo Credit: M. Gaiser)

The **Renewable Energy Production Tax Credit (REPTC)** supports utility-scale wind, biomass, and solar projects that, in turn, assist utility companies in meeting the Renewable Portfolio Standard. Through the REPTC program, there are currently 809 MW of wind and 238.5 MW of solar-generating electricity in New Mexico, which have created approximately \$2 billion in construction activity within the last ten years. While the allocation of the available tax credits (each tax credit lasting 10 years) was reached in 2012, 15 applications for solar power plants and three for wind turbine facilities were received, reviewed, processed and placed on the waiting list by ECMD in 2015. Projects now on the REPTC waiting list represent potential new development of 993 MW in wind and 738 MW in solar power, representing over \$3 billion in construction activity for rural communities.

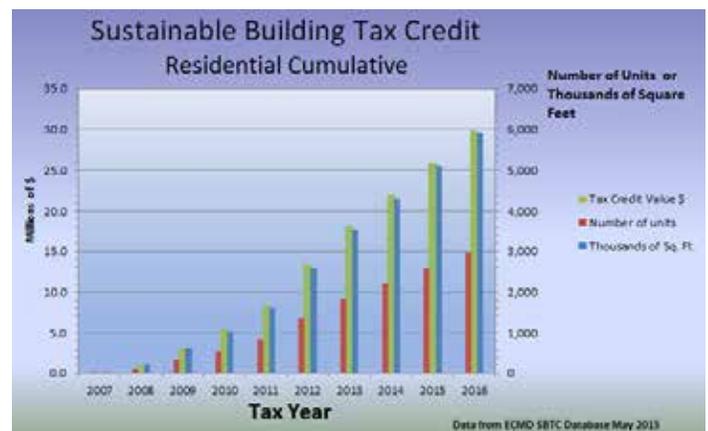
Although most renewable energy projects take advantage of the REPTC for ten years, these utility scale projects provide a steady source of revenue for the next 30 years to the New Mexico State Land Trust. The direct revenue supports the trust beneficiaries and education in New Mexico through the leasing of public lands for wind, solar, geothermal power plants, and electric transmission infrastructure. Private landowners also realize significant revenues from the lease of their lands.

**Green building**, also called sustainable building

and high performance building, is the term given to a set of emerging practices in the design and construction of new and renovated buildings. Green building strives to balance economic needs and environmental impact with human health and comfort. This is sometimes referred to as the People, Planet and Profit triad, or triple bottom line.

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 2015, ECMD received, reviewed, and processed two commercial buildings of 197,062 square feet and 134 multifamily housing units of 159,691 square feet. ECMD was unable to process additional manufactured and single-family home applications, as allocations for those categories were completely taken through 2016. A new ten-year Sustainable Building Tax Credit program, which will be in effect from 2017 through 2026, passed the Legislature and was signed into law by Governor Martinez in 2015. The construction of these new homes and commercial buildings that meet green building standards have provided jobs in 20 counties.

Minimization of building energy use is a major factor in the design of sustainable buildings. ECMD is concerned with the optimal use of energy resources to meet our needs while simultaneously cutting carbon emissions. That's why the Sustainable Building Tax Credit has proved itself to help builders and homebuyers alike meet their objectives, while at the same time spurring economic growth, creating jobs and improving the quality of housing across the state. Other benefits of the tax credit program:





Casitas de Colores, a multi-family development in downtown Albuquerque that received sustainable building tax credits. (Photo Credit: K. Hughes)

- Creates a green building infrastructure, generating expertise and green-collar jobs, ultimately reducing the cost of green products and technologies
- Reduces energy consumption, helping to offset the impact of energy prices
- Reduces New Mexico’s greenhouse gas emissions and delays the need to build costly new electric power plants
- Provides healthy and comfortable buildings that improve quality of life for the occupants
- Benefits lower-income New Mexicans by creating high quality, affordable, energy efficient homes that reduce utility bills
- Conserves precious water resources in buildings and in power generation
- Places New Mexico as a leader in green building

The **Geothermal Ground-Coupled Heat Pump Tax Credit**, in effect since 2010, helps make this system type more affordable for homeowners and commercial building owners. In the 12-month period through October 2015, there were a total of 77 applications received, reviewed, and processed. This activity took place in the counties of Doña Ana (64 systems), Otero (3), Roosevelt (2), Santa Fe (2), Bernalillo (1), Chaves (1), Curry (1), De Baca (1), and Sierra (1). The \$596,925 in tax credit support of this technology has created construction activity of more than \$2.1 million 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 nine meetings hosted by ECMD throughout 2015 included the economic impact of rooftop solar; bus rapid transit; bridging the clean energy divide; Sustainable Building Tax Credit Program; trends in clean energy; retrofitting streets and corridors; clean energy small business assistance and collaborative research; New Mexico’s Energy Policy & Implementation Plan; and McKinley County’s performance contracting program.

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 in 2013, the group identifies options for New Mexico to encourage energy storage. The group provided a written report containing eight options to the New Mexico Legislature and continues to investigate the topic of energy storage. In 2015, participants explored energy storage values to our electric system, examined the energy storage items within the Governor’s 2015 energy policy, and heard from the developer team aiming to install a large-scale energy storage with solar PV system in Valencia County. 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 2014 events.

**Energy Efficiency** - New Mexico ranked 31<sup>st</sup> in the 2015 ACEEE State Energy Efficiency Scorecard, down from 25<sup>th</sup> in 2014. The lower ranking is due to several factors including the state not setting appliance standards beyond those required by the federal government; no policies to encourage combined heat and power production; no specific policies to encourage efficient transportation systems; no energy efficiency resource standard for natural gas utilities; and, an absence of recent building energy code updates. However, the state anticipates higher energy savings in 2016 from greater levels of investment in energy efficiency measures by utility programs as well as greater use of performance contracting by state and local governments.

ECMD staff supported Albuquerque Public School (APS) District's energy efficiency efforts with leadership and participation on the APS Water and Energy Conservation Committee. It launched the following energy and water efficiency policy:

"Albuquerque Public Schools shall reduce net water consumption by twenty percent (20%) and net energy consumption by twenty percent (20%) by the end of the 2023-2024 school year as compared to an established 2013-2014 school year baseline."

The goal is based on school district-wide energy use index of total kBtu per square foot and district wide water use of total gallons per student. To

support this effort, the superintendent ensures full commitment by all employees and involved entities, including administrators, teachers, students, support personnel, contractors, suppliers and communities using APS facilities. APS is taking a multi-faceted approach to meet its new energy and water management goals. The APS district supports energy clubs to teach youth about energy and to change the culture around energy. The clubs engage custodians, teachers, staff and peers to address an array of energy use topics. Additionally, curriculum will be provided to teachers that will meet Common Core standards and engage students in unbiased energy education. In 2015, the school district tracked an 8.6 percent energy reduction (savings were primarily from natural gas reductions) and 13.5 percent reduction in water use. Also, APS District established an energy command center from which to manage energy and water use at its facilities.

## **State Energy Policy & Implementation**

**Plan** - Items specifically related to ECMD's mission include the following:

### **Regulatory Clarity to Reduce Solar Soft**

**Costs** - Initiate a state-led effort to assist or encourage local jurisdictions to reduce soft costs for solar installations including permitting, right of way costs and other local regulatory process costs.

### **Energy Efficiency in Public Buildings -**

Institutionalize a program for energy performance in public buildings that includes annual benchmarking of energy and water, energy use monitoring and disclosure, and energy performance targets. Evaluate energy savings performance contracting policies and address any barriers to expanding this type of financing in New Mexico.

### **Public Education on Renewable Energy and**

**Energy Efficiency** - Implement an education campaign to increase citizen knowledge of renewable energy and energy efficiency operations and investment potential. Explain the nature of renewable versus non-renewable energy resources. Create a repository of up-to-date



facts available on wind and solar development in New Mexico for the public and media to reference, including economic statistics, where available. Explain how the evolving electric system incorporates these technologies.

**Clean Power Plan** - Develop a state position on compliance plans for Section 111(d) of the Clean Air Act through collaboration among the New Mexico Environment Department, EMNRD, and the Public Regulation Commission. Support efforts to capture and sequester carbon dioxide from electric power plants and industrial sources, especially for subsequent use in enhanced oil recovery. Solicit input on consideration of establishing a Low-Carbon Electricity Portfolio Standard when New Mexico's RPS expires.

**Energy Storage Development** - Promote batteries coupled with solar PV in residences. Promote New Mexico as "the" place to develop and test energy storage technologies. Support an industry partnership to establish an Advanced Battery Chemistry and Materials Center in New Mexico. Pursue energy storage technology development and demonstration projects such as in advanced batteries and flywheel/hydraulic energy storage systems. Encourage companies developing energy storage software and controls to locate in New Mexico. Minimize the "soft costs" (regulatory and permitting) of energy storage financing and/or grid interconnection.

**Electricity Delivery** - Engage in regional transmission planning and siting initiatives, including: WestConnect and its subsidiary the Southwest Area Transmission Regional Planning Group, and Western Governors' Association transmission siting task force. Promote expansion of existing demand response programs where electricity users voluntarily curtail consumption during peak times and receive compensation from

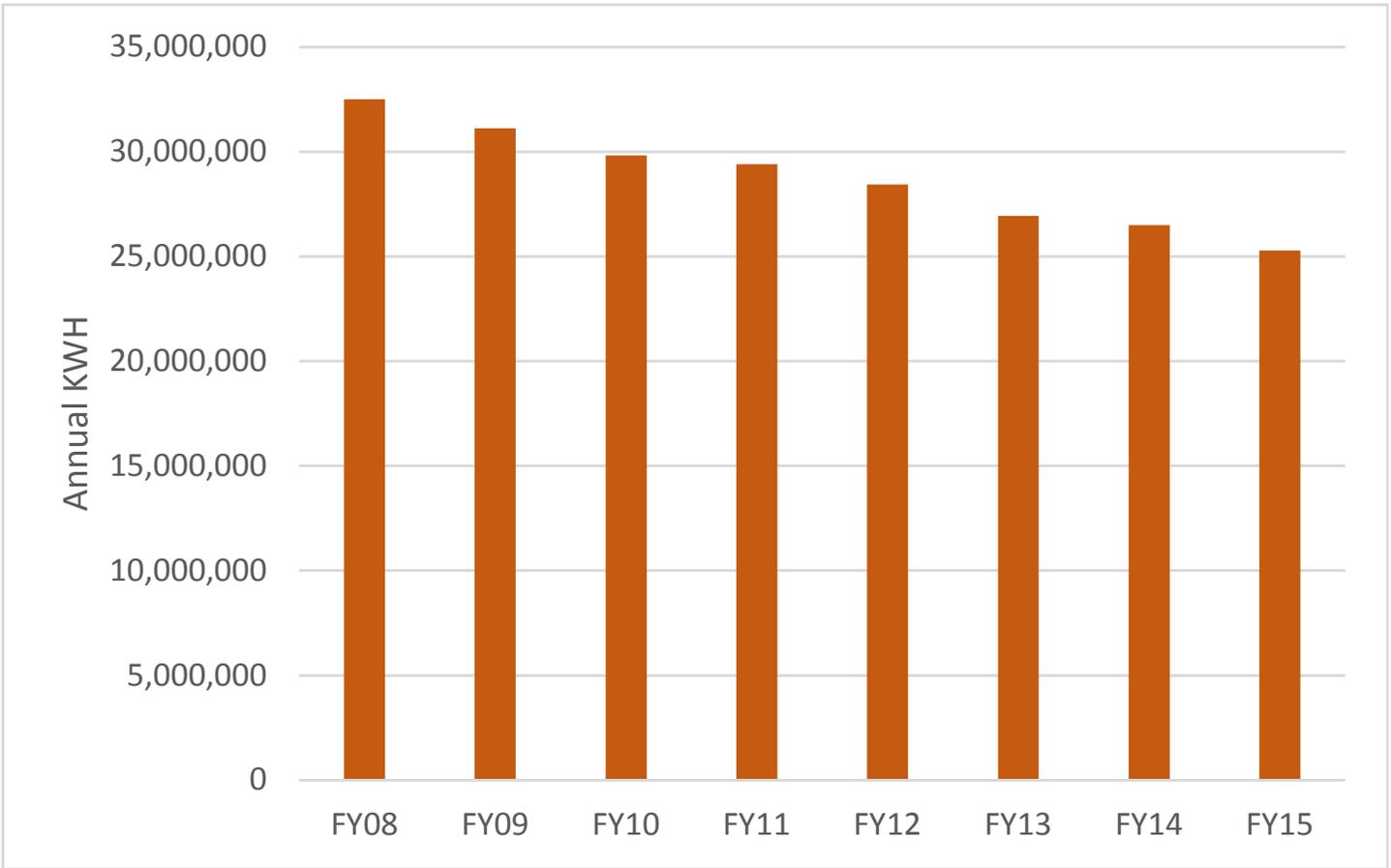
a utility. Consider the installation of smart meters by utilities to accommodate the needs of a basic "smart grid."

**Related Recommendations** - Support incentives for natural gas vehicles and natural gas fueling stations. Encourage higher education institutions to align curriculum with core energy workforce needs. Certify college training programs in applied energy technologies. Update the state geothermal energy regulations to help streamline and target them to these operations. Reduce fresh water consumption in energy production operations. Evaluate brackish water aquifers. Update and expand electricity transmission infrastructure in New Mexico. Improve state-controlled aspects of transmission siting and permitting and supporting utilities to make transmission infrastructure investments.

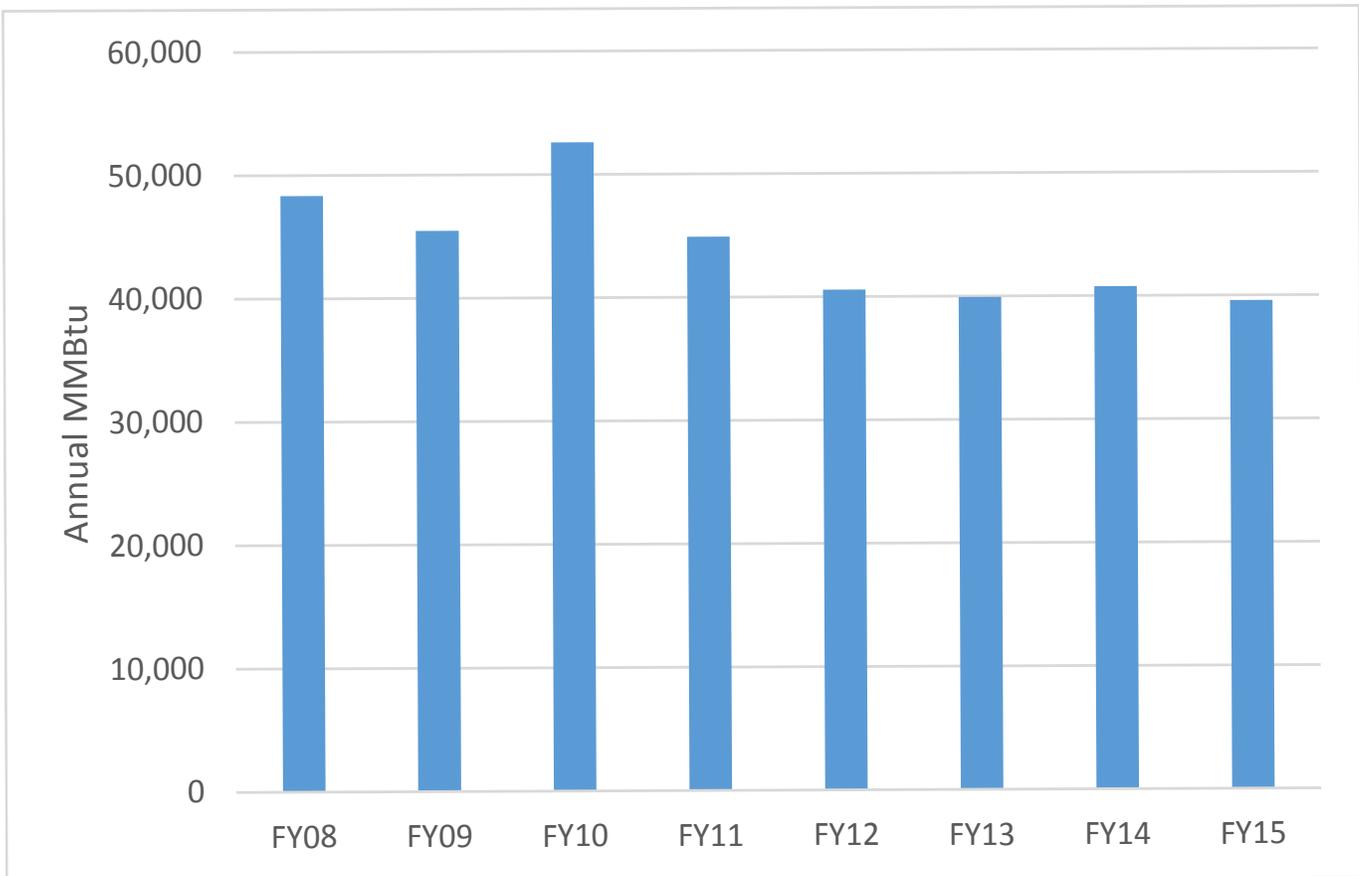
## State Government Energy Efficiency

ECMD manages a state government energy efficiency program 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 13 percent energy reduction is now established compared to the Fiscal Year 2011 (FY11) baseline, based on 4.1 million kWh and 53,450 therms saved per year. During FY15, GSD reduced purchased electricity and natural gas due in part to the energy efficiency collaboration efforts with ECMD. Energy usage trending over the most recent eight years depicts a 22 percent reduction for electricity and an 18 percent reduction for natural gas.

**(Figures on next page).**



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 MMBtu by Fiscal Year  
 [Source: General Services Department]

**WISE Program** - The Whole-building Investment for Sustainable Efficiency (WISE) Program was started to provide strategic planning support via the WISE Team of EMNRD, GSD, 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 a 2011 baseline energy usage.

Funded by the U.S. Department of Energy (DoE), the WISE Team has used the Investment Grade Audit (IGA) of Santa Fe's South Capitol complex buildings to justify design work and funding of \$2.1 million for the EEMs. Implementation of all of the measures has been completed. Heating, cooling, and control system EEMs, including new air- and water-side economizers to improve efficiency of cooling at the State Data Center, were the first to be finished. Lighting upgrades were completed in June of 2015. EEMs of the IGA accepted for implementation by the WISE Team were projected to achieve a 20 percent energy reduction of 1.8 million kWh and 1,900 therms, for energy cost savings to the state government of \$160,000 per year. While a full year's data are not available, the current data show that energy savings will be greater than 20 percent. The next step for the WISE Team is to work with GSD and a Tenant-Agency of GSD in order to set up an Energy Savings Performance Contract (ESPC) utilizing an Energy Service Company (ESCO).

To continue the momentum and successes of the WISE Program and to implement the State Energy Policy, a plan will be developed in collaboration with stakeholders to reduce energy use by state agencies. A major tool for the WISE Team will be ESPCs, utilizing statewide price agreements established for ESCos. With the help of these companies, the WISE Team can work with state agencies, whether tenants of GSD or not, to implement energy efficiency projects without the agency having to request funding to complete those projects. In order to ease the use of these ESCos, the WISE Team has developed both a Standard Operating Procedure (SOP) for using an ESCo as a tenant of GSD and Standard Operating Guidelines for using an ESCo for higher education facilities, local governments, and for state agencies that are not tenants of GSD. Technical assistance

and third party review of energy assessments will now be available to local governments, public schools, higher education, and state government in all energy - related ESCO and Clean Energy Revenue Bond (CERB) projects through the Third Party Review process established by ECMD.

**Energy Savings Performance Contracting (ESPC)** has been available to New Mexico's governmental agencies since 1993 through the Public Facility Energy Efficiency & Water Conservation Act [NMSA 1978, 6-23]. New Mexico's governmental agencies can finance energy-saving facility improvements using future energy savings created by the EEMs. New Mexico State University (NMSU) is in the final (implementation) stages of its \$15.7 million project. This approach has greatly augmented 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. Guaranteed yearly energy reduction is determined to be 87,000 therms in gas savings and 2,144,000 kWh/year in electric savings, with overall monetary savings to total more than \$1.3 million per year.



Energy Storage pilot project in Los Alamos County. Photo Credit: Ken Hughes

Two other major ESPC projects are in their final stages of implementation and will begin monitoring by the beginning of 2016. These projects combined for over \$2.8 million of system upgrades, saving over 135,000 therms annually. Seven other projects are in varying early stages of the process and will be progressing throughout 2016. Multiple programs have contributed to the early success of the ESPC program as a whole. These programs include the WISE Program and the Local Energy Efficiency Performance (LEEP) Program.

The **Local Energy Efficiency Performance (LEEP)** Program is a DOE grant competitively awarded to ECMD in 2014. The goal of this program is to provide energy efficiency and conservation projects with third party technical assistance and oversight. ECMD has four local government partners in this program: McKinley County, City of Santa Fe, City of Las Cruces, and Bernalillo County.

EMNRD has been an **Accelerator Partner** for energy performance contracting since 2013, 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 79 percent 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. The table below shows the breakout of the total invested from ESPC's and Power Purchase Agreements (PPAs). The PPAs are privately funded, allowing state government entities to purchase solar power at a rate lower than that received from the utility provider in the area without having to purchase the solar system itself.

**Clean Energy Revenue Bond (CERB), Qualified Energy Conservation Bonds (QECCB), and Qualified School Construction Bonds (QSCB)** can all be part of the financing of an energy project. The CERB is a financing mechanism while the other two are utilized for interest rate buy downs. 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 has reviewed a solar PV project for Santa Fe Public Schools, which will be utilizing CERB as well as QSCBs. This project will install over one megawatt of solar panels at four separate schools. Silver City recently received approval for a water conservation project utilizing QECCBs to assist in buying down the overall interest rate of the project.

The **State Energy Program** formula grant supported investment-grade audits performed at Pojoaque Public Schools identifying many energy efficiency measures to both upgrade the facilities and reduce operating costs. The audits covered three schools: elementary, junior high, and high school. A professional engineer conducted an assessment of each facility, which included review of utility bills and site surveys of existing systems and equipment conditions. With assistance from ECMD and State Energy Program funds, the University of New Mexico and Public School Facilities Authority collaborated to design a system and database for tracking electricity and natural gas use by a Roswell public school. ECMD continues to be a partner in a remote monitoring pilot project to demonstrate real-time viewing and analysis of building energy usage data.

	Energy Savings Performance Contract (ESPC) & Power Purchase Agreement (PPA)
TOTAL INVESTED BY STATE GOVERNMENT	\$18,589,085
TOTAL INVESTED BY 3 <sup>rd</sup> PARTY INVESTORS	\$27,701,689
TOTAL INVESTED	\$46,290,774
TOTAL GAS SAVED (kBtu/Year)	16,996,600
TOTAL ELECTRICITY SAVED (kWh/Year)	3,679,305
TOTAL ELECTRICITY GENERATED (kWh/Year)	12,766,442
TOTAL PROJECTED ANNUAL SAVINGS TO STATE GOVERNMENT	\$2,280,476



## Clean Fuels & Efficient Transportation

### Natural Gas Transportation Fuel Infrastructure

- Currently, 14 compressed natural gas (CNG) stations operate in New Mexico – 7 are private and 7 are public access. One station includes liquefied natural gas (LNG). These stations are listed below. In addition, three new stations are in development in Albuquerque, Farmington and Lordsburg.

### Compressed Natural Gas Fueling Stations - Public

- Clean Energy, University of New Mexico – 1140 University Blvd NE, Albuquerque
- LCNG Clean Energy, Pilot/Flying J – 9911 Avalon Road NW, Albuquerque
- Clean Energy, Albuquerque Sunport – 2200 Sunport Blvd SE, Albuquerque
- City of Deming – 116 N 8th St, Deming
- City of Deming – 1315 W Pine St, Deming
- Clean Energy, Santa Fe Trails Transit – 2931 Rufina St, Santa Fe
- City of Socorro – 3000 Old US Highway 85, Socorro

### Compressed Natural Gas Fueling Stations – Private or Fleet Only

- Clean Energy – ABQ Ride, 601 Yale St, Albuquerque
- City of Albuquerque – 1801 4th St, Albuquerque
- Apache Artesia – 1945 Bluestem Road, Artesia
- Apache Eunice – 31 S NM Highway 207, Eunice
- Apache Hobbs – 2350 W Marland Blvd, Hobbs
- City of Deming, Construction Shop – 1401 Santa Clara St, Deming
- City of Deming, Transfer Station – 5470 New Mexico 549 SE, Deming



Compressed Natural Gas (CNG) Fueling Station in Albuquerque  
(Photo Credit J. Lewis)



- Latitudes - 2401 Highway 528, Rio Rancho
- Rich Ford – 8601 Lomas NE
- Winrock Shopping Center – Indian School Rd NE
- Presbyterian Hospital – Gold Ave & Cedar St. SE
- Best Western – 1015 Rio Grande Blvd NW
- Applebee’s – Tesla – 2600 Menaul Blvd NE
- Sheraton ABQ Uptown – Tesla – 2600 Louisiana NE

**Electric Charging Stations in Santa Fe – Public:**

- Sprouts, San Isidro Shopping Plaza - 3462 Zafarano Dr
- City of Santa Fe - Railyard Parking Garage - 503 Camino de la Familia
- Inn at Santa Fe - 8376 Cerrillos Rd
- Santa Fe Convention Center - 120 S Federal Place
- CG Higgins - 847 Ninita St
- Garcia Nissan - 2005 Saint Michaels Dr
- The Inn of the Five Graces – 150 E De Vargas St
- Naturally Durable PRC – Certified Hardwood Products – 219 West Manhattan Ave
- Luna Santa Fe – 505 Cerrillos Rd
- Capitol Ford – 4490 Cerrillos

**Electric Charging Stations Outside Santa Fe and Albuquerque - Public:**

- Elegant View Properties LLC - 166 N Roadrunner Pkwy, Las Cruces
- Grants KOA - 26 Cibola Sands Loop, Grants
- Hampton Inn – Tesla - 111 Twin Buttes Rd, Gallup, NM
- Marriott Towneplace Suites - Tesla - 4200 Sierra Vista Dr, Farmington
- Comfort Inn – Tesla - 2500 N Grand Ave, Las Vegas
- Circle K Gas Station – Romeroville
- Del Norte Credit Union – Los Alamos
- Pojoque Pueblo
- La Loma Lodge & RV Park – Santa Rosa
- Holiday Inn Express – Tesla - 2516 Historic Route 66, Santa Rosa
- Cactus RV Park – Tucumcari
- Holiday Inn Express – Tesla - 2624 S Adams St, Tucumcari
- K C’s Campground – Clovis
- Akers RV Park – Clovis
- Edgington Garden RV Park – Alamogordo
- Casey’s RV Park – Socorro

**Electric Vehicle Charging Infrastructure-**

Throughout New Mexico there are 44 electric vehicle charging stations open to the public. During 2015, many charging stations were installed at businesses, public parking areas and fueling stations. These stations are as follows:

**Electric Charging Stations in Albuquerque Metropolitan Area - Public**

- Dave and Buster’s, Winrock Mall - 2100 Louisiana Blvd NE
- Firehouse Subs, Montgomery Plaza - 4411 San Mateo Blvd NE
- O’Neill’s Pub, 4310 Central Ave
- BMW Sandia - 6001 Pan American Fwy
- City of Albuquerque Department of Municipal Development Parking Facility - 201 Marquette Ave NW
- City of Albuquerque - Department of Municipal Development Parking Facility - 400-498 3<sup>rd</sup> St NW
- Melloy Nissan - 7707 Lomas Blvd
- Reliable Nissan - 9901 Coors Blvd NW
- Sacred Power - 1401-1499 12<sup>th</sup> St NW
- Southwest Green Building Center - 5620-L Venice Ave NE
- Freddy’s Frozen Custard & Steakhburgers, Corrales Center - 10701 Corrales Rd NW

## 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:

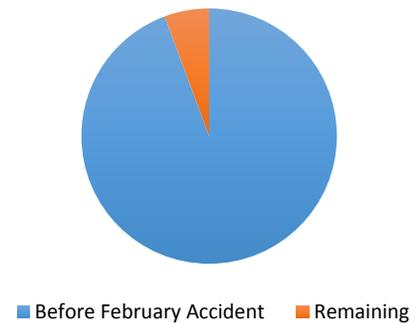
- The Department of Homeland Security and Emergency Management (DHSEM) provides equipment training to volunteer fire services and emergency managers along the WIPP route as well as ensuring equipment is calibrated
- The Department of Public Safety (DPS) provides point of origin inspections for all shipments, 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 (m<sup>3</sup>) 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 shut-down of operations, as of May 2014, approximately 94 percent of the 3,706 m<sup>3</sup> has been removed from LANL (see figure below).

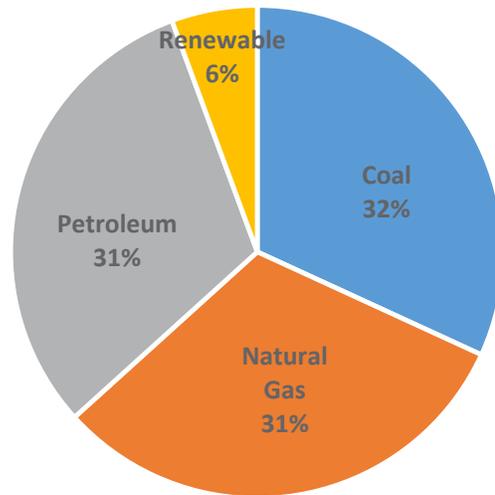
### Los Alamos National Laboratory's Transuranic (TRU) Waste: 3,706 Cubic Meters Removed



The Accident Investigation Board (AIB) investigated the event and has provided final reports that can be found on the DOE-WIPP website <http://www.wipp.energy.gov/wipprecovery/recovery.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 & Statistics

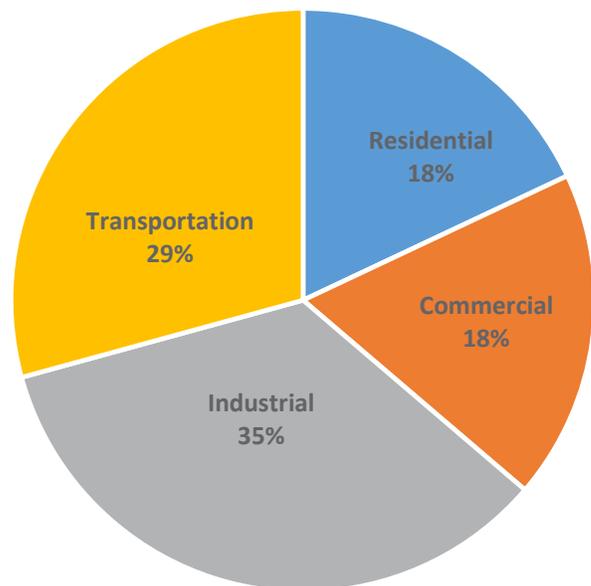
**ENERGY CONSUMPTION BY SOURCE** - In 2013, the latest data available, total New Mexico energy consumption was 805 trillion BTU (tBTU). Most of the energy consumed in the state came from coal, petroleum and natural gas, each of the three fuels making up about 31 percent of total energy consumption. The majority of oil is used in the transportation sector, while coal is dedicated to electricity generation. Natural gas is used both for heating and is an increasing proportion of the state's electricity generation. Renewable energy contributed 5.5 percent or approximately 45 tBTU of New Mexico's energy consumption and it is primarily used in the transportation (fuel ethanol) and electricity sectors. Although renewable energy's percentage of the total pie is relatively small, wind and solar energies have seen significant growth, with renewable energy electric generation increasing over 900 percent in New Mexico over the last decade.



■ Coal ■ Natural Gas ■ Petroleum ■ Renewable

2013 New Mexico energy consumption by source, including fuels consumed in-state for electricity exports (total = 805 trillion BTU) [Source: DOE Energy Information Administration]

**ENERGY CONSUMPTION BY SECTOR** - Net energy consumption for in-state needs was actually 688.5 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.



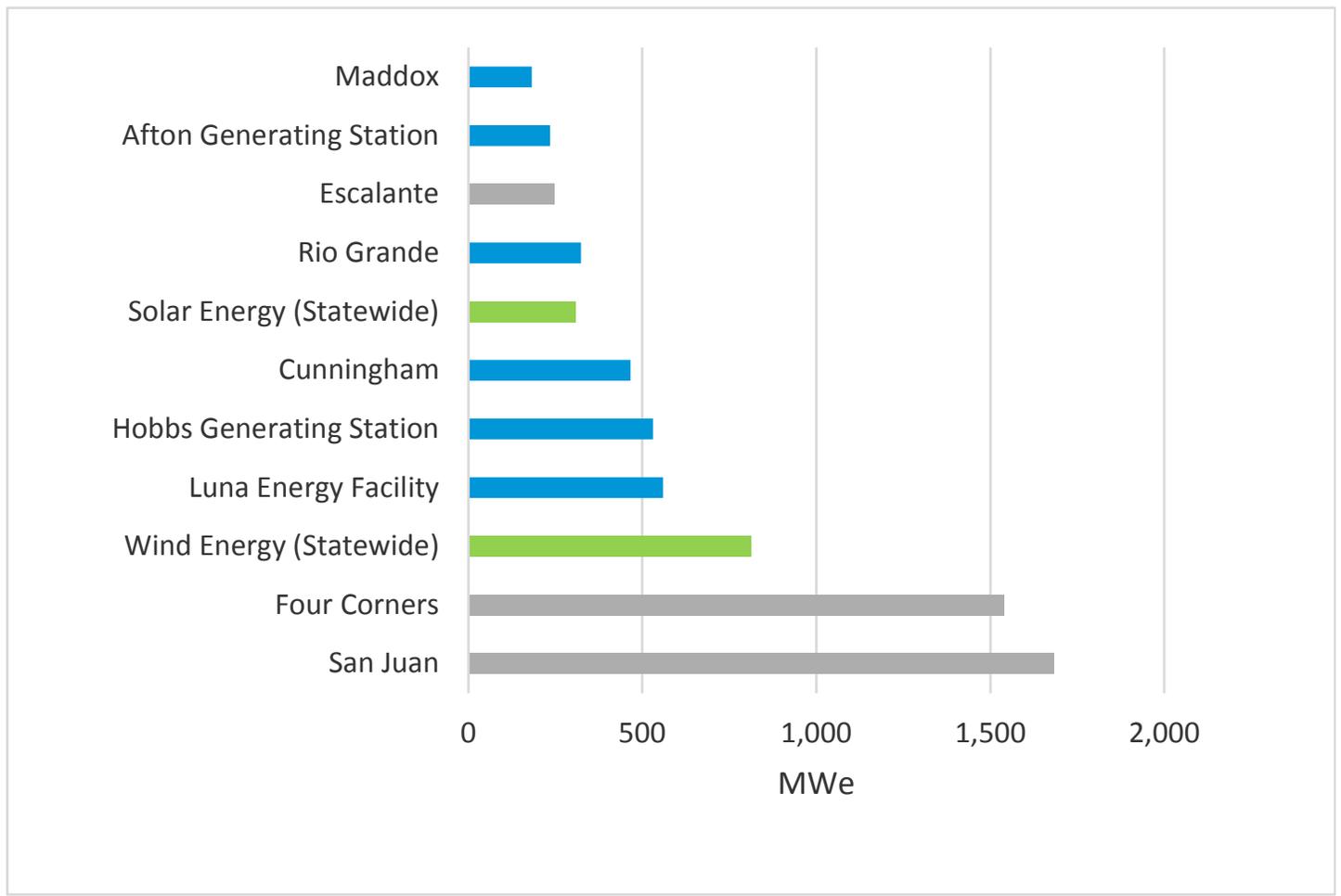
■ Residential ■ Commercial ■ Industrial ■ Transportation

2013 New Mexico energy consumption by sector (total = 688.5 trillion BTU) [Source: DOE Energy Information Administration]

Energy consumption per capita	New Mexico (million Btu)	National Average (million Btu)	Difference from National Average	National Rank*
Residential	59.3	66.9	-11%	46
Commercial	60.3	56.5	+7%	24
Industrial	113.7	99.1	+15%	19
Transportation	96.5	84.3	+14%	16
<b>Total consumption</b>	<b>329.9</b>	<b>306.9</b>	<b>+7%</b>	<b>20</b>

2013 energy consumption per capita by sector, compared to national averages [Source: DOE Energy Information Administration]  
 \*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 2013, electricity generation in New Mexico was 68 percent coal, 24 percent natural gas, and 8 percent renewable energy [Source: DOE Energy Information Administration]



Installed capacity of major electricity generating units in New Mexico (2013); primary fuels are natural gas (blue), coal (gray) and renewables (green)



## RENEWABLE ENERGY:

Of the total electricity produced in 2013, 6 percent was from wind, 1 percent was from solar, and 0.25 percent was from hydroelectric power. In 2014, the first commercial geothermal electricity facility opened near Lordsburg in the state's boot heel, adding 4 MW of baseload geothermal capacity to the state's renewable electricity mix, with another 6 MW planned. According to the U.S. Energy Information Administration, New Mexico ranked fifth in the nation in utility-scale electricity generation from solar energy in 2013. All utility-scale renewable energy generating units operating in 2014 are depicted in this table.

Utility-scale (>1 MW) renewable energy facilities in New Mexico (2014) [Source: DOE Energy Information Administration and ECMD PTC files]

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	50	2011	Luna
Wildcat Wind	Wind	27	2012	Lea
Broadview Energy Prime 1 and 2	Wind	20	2014	Curry
Anderson Wind I & II	Wind	15	2014	Chaves
Llano Estacado (Texico) Wind Ranch	Wind	2	1999	Curry
Mesalands Community College	Wind	1.5	2008	Quay
Navajo Dam	Hydro	30	1983	San Juan, Rio Arriba
Elephant Butte	Hydro	28	1940	Sierra
Abiquiu Dam	Hydro	18	1990	Rio Arriba
El Vado Dam	Hydro	8	1990	Rio Arriba
Macho Springs Solar	PV	52	2014	Luna
SPS 1–5 Solar Facilities	PV	50	2011	Lea, Eddy
Cimarron Solar Facility	PV	30	2010	Colfax
SunEdison EPE 1–2	PV	23	2012	Doña Ana
Solar Roadrunner	PV	20	2011	Doña Ana
Manzano Solar	PV	8	2013	Valencia
Otero Solar	PV	7.5	2013	Otero
Los Lunas Solar Energy Center	PV	7	2011	Valencia
Sandoval Solar Energy Center	PV	6	2014	Sandoval
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	9	2011	Luna
White Sands Missile Range	PV	4	2012	Doña Ana
Green States Energy 1 & 2	PV	4	2013	Chaves
Sunrise (NM Green Initiatives)	PV	3	2011	Chaves
Albuquerque Solar Energy Center	PV	2	2011	Bernalillo
Eubank Landfill Solar (Emcore)	PV	2	2014	Bernalillo
Storrie Lake Solar	PV	2	2014	San Miguel
Kit Carson/Amalia	PV	1.5	2012	Taos
Blue Sky One	PV	1.5	2012	Taos
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
Sue Cleveland High School	PV	1	2014	Sandoval
Rio Rancho High School	PV	1	2014	Sandoval
Silver City WWTP	PV	1	2014	Grant



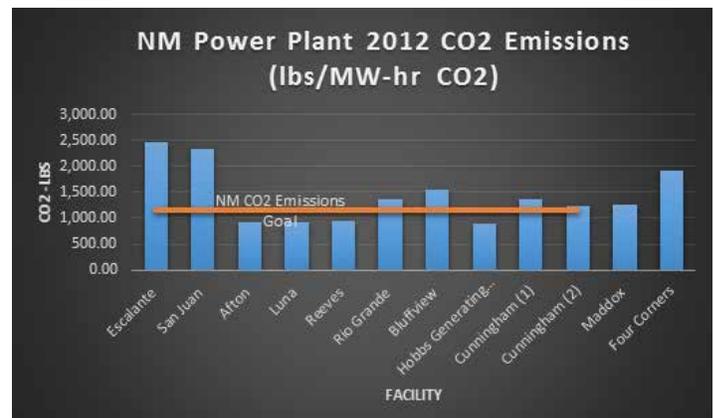
Water Catchment at Sawmill Community Land Trust in Albuquerque  
(Photo Credit K. Hughes)

**ELECTRICITY & 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 and El Paso Electric own and purchase power from Palo Verde, a nuclear generating station in Arizona.

While most solar and all current wind technologies do not require any water for operation, other traditional power generating facilities (e.g., coal, gas, biomass or nuclear), geothermal and concentrated solar facilities that generate power by producing steam to turn a steam turbine generator use water at varying rates. The bulk of a steam plant's water consumption is used to condense the steam in the steam cycle and to cool mechanical and electrical equipment. The rate of water usage, on a gallons per megawatt-hour basis, depends on many variables including available water quality, water treatment systems and environmental discharge limits where applicable. Peaking plants that operate only gas/oil turbine engines to generate power directly through the mechanical motion of the engine consume less water due to the absence of the steam cycle. In addition, facilities (steam cycle or no steam cycle) equipped with "dry cooling" or hybrid cooling use the least water of all, but these systems can compromise plant efficiency.

**CARBON DIOXIDE EMISSIONS** - In August 2015, the U.S. Environmental Protection Agency (EPA) released a final rule for regulating carbon dioxide (CO<sub>2</sub>) emissions from existing electricity generation facilities. Nationwide, the final federal rule 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 CO<sub>2</sub> emissions target for each state.

Under the federal rule, states are required to develop a Clean Power Plan (CPP). The rule allows states to choose from many options to determine the best plan for the states and their citizens while protecting electric service and controlling costs for bill payers. States have until September 6, 2016, to submit an initial plan that shows how their electric generators will meet EPA's required CO<sub>2</sub> limits. Final plans are due to EPA by September 6, 2018. NMED intends to submit a plan by the federal deadline. New Mexico has two coal plants (Escalante, San Juan) that will be included in the plan, four oil or gas steam electric generators (Cunningham, Maddox, Reeves, Rio Grande), and four natural gas combustion turbines (Afton, Luna, Bluffview, Hobbs) that will also be included in New Mexico's CPP. The final rule requires these facilities to reduce their 2012 carbon emissions by 36 percent by 2030, or from an average emissions rate of 1,798 pounds of CO<sub>2</sub> per MWh (lbs CO<sub>2</sub>/MWh) to 1,146 lbs CO<sub>2</sub>/MWh. Coal-fired power is the primary CO<sub>2</sub> emitter in the electricity sector in New Mexico.



Largest CO<sub>2</sub>-emitting power plants in New Mexico (2012) that will be included in New Mexico's CPP (except for Four Corners, which is located on the Navajo Nation) with their 2012 carbon dioxide emissions per megawatt hour compared to the EPA-determined mass goal for New Mexico's fleet of generators. [Source: New Mexico Environment Department]



# New Mexico State Parks



# New Mexico State Parks Division

► **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 a state park as a major source of economic development.

**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 4.2 million visitors in FY15.

**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 191,617 acres of land and water.



**VISITATION & REVENUE** - A total of 69 percent of State Parks’ budget is supported by self-generated revenue and 31 percent is general fund. Visitation in FY15 totaled 4,298,226, and the numbers of passes for non-residents, veterans and disabled individuals all increased

from the previous fiscal year. Camping fees totaled \$2,668,000, day use fees totaled \$1,382,700, and concession fees totaled \$312,600.

In FY15, 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 2015 include the following:



### Living Desert Zoo and Gardens State Park -

The second phase of the pathway improvements was completed in FY15, providing ADA access all the way from

the visitor center to the new reptile exhibit, and on to the hoofed stock exhibit. This project was funded 80 percent by Recreational Trails Project funds at a total cost of \$98,000. The parking area at the visitor center was also improved to redirect storm water away from the entrance at a cost of \$78,000.

**Oasis State Park** - A new solar - heated and -powered comfort station was completed in FY15 to serve the enlarged Indian Grass campground. The total



cost of the new comfort station amounted to \$442,000, which was provided by Land and Water Conservation Funds that were matched by state funds to enlarge the campground in 2014.

**Navajo Lake State Park** - A new septic tank and evapotranspiration bed were installed at Cottonwood Campground in FY15 and the two comfort stations there were renovated to improve energy efficiency and ADA accessibility. The cost of these improvements amounted to \$275,363. In addition, a new waterline was installed at the Lower Government Housing area to allow for the facilities there to access water from the Navajo Dam Domestic Water Consumers' Association at a cost of \$157,000. The Association will take over maintenance of the line after the first year of operation.

**Caballo Lake State Park** - A new sewage lagoon was added to the Riverside Campground to increase capacity of the wastewater treatment system. The cost of the new lagoon amounted to \$101,000.

**Fenton Lake State Park** - A new entrance station was completed in FY15 to improve access and stacking space for Fenton Lake State Park main entrance at a cost of \$128,000. The configuration improves security while continuing to provide access for those with fishing permits when the park gate is closed.

**Heron Lake State Park** - A new underground power line was installed at the park to provide reliable service to the Willow Creek area. The existing power line had deteriorated significantly, causing major power outages that interrupted service to the sewage lift station and park residences. The new power line was installed at a cost of \$137,000.



Heron Lake State Park, Ridge Rock Ramp, after new construction



Heron Lake, La Laja Ramp Extension, after construction

**Boat Access** - The Boat Access Improvement and Enhancement Program provided boaters with new and improved boat ramps for launching, docking, and parking facilities at Heron Lake State Park. The park now provides better boater facilities through construction of a new concrete boat ramp at the Ridge Rock area near the dam. In the past, there was a primitive (dirt) ramp that was used during low-water conditions. Due to the recent ongoing low-water conditions, a new concrete ramp was built at this site. In addition, the existing La Laja boat ramp which had been out of the water and closed due to low lake levels was extended and improved. Both ramps now provide outstanding boater access to the lake. The total cost of this project amounted to \$420,000, which was provided by federal Sport Fish Restoration Funds that were matched by state funds.



**Sugarite Canyon State Park** - More than one mile of a new trail linking Lake Alice to Lake Maloya was constructed for \$58,000 in FY15, representing Phase 1 of a project that will complete the connection in FY16. The project is 80 percent funded by Recreational Trails Program funds.

**Park Management Plans** - Park Management Plans were completed for Sugarite Canyon State Park, Ute Lake State Park, and Vietnam Veterans Memorial State Park. A park management plan was also initiated for Pecos Canyon which may include a future state park. In addition, the Statewide Comprehensive Outdoor Recreation Plan, required for the receipt of Land and Water Conservation Funds in New Mexico, was undertaken, with the final report to be completed by December 31, 2015.

**Water/Wastewater Engineering** - State Parks continued to work 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. Funding amounting to nearly \$100,000 was also provided to State Park's regions to improve their ability to monitor and maintain their water and wastewater facilities.

**MARKETING PROGRAM** - In 2015, the Communications and Marketing Team concentrated on promoting State Parks' special and current events, boating safety and distinctive campaigns using digital and social media, consistent positive public relations and outreach, and through solid partnerships with other state agencies, organizations and communities throughout New Mexico.



**Digital and Social Media**

**Marketing** - Working with Lin Digital, State Parks developed a custom campaign which employs targeting tactics such as behavioral, contextual and site retargeting - all directed at reaching adults ages 25-54

in New Mexico and West Texas via mobile devices, desktops and tablets, to promote all 35 state parks. The digital buy has proven effective in creating top of the mind awareness of signature events in the parks, priority boating safety messages and the branding, "New Mexico State Parks – Official Sponsor of Adventure."

The creative digital advertising of 'Find Your New Mexico True Park', 'Boat Safe Boat Smart', 'We Salute Veterans', 'Work Hard - Play Hard Labor Day' and 'Tis the Season' promotions indicated that social



and digital media are effective with the targeted demographic. Digitally marketed key events also included: First Day Hikes on New Year's Day, star parties, fishing derbies and tournaments,

Memorial Day, 4<sup>th</sup> of July events, plant sales and programs, history and music events, marathons, National Hunting and Fishing Day, and car shows. These events enjoyed increased visitation. In fact, visitation at most parks increased from last year with more than 4.2 million visitors in 2015-- Elephant Butte Lake State Park alone broke a 20-year record with 125,000 visitors for the 4<sup>th</sup> of July weekend.

State Parks' social media presence skyrocketed in 2015. The marketing team produced daily content of the most current, compelling and engaging events, tweets and pictures on Facebook, Twitter and Instagram. Marketing also provided copy and creative design to Lin Digital which managed State Parks' Sponsored Facebook Campaign. This campaign was aimed at adults 18+ who are considered "outdoor enthusiasts," or interested in "fitness and wellness" or "hobbies and activities".

**Public Relations and Outreach** - State Parks participated in RV shows, the Department of Game and Fish Hunting and Fishing Expo, Santa Fe's Bike and Brew, an Isotopes Baseball game, Natural Sciences Day at the Roundhouse during the 2015 Legislative Session and Media Day at Elephant Butte Lake State Park – all to promote state parks.

State Parks ramped up its presence at the New Mexico State Fair by creating a new photo park in which fairgoers could photograph themselves in four different scenes.

The exhibits feature dinosaurs at Clayton Lake State Park, the



“Lifejackets Save Lives” message, Butterflies at Sugarite Canyon State Park and park rangers. The fun, interactive exhibit was shared throughout social media by the public.



Marketing funds were also expended on radio buys, print advertisement for special events and promotional items for public relations and outreach for special events.

State Parks Marketing joined the department’s Communications team and produced many significant articles and press releases for current events throughout the year. A total of 43 press releases were distributed. The team also made television and radio appearances to promote events and campaigns throughout the year.



#### **Solid Partnership -**

Partnerships were critical to the success of State Park’s communications and marketing in 2015. A major campaign for State Parks, “Find Your New Mexico True

Park” would not have been possible without the teamwork and collaboration among the Department of Cultural Affairs, the National Park Service, the New Mexico Tourism Department and chambers of commerce throughout the state. The campaign, created to inspire instate travel and visitation to New Mexico’s state and national parks and historic sites, called for videos depicting New Mexico True Adventures. Visit <https://www.newmexico.org/NMTRUEPARK> to view all contest entries and winners.



The collaboration with the New Mexico Broadcasters Association (NMBA) allowed State Parks to leverage funds throughout the state and streamline radio buys. Many new contacts and partners were gained through NMBA links.

The Communications and Marketing Team also helped to promote important community events such as Master of the Mountains at Sugarite Canyon

State Park, the Mainly Marathon Dust Bowl Series at Clayton Lake State Park and the Cimarron Canyon Clean-up at Cimarron Canyon State Park.

The Marketing Team partnered with the Department of Veterans Services to send invitations to more than 1,200 disabled veterans through the Veterans Pass Program for Veterans Day Ceremonies at Vietnam Veterans Memorial State Park.

Finally, the Communications and Marketing Program continued to partner with the Business Enterprise Program, sending out e-card blasts every other month to approximately 33,000 visitors via the national Reserve America system.

#### **LAW ENFORCEMENT & BOATING SAFETY**

**PROGRAMS** - 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 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.



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 2015, State Parks continued to partner with federal and state entities to provide all state park rangers with accredited advanced law enforcement training. These partnerships allow State Parks to leverage and effectively manage a 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, for the last two years, State Parks has accomplished the goal of zero boating-related fatalities! This can be attributed to the dedicated efforts of boaters being more safety-minded, and park officers and other partners who provide educational programs regarding operator and equipment requirements, navigation, and boating hazards. Park officers and staff 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 instruction.

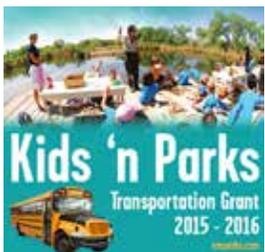
In FY15, nearly 800 students successfully passed a boating safety course. Partnerships with volunteers, non-profits, local, county, state, regional, and federal agencies are critical to fulfilling the boating safety mission. State Parks receives support from the U.S. Coast Guard Auxiliary (Auxiliary). For example, SPD partnered with the Auxiliary this year to conduct National Safe Boating Council boater surveys to gain perspectives regarding their experiences and knowledge of boating in the state. The partnership with the Auxiliary also enhances 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.



Fenton Lake State Park

Since 2007, State Parks has provided 166,822 outdoor classroom experiences for kids statewide, and in FY15, various state parks were visited by 16,955 students.

The program was evaluated and teacher’s comments were captured. On a 10-point scale, teachers gave the program a 9.5 rating for their overall experience and 9.5 for meeting goals and objectives. One teacher who visited Rio Grande Nature Center State Park wrote, “I love being able to focus our learning on a theme (ponds and Bosque) and then going to the Bosque! Our goals were all met. Most of the students were more engaged in learning and now are ready to learn about other environments.” 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. Finally, partnering with the NM Department of Game and Fish has continued to be important in educational programming. In 2015, State Parks hosted a very successful fishing clinic in partnership with Game and Fish at Fenton Lake State Park.



**EDUCATION PROGRAM -** State Parks provides quality, interpretive experiences and educational programming for visitors. A total of 2,997 programs were delivered to 26,197 attendees in FY15.

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.

**RESOURCE PROTECTION PROGRAM -** As part of its mission, State Parks documents and preserves the unique cultural and natural resources within its system. In 2015, much of the focus was on a series of maintenance and repair projects, and three State Parks staff reviewed over 45 park projects, which often 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, Leasburg Dam and Navajo Lake 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 continue a forest health project on 80 acres at Hyde Memorial State Park. The tree thinning project will improve forest health by restoring forest density back to a more natural state and will decrease the risk of catastrophic fire.

**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 preparing to go live with 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. New Friends' Groups are in the process of being established for Bluewater Lake, City of Rocks and Navajo Lake state parks.

**BUSINESS ENTERPRISE** - State Parks relies heavily upon relationships with concessionaires 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 important and, in 2015, State Parks negotiated critical contracts for two of the four marinas at Elephant Butte Lake State Park.

SPD had a very successful year with the Reserve America (RA), the online reservation system for state parks. The system allows visitors to make reservations online and provides accurate reporting capabilities. We continue to increase the functionality of this software and will soon provide park staff with the ability to access the software and make changes to the system on their own. This will dramatically improve the time it takes to post important notifications, like campsite closings, to our visitors.



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 12 percent increase in revenue generated through RA from FY14 to FY15. State Parks also has a donations feature on the RA, and collected \$4,045 in online donations in 2015.

The top five parks in both total nights booked on RA 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 Marketing Program to initiate an economic impact analysis and develop a business plan for State Parks. Business Enterprise also works with the Marketing Program to disseminate email blasts and advertisements through the reservation system.



## Energy, Minerals & Natural Resources Department

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

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

For more information on the Energy, Minerals & Natural Resources Department visit:  
[www.emnrd.state.nm.us](http://www.emnrd.state.nm.us)

### Acknowledgments-

Teams make it happen at EMNRD—thank you to Lauren Aguilar, Graphic Designer; Division authors and editors Scott Dawson, Jane Tabor, Christina Cordova, Jeremy Lewis and Micaela Hester; and to the private and public organizations and individuals who contributed to this document.

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

Beth Wojahn  
Communications Director  
Energy, Minerals & Natural Resources Department  
1220 South St. Francis Drive  
Santa Fe, NM 87505