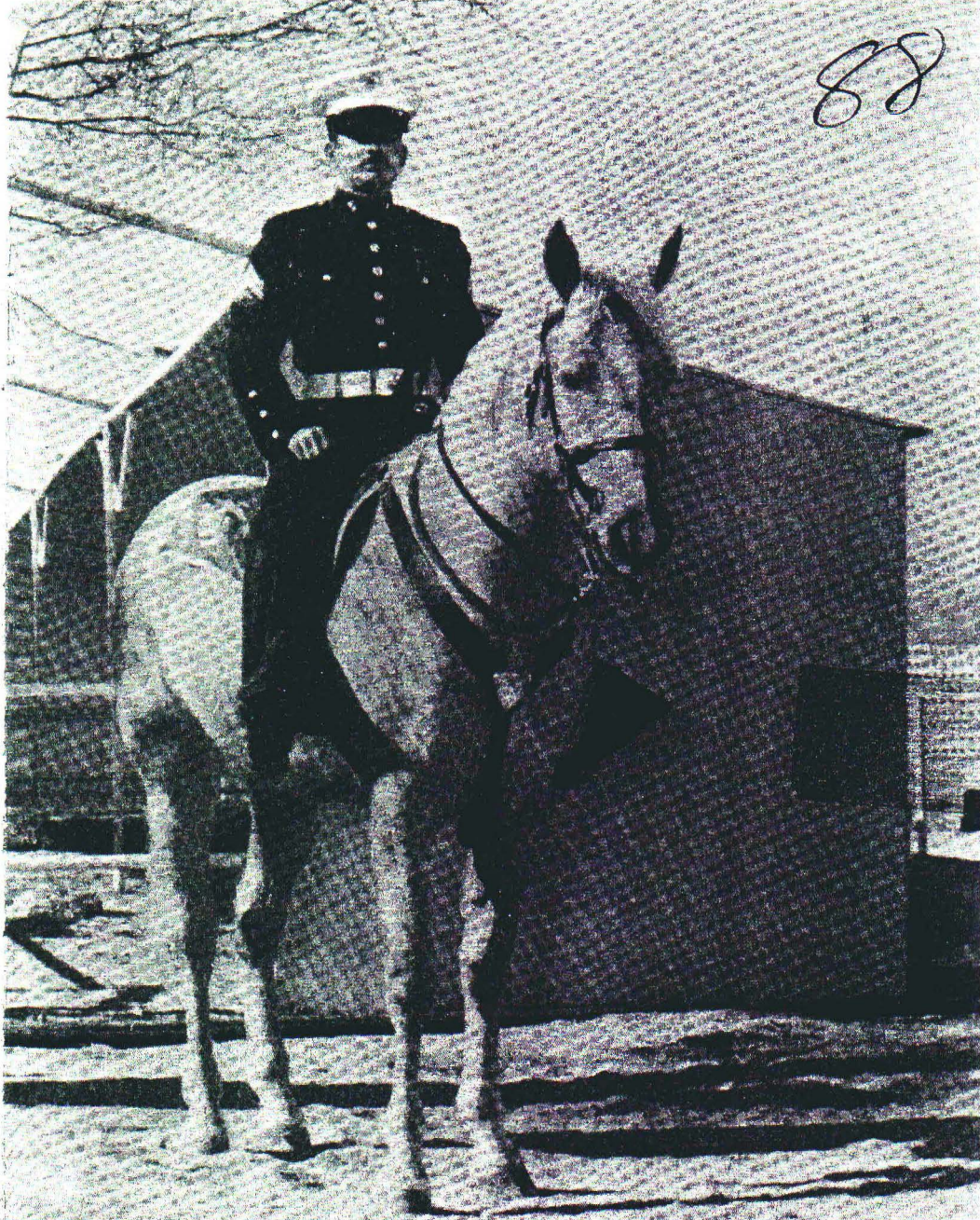


88



# Nevada PROGRESS REPORT 1988

United States Department of the Interior  
Bureau of Land Management





# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

### NEVADA STATE OFFICE

850 Harvard Way  
P.O. Box 12000  
Reno, Nevada 89520

The number of significant contributions made by the Bureau of Land Management this past year, with the support and assistance of the public, is astounding.

Interest groups, volunteers and employees in a variety of specialties and managerial positions have contributed to the accomplishments of fiscal year 1988. Highlights of the year are apparent by the achievements listed below and discussed in the sections of this publication. Less evident are the hours of consultation and coordination, research and monitoring, and weighing of alternatives which go into the complicated business of land management.

Highlights of this past year include:

-- *The BLM, the Nevada Department of Wildlife and Howard Hughes Properties signed an agreement in June to benefit desert tortoise.* The plan is associated with the Red Rock land sale/exchange in which lands near Red Rock Canyon Recreation Land are being preserved for the enjoyment of future generations.

-- *The first competitive oil and gas auction in Nevada was held in August.* Bidders flocked to Reno to put down \$2.5 million in bonus bids and advance rentals. Over-the-counter sales the following day resulted in an additional \$1.5 million. The auctions are continuing on a quarterly basis.

-- *In August, Nevada Mining Claim No. 500,000 was issued.* The number of mining claim locations filed with the BLM in Nevada far exceeds the filings in any other public land state.

-- *The largest geothermal operation in Nevada, Oxbow Geothermal Corp. located in Dixie Valley, started production in June.* The BLM was heavily involved in environmental assessments associated with the 62.5 megawatt plant and its transmission lines.

-- *The National Public Lands Advisory Council met in Elko in July.* The group looked at gold mining activities along the Carlin Trend, walked through a geothermal plant at Beowawe and toured the "checkerboard" country. The checkerboard land pattern of ownership was created with early Congressional encouragement of railroad development in the West.

-- *A satellite adoption for horses was held in Las Vegas in December during the National Finals Rodeo.* Then, the opportunity to adopt an animal was made possible in Ely, Elko and Winnemucca in July. Palomino Valley near Sparks had a special open house in June to coincide with the Reno Rodeo.

-- *Land sales at fair market value continued throughout the state.* While most sales are in the Las Vegas Valley under Public Law 96-586, in October the Elko District sold one 6.54-acre parcel for \$610,000.

-- *A special land sale in which BLM was heavily involved was to the City of Mesquite. Public Law 99-548 allows Mesquite the exclusive right to purchase public lands, at fair market value, for expansion.*

-- *Volunteers in archaeology trekked to projects in Nevada, such as at the White River Narrows in Ely District and at the Pistone site in Carson City District. Other volunteers included groups such as the Boy Scouts who completed an archaeological site protection fence near Summit Lake in the Winnemucca District.*

-- *Industry pitched in to improve public lands, too. One example is the new access road to Sand Springs Desert Study Area and the Sand Springs Pony Express Station. The road was constructed by the Irby Construction Co.*

-- *If you were a youngster in Southern Nevada last summer, you had a special reason to visit BLM's Red Rock Canyon Recreation Lands. You could receive a stamp towards the summer safari program of the Children's Museum.*

Accomplishments like those mentioned above don't occur without leadership and backing from professionals and support staff in our organization. We do recognize the special efforts within our organization. There are many who received incentive awards from the BLM for special efforts. There is a district safety award and group performances are recognized.

Outside groups also appreciate the quality staff of the BLM in Nevada. This year I'd like to note three individuals whose awards exemplify the caliber of personnel who work for the public.

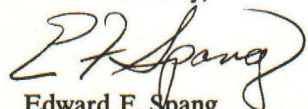
-- *Thomas Jury, Battle Mountain:* Recognized by the Governor of Nevada for Exemplary Contributions in Promoting Awareness of the Handicapped in Nevada.

-- *Brian Hatoff, Carson City:* Recipient of the Volunteers for the Public Lands Award. His efforts in the last three years have resulted in 2,500 hours of volunteer work in the archaeology field.

-- *Fred Tulley, Las Vegas:* Honored as Fireman of the Year in Clark County for his heroic efforts in rescuing a women from a flash flood.

With another year of achievement behind us and with the talents of our employees, we in public land management in Nevada look forward to another challenging year.

Sincerely,



Edward F. Spang  
State Director, Nevada



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This booklet contains information and statistics about the Bureau of Land Management in Nevada. Fiscal year 1988 covers the 12-month period from October 1, 1987 to September 30, 1988.

Produced by Public Affairs, Nevada State Office.

Editor, Maxine F. Shane. Layout, Caroline Norris. Public Land Resources artwork, Diane Colcord. Typesetting and word processing, Sylvia Filbeck and Teena Fredianelli.

Cover photo courtesy of U.S. Marine Corps, Barstow, California. Red Rock sale-exchange photograph courtesy of The Nature Conservancy. Archaeology photos, pp. 22, 23 supplied by BLM cultural resources staff. Office building, p. 37 supplied by BLM engineering staff. All other photographs taken by Bob Stewart or Maxine Shane, BLM.

**BLMNVGI890061120**





## NEVADA'S PUBLIC LAND RESOURCES

The public lands administered by the Bureau of Land Management (BLM) in Nevada range from the Sierra foothills in the west, across great open spaces, to pinion-juniper woodlands in the east. They include mountainous desert country which is the home of Desert Bighorn sheep, the official Nevada State animal. Scenic wonders are found throughout the state, from Red Rock Canyon in southern Nevada to Blue Lakes in northern Nevada, and in a wide variety of other areas, many of them wilderness-like.

The BLM administers land used for mining and livestock grazing which are among the state's primary economic industries. Geologic wonders, great open spaces, recreation and wilderness values are all enjoyed by citizens. The Bureau has a responsibility to chronicle and preserve natural and cultural heritage for future generations.

The delicate balance among these often competing uses is BLM's responsibility. Following the principles of multiple-use and sustained yield, with public guidance, the BLM administers the public lands.

The importance and diversity of the public lands in Nevada is illustrated by these facts:

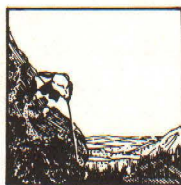


These lands produce more gold and silver than any other state. Most of Nevada's production comes from public land administered under the Mining Law of 1872.

The total area of all types of forestland administered by the Nevada BLM is more than 6,200,000 acres.

More than five million acres of Nevada's most scenic and remote lands are under study for their wilderness potential.

The geothermal resources on these public lands now produce 115 gross megawatts of electric power from seven power plants. In the next few years another 23 megawatts will be added.



On Nevada public lands there are 15 historic and prehistoric sites listed on the National Register of Historic places. More than 100 additional sites are eligible or potentially eligible for inclusion.

There are more than 3,300 townships in Nevada. Rectangular surveys have been completed on 73 percent of the state.

About 685 livestock operators run approximately 252,000 cattle, 1,000 horses and 274,000 sheep on Nevada public lands.

These lands produce over three million barrels of oil annually. This includes one of the most prolific oil wells in the United States—the Grant Canyon oil field which produces in excess of 3,000 barrels a day.







There are 20 species of threatened or endangered wildlife on the public lands.

Some 1,450 volunteers contributed time, talent, materials and supplies to improve public lands. Recreation, wildlife, and archaeological-historic activities are the most popular pursuits.

With a force of more than 200 firefighters, 50 fire engines and 6 fire-fighting aircraft, the BLM in Nevada responds to more than 600 wildfires each year.

Seven areas, totalling 24,093 acres, are given special management attention by being designated as Areas of Critical Environmental Concern.

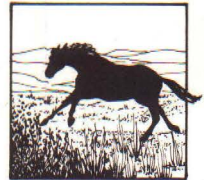


Off-road vehicle enthusiasts, hikers, campers, hunters, fishermen, boaters, winter sportsmen and other recreationists spend almost 18 million visitor hours annually on public lands in Nevada.

There have been more than 514,000 mining claims located on public lands in Nevada. Approximately 375,000 claims remain active.

The majority of wild horses and burros which inhabit the public lands in the United States are within the confines of Nevada.

Through the Recreation and Public Purposes Act, the state, various counties and non-profit organizations gain lands for such uses as parks, shooting ranges and schools.



Some 16,000 acres of land containing significant fossil specimens are given special management attention as an Area of Critical Environmental Concern. The only known site in the world which is similar is in mainland China.

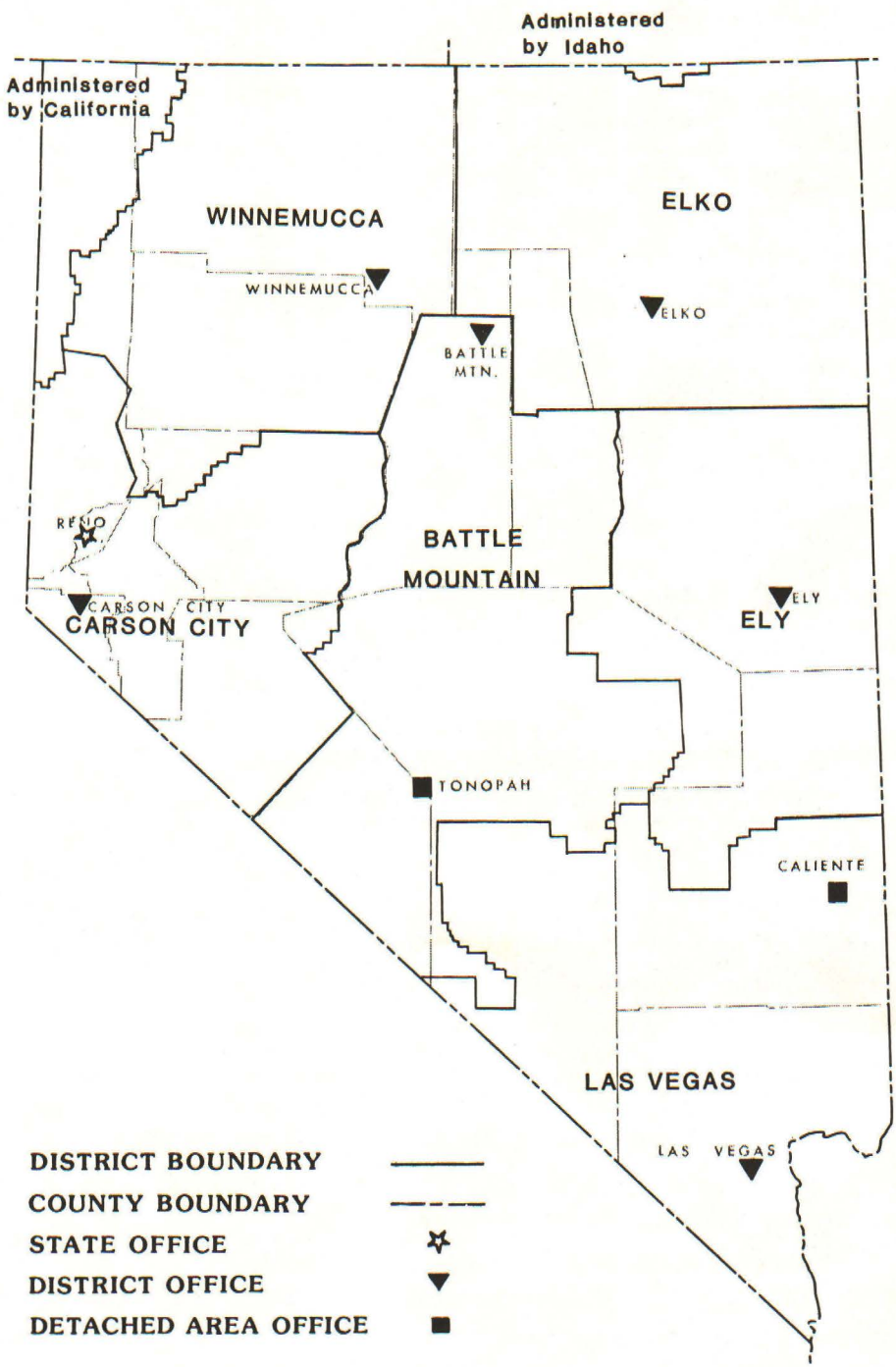
Wildlife habitat managed by the BLM provides home for most of the state's mule deer, antelope, elk and bighorn sheep. Each year the BLM develops and maintains projects which benefit wildlife.

These lands produce more than 27,600 Christmas trees and 7,690 cords of firewood annually.

Revenues from leasing and production of leasable minerals exceeded \$10 million in fiscal year 1988. Half of that is returned to the state of Nevada which uses the money primarily for educational purposes.









# NEVADA BLM ORGANIZATION

The Bureau of Land Management is responsible for the management, conservation, protection, use, and disposal of the public lands in Nevada, as well as the grazing, recreation, mineral, and other resources found on these lands throughout Nevada.

Bureau of Land Management  
Nevada State Office  
850 Harvard Way  
P.O. Box 12000  
Reno, Nevada 89520

## OFFICE OF THE STATE DIRECTOR

State Director	Edward Spang	328-6390
Associate State Director	Fred Wolf	328-6390
Secretary	Carol Hadley	328-6390
Equal Employment Opportunity Specialist	William Moon	328-6384

## PUBLIC AFFAIRS STAFF

Provides information in response to public and press inquiries and performs informational and educational activities as necessary for public understanding of the Bureau's land and resource management programs.

Chief, Public Affairs Staff	Bob Stewart	328-6386
Secretary	Sylvia Filbeck	
Public Affairs Specialist	Maxine Shane	

## DIVISION OF RESOURCES

Primarily responsible for program and policy direction in: lands and realty; forestry; range management; wild horse and burros; cultural resources; wilderness; recreation; visual resources; soil, water and air; wildlife habitat programs; land use planning and environmental assessment programs. Fire ecology and inventory coordination matters are also handled within the organization.

Deputy State Director and Chief, Division of Lands and Renewable Resources Secretary	Daniel Rathbun Virginia McClure	328-6264
Chief, Biological Resources Range Management Monitoring Specialist Fisheries and Forestry Soils, Watershed Wild Horses and Burros Wildlife	Terry Woosley Brad Hines David Griggs Osborne Casey James McLaughlin Milt Frei Dave Goicoechea	328-6266
Chief, Lands, and Recreation Archaeology Lands and Realty Recreation Wilderness	Butch Hayes Pat Barker Ken Stowers Stephen Smith Dave Wolf	328-6283
Chief, Planning and Environmental Staff Regional Planning Regional Economy Environmental Coordinator	Jack Seley Neil Talbot Paul Myers Ed Tilzey	328-6290



## DIVISION OF MINERAL RESOURCES

Provides direction for programs in leasable, salable and locatable mineral resources, including non-energy (gold, silver, barite, etc.) and energy (oil, gas, geothermal) minerals. This includes leadership in such areas as exploration and production including environmental and surface protection; inspection and enforcement of mineral leases; mining law administration; mineral material sales; and acquisition of geologic data. Also responsible for policy and program direction in hazardous material/waste management on Federal lands.

Deputy State Director and Chief, Division of Mineral Resources	Tom Leshendok	328-6376
Secretary	Betty Jones	
Geologists	Neal Brecheisen	
	Jack Crowley	
	Larry Steward	
	Ron Tauchen	
Physical Scientist	Richard Hoops	
Mining Engineer	Galo Silva	
Minerals Assistant	Cheryl Jacobs	
Hazardous Materials/Minerals Reclamation Coordinator	Robert M. Wilson	
Petroleum Engineer	John Snow	
Petroleum Engineering Technician, Ely	John Stout	289-4865

## DIVISION OF OPERATIONS

Provides technical support as well as develops and advises programs in engineering design and construction; cartography; cadastral survey; fire control; trespass; improvement maintenance; access, land and mineral appraisal; lands and minerals operations.

Deputy State Director and Chief, Division of Operations	Robert Steele	328-6359
Secretary	Debbie Spitale	328-6359
Chief, Appraisal	Charles Hancock	328-6317
Chief, Cadastral Survey	Lacel Bland	328-6341
Chief, Engineering	Harold Payne	328-6355
Chief, Lands & Minerals	Marla Bohl	328-6307
Lands Transactions	Wayne Lowman	328-6307
Minerals Transactions	Jody Woodin	328-6333
Accounts	Bob Matthews	328-6328
Mining Claims Information		328-6310
Dockets	Mary Miller	328-6327
Public Contact	Pam Reynolds	328-6300
Titles, Records Information	Charles Valentine	328-6314
Chief, Law Enforcement	Len Sims	328-6357
Chief, Mapping	Steve Rasmussen	328-6320
Chief, Fire and Aviation	Al Dunton	328-6250

## DIVISION OF ADMINISTRATION

Provides administrative advice and support for personnel, management, incentive awards, budget analysis, procurement, property management, organizational planning, management systems, training, office services, information services, and central records.

Deputy State Director, Administration	Melvin R. Bunch	328-6202
Secretary	Mina Koehler	328-6202
Budget Officer	Fredrick Ramstad	328-6203

Chief, Administrative Services  
Procurement  
Central Records, Library  
Printing, Reproduction  
Word Processing  
Chief, Information Services  
Chief, Personnel Management  
Classification  
Training  
Staffing, Employee Relations

Castulo Martinez 328-6221  
Bonnie Johnson 328-6212  
Patsy McDuffie 328-6210  
Calvin Robinson 329-6216  
Teena Fredianelli 328-6213  
Georgia Wells 328-6243  
Del Estey 328-6231  
Ivy Gentolizo 328-6225  
John Chappell 328-6232  
Steven Smith 328-6226

## BLM DISTRICT OFFICES

### Elko District Office

738-4071

P.O. Box 831, 3900 E. Idaho Street  
Elko, Nevada 89801

District Manager  
Elko Resource Area Manager  
Wells Resource Area Manager  
Chief, Division of Resource  
Management  
Chief, Division of Operations  
Chief, Division of Administration

Rod Harris  
Les Sweeney  
John Phillips

Merle Good  
Terry Daily  
Michele Good

### Winnemucca District Office

623-3676

705 East 4th Street  
Winnemucca, Nevada 89445

District Manager  
Paradise-Denio Resource Area  
Manager  
Sonoma-Gerlach Resource Area  
Manager  
Chief, Division of Resource  
Management  
Chief, Division of Operations  
Chief, Division of Administration

Ron Wenker  
Scott Billing  
Gerald Brandvold  
Bob Neary  
Les Boni  
Judy Patterson

### Carson City District Office

882-1631

1535 Hot Springs Rd., Suite 300  
Carson City, Nevada 89706-0638

District Manager  
Lahontan Resource Area Manager  
Walker Resource Area Manager  
Division of Wild Horse and  
Burro Operations  
Chief, Division of Resource  
Management  
Chief, Division of Operations  
Chief, Division of Administration

James Elliott  
Mike Phillips  
John Matthiessen  
Fred Wyatt  
Norm Murray  
Kelly Madigan  
John Lukasko



**Ely District Office**

289-4865

Star Route 5, Box 1  
Ely, Nevada 89301

District Manager  
Egan Resource Area Manager  
Schell Resource Area Manager  
Chief, Division of Resource  
Management, Acting  
Chief, Division of Operations  
Chief, Division of Administration

Ken Walker  
Gene Draiss  
Gerald Smith

Mark Barber  
Hal Bybee  
Suc Perkins

**Las Vegas District Office**

646-8800

4765 W. Vegas Drive  
P.O. Box 26569  
Las Vegas, Nevada 89126

Detached Area Office  
Caliente Resource Area  
P.O. Box 237  
Caliente, Nevada 89008

726-3141

District Manager  
Associate District Manager  
Stalene Resource Area Manager  
Caliente Resource Area Manager  
Chief, Division of Resource  
Management  
Chief, Division of Operations  
Chief, Division of Administration  
Chief, Lands Staff

Ben Collins  
Gary Ryan  
Runore Wycoff  
Curtis Tucker

Pete Christensen  
Tom Combs  
Mason Hall  
Mike Moran

**Battle Mountain District Office**

635-5181

N. 2nd and Scott Streets  
P.O. Box 1420  
Battle Mountain, Nevada 89820

Detached Area Office  
Tonopah Resource Area  
Building 102, Military Circle  
P.O. Box 911  
Tonopah, Nevada 89049

482-6214

District Manager  
Shoshone-Eureka Resource Area  
Manager  
Tonopah Resource Area Manager  
Chief, Division of Resources  
Chief, Division of Operations  
Chief, Division of Administration

James Curriwan  
Mary O'Brien  
Ted Angle  
Mike Mitchel  
P. John Keenan  
Thomas Jury

# FEDERALLY ADMINISTERED LANDS IN NEVADA BY AGENCY AS OF THE 1987 FISCAL YEAR

Including Alaska and Hawaii, the gross area of the United States is 2.3 billion acres. The Federal government has, at various times in U.S. history, held title to about four-fifths of that area. Today, Federal civil and defense agencies administer about 724 million acres or about one-third of the nation's lands.

Currently, Alaska and Nevada have the highest percentages of Federally administered lands. These lands are used for a variety of purposes. In Nevada, these include atomic testing, national forests, wildlife refuges, and public lands, administered primarily for multiple uses. The agencies and their acreage of responsibility are outlined below.

AGENCY	ACRES	PERCENTAGE OF STATE ADMINISTERED
Department of Agriculture		
Forest Service	5,150,091.7	
Soil Conservation Service	<u>          .4</u>	
Department Subtotal	5,150,092.1	7
Department of Energy		
Energy Research and Development Administration	797,842.7	
Western Area Power Administration	<u>      8,810.2</u>	
Department Subtotal	806,652.9	1
Department of the Interior		
Fish & Wildlife Service	2,194,491.5	
Geological Survey	71.8	
Bureau of Indian Affairs	3,981.7	
Bureau of Land Management	47,738,597.2	
Bureau of Mines	4.5	
National Park Service	264,137.9	
Bureau of Reclamation	<u>     632,771.0</u>	
Department Subtotal	50,834,055.6	72
Department of Transportation		
Federal Aviation Administration	2,124.9	*
Department of Defense		
Air Force	2,903,565.0	
Army	152,259.0	
Navy	42,631.2	
Corps of Engineers	<u>      67.1</u>	
Department Subtotal	3,098,522.3	4
Other Federal Agencies		
General Services Administration	10.1	*
Coast Guard	.2	*
National Oceanic Atmos. Administration	.4	*
Health Services Administration	.2	*
United States Postal Service	171.5	*
Veterans Administration	<u>      47.0</u>	*
Other Agencies Subtotal	229.4	
<b>TOTALS</b>	<b>59,891,677.2</b>	<b>85</b>

\*Less than one percent.

NOTE: Data from the General Services Administration. "Real Property Owned by U.S. Civil Agencies, Sept. 1987" and "Detailed Listing of Real Property Owned by the United States and Used BY DOD Agencies Throughout the World as of Sept. 30, 1987." Current BLM figures are shown on the following page.



# PUBLIC LANDS IN NEVADA BY COUNTY AS OF SEPTEMBER 30, 1988

COUNTY	PUBLIC LANDS MANAGED BY BLM*	TOTAL ACREAGE IN COUNTY	PERCENTAGE OF TOTAL ACRES MANAGED BY BLM
Carson City	42,524	97,920	43
Churchill	2,060,139	3,144,320	66
Clark	3,472,377	5,173,760	67
Douglas	179,121	480,640	37
Elko	6,765,859	10,995,840	62
Esmeralda	2,210,577	2,284,800	97
Eureka	2,021,305	2,676,480	76
Humboldt	4,321,078	6,210,560	70
Lander	3,011,747	3,597,440	84
Lincoln	5,634,363	6,816,000	83
Lyon	661,745	1,295,360	51
Mineral	1,672,818	2,455,680	68
Nye	6,697,321	11,560,960	58
Pershing	2,910,404	3,859,840	75
Storey	12,368	167,680	7
Washoe	2,640,026	4,229,120	62
White Pine	<u>4,361,655</u>	<u>5,699,200</u>	<u>77</u>
<b>TOTALS</b>	48,675,407	70,745,600	69

\*These acreages are the same as those used for calculating Payment in Lieu of Taxes (PILT) figures (FY 1988), and are as accurate as possible using the technology and base figures available to BLM. Changes include national legislated changes, exchanges, patents, sales, etc. The major lands transactions in FY 88 were Aerojet and the Summa Land Exchange - Purchase.

## BY BLM DISTRICT

DISTRICT	TOTAL ACRES MANAGED BY BLM
Elko	7,379,531
Winnemucca	8,251,717
Carson City	5,325,258*
Ely	8,006,859
Las Vegas	7,286,970
Battle Mountain	11,073,541
Susanville	1,452,181**
Boise	<u>53,294***</u>
<b>TOTAL</b>	48,829,351

\*Includes 40,579 acres in California managed by Carson City District.

\*\*A total of 18,706 acres in Humboldt County and 1,433,475 acres in Washoe County are administered by Susanville, California BLM District.

\*\*\*Land in Elko County administered by Boise, Idaho BLM District.

# FISCAL MANAGEMENT

Like any other large management operation, the BLM in Nevada is responsible for collecting and paying out sizeable amounts of money. The Bureau collects money from many sources utilizing the public lands and deposits these monies in the U.S Treasury. It also pays out money appropriated by Congress for managing the lands and handles special types of payments involving these lands.

One special payment, authorized by various federal laws, is to the State of Nevada for its share of certain receipts collected by either the BLM or the Minerals Management Service (MMS). The State receives 50 percent of all mineral leasing revenues, 12 1/2 to 50 percent of grazing revenues (the percentage depends upon the category of lands being grazed), and four percent of all revenues from sale of lands and materials.

The second special payment, authorized by a 1976 federal law, is made directly to Nevada's counties in lieu of property taxes. The purpose of the payments is to compensate the counties for the burden resulting from the tax immunity of the public lands. This "in lieu" payment is based upon a complex formula taking into account the amount of certain federal lands within the county borders, the county population, and certain federal payments made to that county.

## FISCAL OVERVIEW FY 88

Total Public Land Receipts Collected by BLM	\$ 6,046,770	Total Funds Paid Out by BLM from the U.S. Treasury Relating to Public Land Management in Nevada	
Total Mineral Receipts Collected by MMS	\$12,530,450	Direct Cost Expenditures	\$33,321,500
		Payments to State of Nevada	777,053
		Payments in Lieu of Taxes	<u>5,933,560</u>
		<b>TOTAL</b>	<b>\$40,032,113</b>



*The National Public Lands Advisory Council, which met in Elko in July of 1988, took a tour of the Carlin Trend where new technology has made microscopic gold mining profitable. Most gold mines are on public lands administered by the BLM.*



## RECEIPTS FY 88

Receipts Source - BLM	Amount
Mineral Leases and Permits	
Oil and Gas Pipeline Right-of-Way Rentals	\$ 269,019
Sale of Land and Materials	
Land	1,909,276
Materials	209,291
Timber	72,829
All Others	30,041
Grazing	
Section 3*	2,450,987
Section 15**	42,757
Fees and Commissions	511,156
Rights-of-Way	394,402
Rents of Land	25,218
All Others	<u>131,794</u>
<b>TOTAL</b>	<b>\$6,046,770</b>

\*Section 3 refers to grazing within grazing districts.

\*\*Section 15 refers to grazing outside established grazing districts.

Receipts Source - MMS	Amount
Royalties	
Oil	\$ 3,882,381
Geothermal Steam	399,901
Sand, Gravel	396,310
Rents	
Geothermal	412,269
Oil and Gas	6,640,462
Potash	4,044
Phosphate	20
Bonuses	
Geothermal	244,853
Oil and Gas	408,033
Rents and Minimum Royalties	
Products Unidentified	<u>142,177</u>
<b>TOTAL</b>	<b>\$12,530,450</b>

### PAYMENTS MADE TO THE STATE OF NEVADA, FY 88

#### BLM

Payments for grazing; sale of lands, materials, woodland products, etc.	\$ 777,053
Payments in lieu of taxes	5,933,560

#### MMS

Mineral receipts*	<u>6,265,616</u>
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<b>TOTAL</b>	<b>\$12,976,229</b>
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\* Payments made monthly to the State of Nevada by the Minerals Management Service.

## DIRECT COST EXPENDITURES

### CONSTRUCTION AND MAINTENANCE

Range, Wildlife Habitat, Soil and Water Improvements (\$1,150,500 of this amount is directly from grazing fees)	\$ 1,486,800
Maintenance of Range, Wildlife Habitat, Soil and Water Improvements	66,000
Road Construction and Easement Construction	50,400
Maintenance of Roads and Facilities	1,001,800
Repair of Damaged Lands	3,400
Red Rock Recreation Lands (Summa Land Exchange Purchase; Land and Water Conservation Fund Total of \$3,020,000)	2,840,000

### NATURAL RESOURCE PROTECTION

Fire Presuppression	1,835,000
Fire Suppression	5,252,000
Emergency Rehabilitation	122,000

### MANAGEMENT

Lands and Realty	1,867,800
Energy and Minerals	
Oil and Gas	639,500
Geothermal	435,000
Non-Energy Minerals	1,510,100
Forest Management	227,400
Grazing Management	3,238,700
Wild Horse and Burro Management	2,236,300
Cultural Management	410,500
Wilderness Management	665,600
Recreation	836,500
Soil, Water, and Air Management	2,229,900
Wildlife Habitat Management	1,005,400
Fire Management	474,200
Multiple-Use Planning	595,300
Data Management	393,700
Cadastral Survey	562,800
Resource Protection (Law Enforcement)	201,800
Engineering Services	54,000
Equal Employment Opportunity	97,600
Administrative Services	2,520,000
Aviation Management	74,500

### CONTRIBUTIONS AND REIMBURSABLES

387,500

### TOTAL

\$33,321,500

### PAYMENT IN LIEU OF TAXES

COUNTY	PAYMENT	COUNTY	PAYMENT	COUNTY	PAYMENT
Carson City	\$ 37,884	Esmeralda	69,100	Mineral	268,695
Churchill	449,952	Eureka	65,900	Nye	434,000
Clark	997,825	Humboldt	374,000	Pershing	177,950
Douglas	253,811	Lander	219,250	Storey	9,276
Elko	550,000	Lincoln	177,300	Washoe	1,055,200
		Lyon	465,417	White Pine	328,000
		<b>TOTAL</b>		<b>\$5,933,560</b>	



# BLM EMPLOYMENT

Employment in the BLM in Nevada in fiscal year 1988 showed a slight reduction in permanent work force from fiscal year 1987 figures, as predicted. There were a considerable number of temporary employees on the rolls at the peak of the fiscal year 1988 field season.

## BLM NEVADA EMPLOYMENT FY 88

Office	Permanent	WAE*	Part-Time	Temporary	Totals
State Office	138	2	6	21	167
Elko	55	0	2	27	84
Winnemucca	49	1	1	18	69
Carson City	61	8	0	58	127
Ely	48	1	1	8	58
Las Vegas	71	6	6	46	129
Battle Mountain	<u>51</u>	<u>5</u>	<u>2</u>	<u>16</u>	<u>74</u>
TOTALS	473	23	18	194	708

\*When Actually Employed, less than full-time (includes four Cooperative Education students).

## VOLUNTEER PROGRAM

The lands administered by the BLM belong to the public and the BLM is fortunate to have many individuals who take pride in their lands. Many Nevadans and residents from other states volunteer their time and talent to help manage and improve Nevada's public lands.

During 1988, the amount of time contributed by volunteers to help improve Nevada's public lands totaled 39,973 hours. The 1,450 volunteers came from local community service groups, youth organizations, and outdoor interest groups. Individual citizens with a desire to help also made substantial contributions to Nevada's volunteer program.

Their efforts were diverse and included developing and maintaining trails; hosting at campgrounds; protecting or restoring archaeological sites; assisting with mineral assessments; participating in cave management; helping with public information and administrative duties; cleaning up trash; improving recreation areas; inventorying wildlife habitat; and assisting with bighorn sheep trapping or reintroduction programs.

### VOLUNTEER SERVICE, FY 1988

Number of volunteers	1,450
Hours of service	39,973
Value of volunteer work	\$330,258
BLM costs to manage program	\$15,515

# EQUAL EMPLOYMENT OPPORTUNITY

The Bureau's Multi-Year (fiscal years 1988-92) Affirmative Employment Program Plan, which was established by Equal Employment Opportunity Commission Management Directive 714, was developed and fully implemented during fiscal year 1988. Specific barriers which limit the progress of minorities and women in the work force were identified and guidelines for effective removal of barriers are included in the plan.

Statistical data necessary for assessing EEO progress were provided to management officials on a recurring basis. All EEO-related training included a portion devoted to management's responsibility in helping to achieve an integrated work force.

Three significant accomplishments during fiscal year 1988 were:

1. The survey results from females in grades GS-9 and below were distributed to managers and supervisory personnel. The survey was designed primarily to assist females who wish to change careers and to help prepare them for future promotions.

2. An EEO Manual Supplement on Incentive Awards, which outlines procedures for recognizing individuals who accomplish EEO objectives, was completed and distributed.

3. A three-day seminar for top management officials, entitled Valuing Diversity-Managing the Changing Work Force, was presented.

Special emphasis programs were presented to commemorate special events and contributions and to promote understanding, awareness and appreciation of the diversity in our society. These included programs on women's history and women's equality.

Increased emphasis was placed on the utilization of various, special hiring authorities to eliminate the underrepresentation of minorities and women.

## NEVADA BLM'S PERMANENT WORKFORCE, FY 88

Statewide permanent workforce: 475

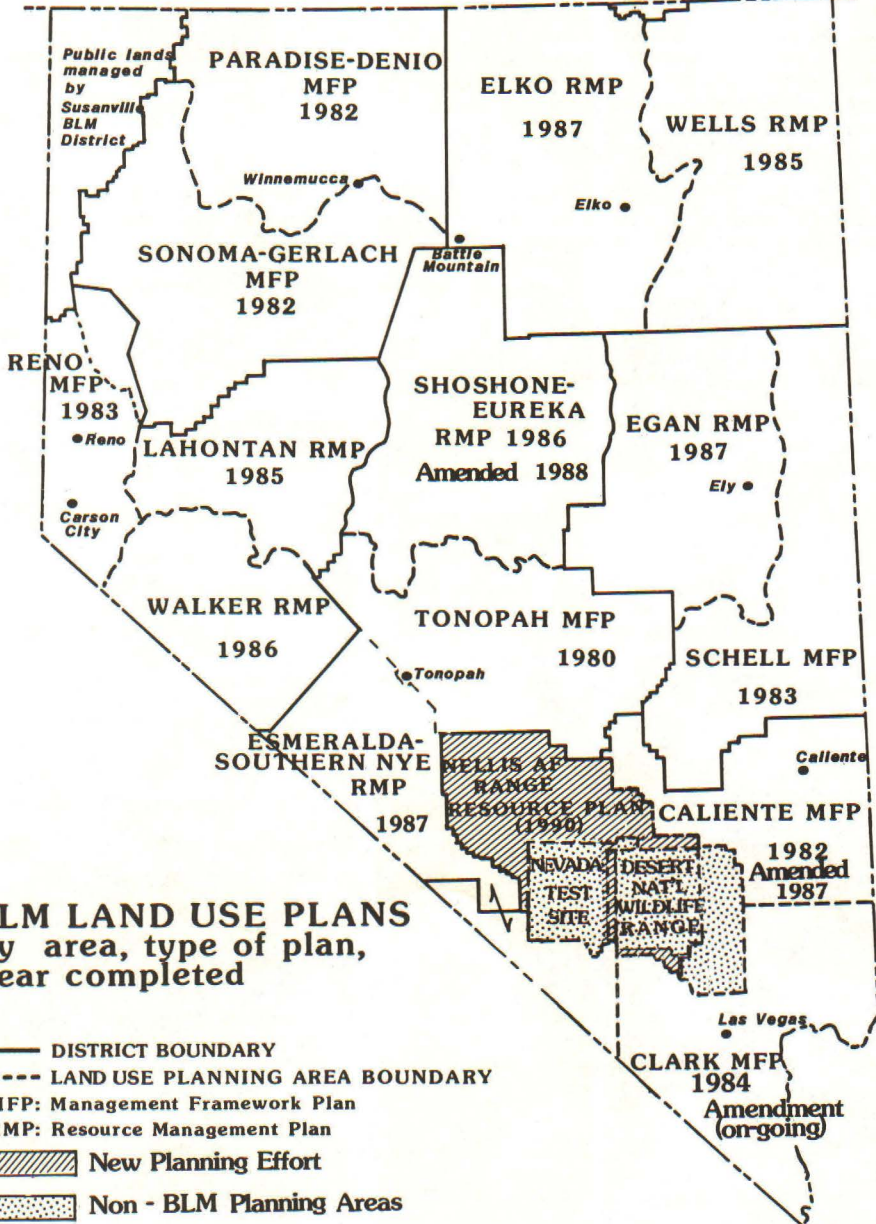
Non-minority males	301 (63.4%)	Minority males & females	52 (10.9%)
Non-minority females	122 (25.7%)	Asian Americans	5 (1.1%)
		Native Americans	22 (3.6%)
		Blacks	11 (2.3%)
		Hispanics	14 (2.9%)



*BLM representatives attend a training session on recruitment of new employees. Among topics covered were how to successfully integrate the work force.*



Public lands managed by Boise BLM District



# LAND USE PLANNING AND ENVIRONMENTAL COORDINATION

Land use plans are designed to respond to public concerns and BLM program priorities. The multiple-use planning system furnishes the support structure for program managers to analyze issues and conflicts affecting the use of the public lands and resources. Because the Bureau is responsible for managing a variety of resources in a large area of Nevada, the planning system is critical in providing the proper balance between the effective use and necessary protection of these resources. Many activities on BLM lands are not compatible with other uses. Multiple-use is not an activity, nor even a set of compatible activities, but a philosophical approach to managing the land and all its resources. It is a management framework within which all the various relationships among and between natural resources must be considered.

Proposed uses of Nevada public lands are currently examined and evaluated through Resource Management Plans (RMPs) and Management Framework Plans (MFPs). These processes generate alternatives which provide the information needed by Bureau managers to make and implement land use decisions.

Public laws, national policy, land characteristics, resource capabilities, and the needs and desires of the public must all be considered in multiple-use planning. Public land resource users, environmental organizations, special interest groups, businesses, and other governmental entities, state and local agencies, and affected Indian tribes are all consulted at the onset and during development of the plans. Several steps are required during plan development including data gathering, identifying conflicts, and weighing land use alternatives. Differing combinations of resource uses are proposed and analyzed. If applicable, particular facets such as grazing allotment management and wilderness management receive special attention. Once the analysis is complete and all viewpoints are considered, BLM managers must make the land use decisions that set out the combination and patterns of multiple-use best for the area.

Current plans, their boundaries and scheduled completion dates are shown on the Land Use Plans Map.

Once the land use plans are finalized, the Bureau and interested publics continue to coordinate in the implementation of the plans.

## FY 1988 ACCOMPLISHMENTS

During fiscal year 1988, three land use planning efforts were active in Nevada. One plan amendment was completed, one plan amendment was on-going, and a new planning effort was started. One of these planning efforts was in the Battle Mountain District; two were in the Las Vegas District.

The Shoshone-Eureka RMP Amendment, concerning the re-categorization of grazing allotments, had the approved plan amendment and record of decision completed early in the fiscal year. This amendment was printed and made available to the public.

The draft plan amendment and environmental assessment (EA) for the Clark County MFP, concerning the leasing of sand and gravel in the Las Vegas Valley sub-unit, was sent to the public for a 30-day review. Public comments were expected early in the fiscal year. Several public meetings were held and 27 interested individuals, companies, and organizations submitted written comments identifying their concerns with the draft document. These comments were reviewed, changes were made to the draft amendment, and a proposed plan amendment and final EA was written and ready for printing by the end of the fiscal year.

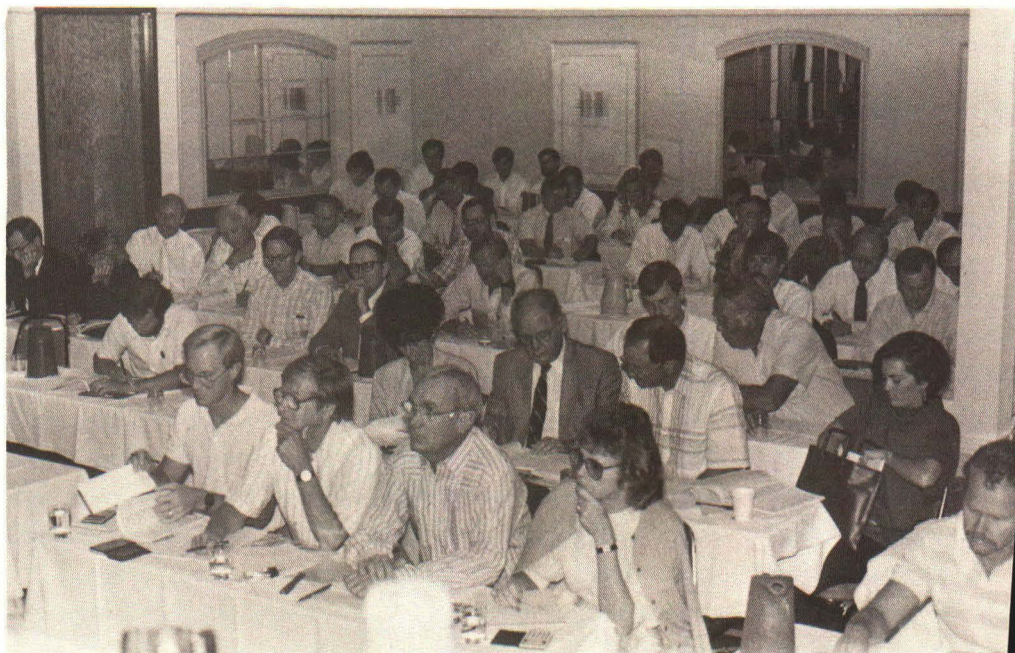
The Nellis Air Force Range resource planning effort was started in July when the Notice of Intent to prepare a land use plan was published in the Federal Register. Although the Nellis Range has been withdrawn for military purposes, Public Law 99-606 directs the Secretary of the Interior (after consulting with the military department concerned) to develop a plan for the management of the natural resources and other values. Through contact with interested publics; local, state, and federal agencies; and interest groups during the scoping period, four planning issues were identified for development and analysis in this land use plan. The issues identified involve the following resources: wild horses, vegetation, wildlife and cultural resources. This land use planning effort will continue in fiscal year 1989 and will extensively involve the public.



The environmental program in Nevada continued to emphasize compliance with the National Environmental Policy Act of 1969. During the fiscal year, the six Nevada BLM districts analyzed the environmental impacts of nearly 600 separate proposed management actions. Mitigating measures were developed to lessen identified impacts of these proposals to the environment. A national environmental handbook, providing guidance for the environmental program, was completed during the year. The northern two-thirds of the state experienced a tremendous increase in mining activity. BLM and the industry are cooperating in a review of the magnitude of the modern day gold rush and what it will mean in terms of long-range land management.

Two additional wilderness environmental impact statements (EISs) were completed and made available to the public. These two EISs -- and two EISs completed in the previous fiscal year-- were filed with the Environmental Protection Agency (EPA). The final two wilderness EISs for Nevada will be completed and filed with EPA in fiscal year 1989.

Information has been provided and reviews conducted for several major projects proposed to occur or occurring within Nevada. These include: Yucca Mountain, Kern River Natural Gas Pipeline, Thousand Springs Power Project, AT&T Fiber Optic Cable, Aerojet land exchange, Navy's master land withdrawal, Clark County flood control project, and the Special Nevada Report. Numerous public meetings for the Special Nevada Report were held throughout the state in July.



*The first oral auction for leases of public lands which might have potential for oil and gas production was held in Reno. A large crowd gathered for the first sale which brought in more than \$2 million in bonus bids and \$405,000 in advance rentals.*

## LANDS AND REALTY MANAGEMENT

The lands and realty program involves three major activities: land transfers, land leases, and rights-of-way. The backbone of this effort is a sophisticated records system for keeping track of these activities on millions of acres of public lands in Nevada.

There are various federal laws which allow the transfer of public land into private ownership. Some lands are transferred for specific purposes, such as mineral development or desert land farming. Other lands are traded or exchanged for private land. Each year public lands also are sold to the highest bidder at auction. Selection of most of these lands is made through the Bureau's land use planning system. With the public's help, decisions are made about which lands can best benefit the public by staying in public ownership and which lands are more suitable for private use and development.

Another active disposal program is made possible by the Recreation and Public Purposes Act. Through this law, local governments and non profit organizations are able to obtain public land free or at discounted prices for uses such as schools and community projects.

Leases are also authorized by various federal laws. These allow use of the public land for a certain period of time and sometimes include an option to buy the property through the disposal laws.

Rights-of-way involve both energy-related and non-energy related projects. Energy rights-of-way typically issued in Nevada include power transmission lines. Non-energy rights-of-way include grants to developers to build new access roads across public lands and to expand streets in urban areas. Water pipelines, communication sites, and material site rights-of-way are other examples.

### LAND PATENTS ISSUED IN FY 88

KIND	NO.	ACRES
Sales	12	1,868
Recreation and Public Purposes	1	60
Exchange	6	44,014
Mineral Entry	2	130
<hr/>		
<b>TOTALS</b>	<b>21</b>	<b>46,072</b>

### LAND LEASES IN EFFECT, SEPTEMBER 30, 1988

KIND	NO.	ACRES
Recreation and Public Purposes	185	19,186
Airport	37	11,116
Small Tract	2	10
<hr/>		
<b>TOTALS</b>	<b>224</b>	<b>30,312</b>



# CULTURAL RESOURCES MANAGEMENT

The objective of the cultural resources management program is to discover and preserve prehistoric and historic archaeological sites, paleontological sites, and sites important to Native Americans. Cultural sites are managed for scientific, cultural, recreational and religious uses by the public, and for future generations. The BLM's cultural resources staff, assisted by volunteers and contract professionals, inventory and record significant resources; protect and stabilize endangered sites; and interpret the history and prehistory of Nevada. The program staff also supports other Bureau programs with inventories, significance evaluations, and mitigation plans to ensure that Bureau actions do not inadvertently destroy significant resources.

The major accomplishment in the Nevada State Office in 1988 was an extensive revision of the BLM Nevada Cultural Resources Inventory Guidelines. The revised guidelines clearly define responsibilities, streamline procedures, and specify objective standards for cultural resources inventories.

In the Carson City District, 1,350 hours of volunteer time were spent mapping sites in the Pistone area, conducting tours and improving the Grimes Point-Hidden Cave area, and inventorying sites at high elevations in the Desatoya Mountains. The Desatoya inventory was done in cooperation with the Far Western Anthropological Research Group. The District also hosted a University of Nevada, Reno, historic archaeology field school at Candalaria.

In the Winnemucca District, Boy Scout volunteers worked with the Sonoma-Gerlach archaeologist to reconstruct an enclosure fence at Summit Twin Spring. The fence protects significant cultural properties.

In the Battle Mountain District, there was continued cooperation between the District staff and the Nevada Archaeological Association to map, photograph and test the Hickison Summit rock art site. In addition, the Tonopah Resource Area began an emergency stabilization project on the bottle house at Rhyolite. The district archaeologist read a paper on Aspen Art at the Great Basin Anthropology Conference.

Tosawihi, a large prehistoric chert quarry site, was inventoried in the Elko District. The inventory has been completed and a data recovery plan to mitigate impacts to the site from a proposed mine will be implemented in the 1989 fiscal year.

Basic inventory and recordation work is proceeding in the White River Narrows area of the Ely District. The Schell Resource Area archaeologist worked in cooperation with Dr. Ben Swartz from Ball State University to record these important rock art sites. Ely archaeologists also presented a research paper at a professional meeting on several significant sites in the Honeymoon Hills area.

In the Las Vegas District, volunteers continue to maintain historic cemeteries and to monitor and patrol fragile sites in Clark County. In addition, Stateline Resource Area is working with Dr. Margaret Lyncis from the Anthropology Department at the University of Nevada, Las Vegas, in a cooperative internship program to introduce students to cultural resources management in the BLM. Interns in the program work on actual cases and learn the entire federal process through on-the-job training.







Since spring 1984, through the auspices of a unique joint venture involving volunteer avocational and professional archaeologists, the Nevada State Museum, the BLM and California State University, Fresno, have embarked on a program of reconnaissance and testing in the northern Wassuk Range. The Pistone site is a 1200+ acre, multi-component site with extensive features relating to both hunting and gathering activities. Notable are the site's extent, drift fence, rock alignments, petroglyphs and hundreds of rock circles. The site may well be among the most extensive rock art sites yet recorded in the western Great Basin. Surface artifacts suggest a site utilization from the very recent to possibly 6,000 years ago. The site has potential for testing hypotheses about the nature of the Prenumic/Numic interface, documenting the nature and onset of specific procurement activities, hunter-gatherer logistics, strategies and rock art function.

### CULTURAL RESOURCE INVENTORY

	WORK DONE IN FY 88	TOTAL THROUGH FY 88
Intensively Assessed Acres	102,952	806,327

### PROTECTION, STABILIZATION, AND INTERPRETATION PROJECTS

ACTIVITY	FY 88	TOTAL THROUGH FY 88
Positive Protection Signing	4	57
Research Excavations	5	27
Interpretive Schemes	4	18
Fencing	3	35
Stabilization	2	7
Patrol and Maintenance	43	149
Cultural Resource Publications	1	27



# WILDERNESS

Directed by Congress to review all the public lands for wilderness consideration, the BLM embarked on a three-phase review effort, consisting of inventory, study, and eventual reporting to Congress of the BLM's recommendations. Congress, however, reserved to itself the final decision on which lands will and will not become protected wilderness areas in the National Wilderness Preservation System.

Inventory, the first phase of the Bureau's wilderness review, was brought to a close during fiscal year 1981. Those areas which met the wilderness criteria set forth by Congress--roadless areas generally in an undeveloped state and having outstanding opportunities for solitude or primitive recreation--were identified as Wilderness Study Areas (WSAs).

Studies have been completed on most of the WSAs in Nevada. During the study phase, wilderness is incorporated into the Bureau's land use planning system where the wilderness resources are evaluated along with all the other resources on the public lands. Public involvement is an important step in this process. During the study phase, BLM is receiving minerals reports on WSAs which have been preliminarily recommended as suitable for wilderness during the land use planning process. These reports are made available to the public as they are received. As of September 30, 1988, 40 reports covering 45 WSAs have been released for public review.

In the reporting phase, recommendations coming out of the planning process will be forwarded to the Secretary of the Interior and then the President, who will in turn forward them to Congress. Nevada's projected schedule is to submit a Nevada BLM statewide wilderness recommendation package to the Secretary by the end of 1990.

In fiscal year 1989, 14 WSAs, located mostly in southern Nevada, will be the subjects of a final environmental impact statement. The 200,918 acres are being studied in the Nevada Contiguous Lands Wilderness Environmental Impact Statement.

## STATUS OF THE WILDERNESS REVIEW BY THE END OF FISCAL YEAR 1988\*

Acres designated WSAs and undergoing wilderness study	5,115,666 (103 units)
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\*Acreage includes public land in Nevada managed or studied by the California, Utah, Oregon, and Idaho BLM Offices, but does not include land in California managed by the Nevada BLM.



*As the Bureau automates, secretaries employed by the BLM gathered in Reno to learn a new system for reporting time and attendance records.*





*Red Rock Canyon Recreation Lands seems a natural setting for discussions on working with volunteers. Bureau employees in the Las Vegas district office have an opportunity to work with a number of volunteers each year, such as those who are members of the Friends of Red Rock Canyon. One of the ranger-naturalists talks with BLM employees about the program. Also shown is a view of the recreation lands where the visitor center is now open seven days a week.*





# RECREATION AND VISUAL RESOURCE MANAGEMENT

The primary purpose of the recreation management program in Nevada is to ensure the continued availability of dispersed and concentrated outdoor recreation opportunities which are not readily available from other public entities. Secondary purposes include protecting resources, meeting legal requirements for visitor health and safety, and mitigating resource user conflicts involving recreation.

The visual resource management program serves a dual purpose: to manage the quality of the visual environment and to reduce the visual impact of development activities while maintaining effectiveness in all BLM resource programs. Visual resource management also identifies scenic areas that warrant protection through special management attention.

Considerable emphasis in fiscal year 1988 was placed on managing 27 Recreation Management Areas (RMAs) within the Nevada BLM's jurisdiction. Minimum management needed to correct or mitigate problem situations and basic visitor services and courtesies were provided in each of the 27 RMAs. These services and courtesies were essential to maintain recreational opportunities and experiences in each area. The importance of these RMAs is demonstrated by the 17,878,635 hours recorded by visitors enjoying these areas during the past year. Some of the most popular RMAs were: Red Rock Canyon, Clark County, and the Spring Mountains in the Las Vegas District; Indian Creek, Walker Lake, and the East Fork of the Carson River in the Carson City District; and Wilson and Wildhorse Reservoirs in the Elko District.

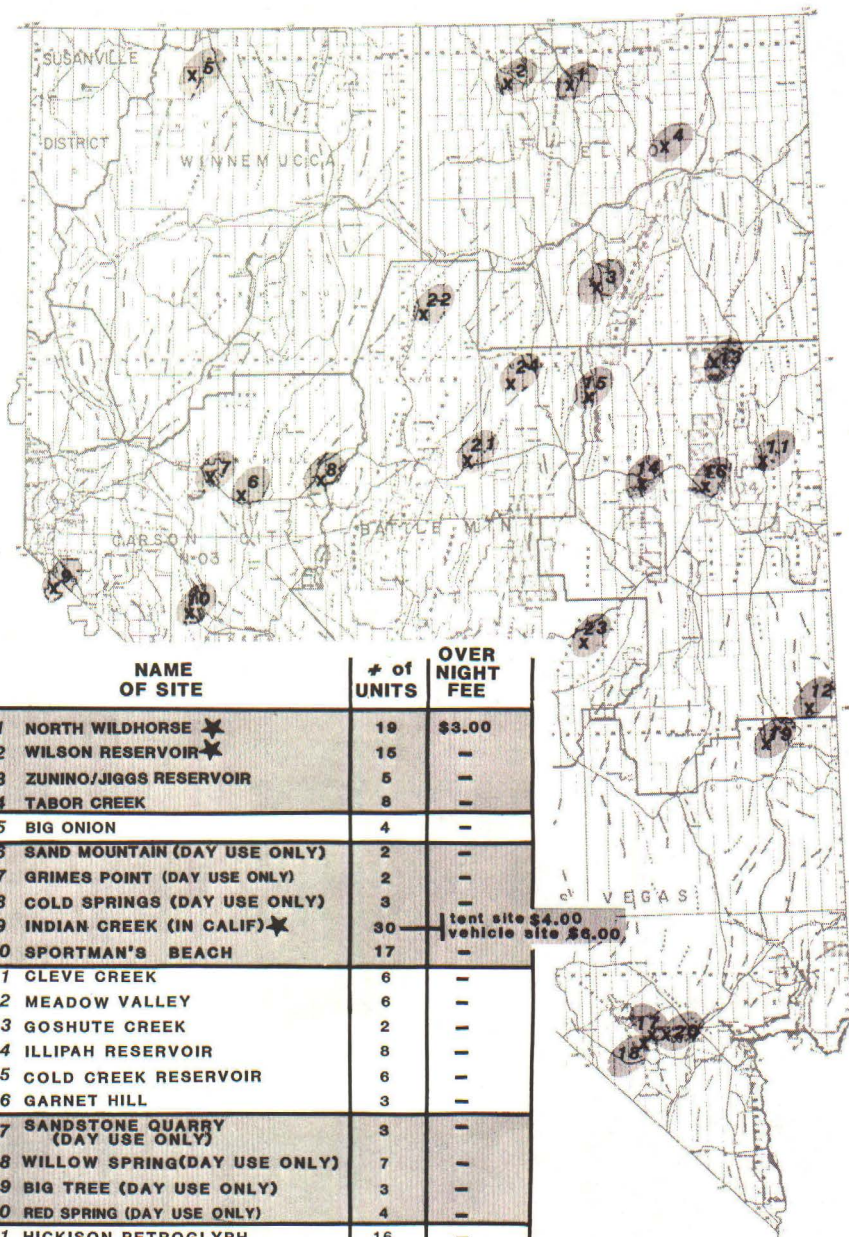
Some 1,488 recreation-related permits were issued in fiscal year 1988. Of these, 1,342 were fee site (camping) permits; 82 were authorized for competitive recreational events; and 64 were processed for commercial recreation use of the public lands. Permits are issued where it is necessary to protect important natural and cultural resources, to mitigate user conflicts, and to provide for the safety of public land users.

Work continued in fiscal year 1988 toward the eventual designation of all public lands in Nevada with regard to off-road vehicle (ORV) use. Off-road vehicle designations are a long-term effort to comply with two Presidential Orders to protect sensitive areas of public land, to promote safety, and to minimize conflicts among users. Fiscal year 1980 was the first year public lands in Nevada were designated open, closed or limited to ORV use. All public lands will eventually be designated through the land use planning system.

Cooperative efforts with other agencies in fiscal year 1988 included continuation of an agreement for the provision of general management services at the Red Rock Canyon Recreation Lands near Las Vegas and continuation of a cooperative agreement for general management and maintenance of the North Wildhorse Recreation Area in Elko County. Both ventures were negotiated with the Nevada Division of State Parks.

Camp and picnic grounds are popular recreation spots and the Bureau currently maintains 24 such sites in Nevada. In fiscal year 1989, two other sites were managed: Willow Spring and Cold Creek, both in the Las Vegas District. Those two sites were to be transferred to the Forest Service in 1989.

A map and list of sites follow:



DISTRICT	NAME OF SITE	# of UNITS	OVER NIGHT FEE
Elko	1 NORTH WILDHORSE *	19	\$3.00
	2 WILSON RESERVOIR *	15	-
	3 ZUNINO/JIGGS RESERVOIR	5	-
	4 TABOR CREEK	8	-
Winnemucca	5 BIG ONION	4	-
Carson City	6 SAND MOUNTAIN (DAY USE ONLY)	2	-
	7 GRIMES POINT (DAY USE ONLY)	2	-
	8 COLD SPRINGS (DAY USE ONLY)	3	-
	9 INDIAN CREEK (IN CALIF) *	30	-
	10 SPORTMAN'S BEACH	17	-
Ely	11 CLEVE CREEK	6	-
	12 MEADOW VALLEY	6	-
	13 GOSHUTE CREEK	2	-
	14 ILLIPAH RESERVOIR	8	-
	15 COLD CREEK RESERVOIR	6	-
	16 GARNET HILL	3	-
Las Vegas	17 SANDSTONE QUARRY (DAY USE ONLY)	3	-
	18 WILLOW SPRING(DAY USE ONLY)	7	-
	19 BIG TREE (DAY USE ONLY)	3	-
	20 RED SPRING (DAY USE ONLY)	4	-
Battle Mountain	21 HICKISON PETROGLYPH	16	-
	22 MILL CREEK	7	-
	23 LUNAR CRATER (DAY USE ONLY)	1	-
	24 TONKIN SPRINGS	1	-

tent site \$4.00  
vehicle site \$6.00

\* Water suitable for drinking



# RANGELAND IMPROVEMENTS

Some of the public rangelands in Nevada are currently producing vegetation at less than their full potential. The objective of the range improvement program is to achieve improved rangeland conditions, within the framework of multiple-use management and Nevada's recently completed land use plans. To accomplish this objective, the timely and efficient completion of structures, developments, and land treatments—coupled with proper grazing management—are key factors supporting management actions necessary to improve rangeland conditions.

While the majority of these projects are required to support intensive grazing management, other resource values and objectives are considered in designing the projects to ensure the maximum benefit is realized by all uses. One example where supplemental benefits are realized is where a fence and well are needed to implement a livestock grazing system. The resulting change in grazing use patterns may also reduce grazing competition on an adjacent deer winter range or riparian area. The winter range or riparian area are important for other resource values or uses. The well may also provide water to a resident population of wildlife or band of wild horses and burros.

The majority of funding for this program originates from the grazing fees paid by livestock permittees. However, this source may be supplemented by funds appropriated under the Public Rangelands Improvement Act of 1978, direct Congressional appropriations, or from contributions received from non-Bureau sources.

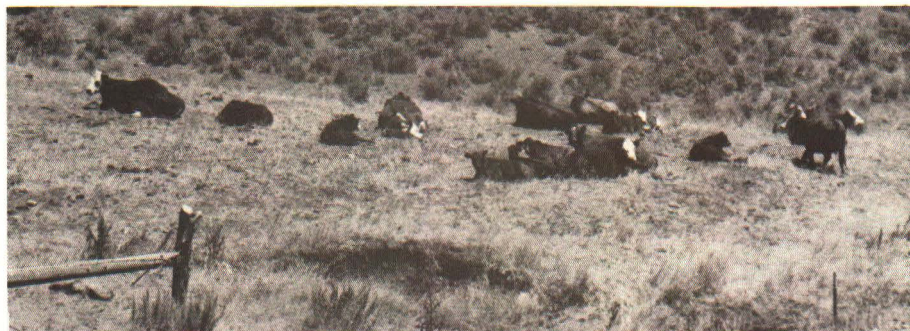
Consistent with the Bureau's Rangeland Improvement Policy, range betterment funds are spent to support not only domestic livestock grazing, but also terrestrial and aquatic wildlife habitat improvement programs as shown below.

## RANGELAND IMPROVEMENTS COMPLETED IN FY 88\*

TYPE OF IMPROVEMENT	NEW CONSTRUCTION		
	(Range)	(Wildlife)	(Riparian)
Cattleguards/Management Facilities	21 each		
Fences	104.5 miles	3.6 miles	19.0 miles
Water Facilities	12 units	10 units	
Vegetation Manipulation		0 acres**	

\* Range betterment fund and partially contributed funds only.

\*\* Does not include fire rehabilitation funds which were used to reseed 3,715 acres.



*Cattle graze on the majority of lands managed by the BLM. In fiscal year 1988 about 252,000 cattle were licensed to graze. The fee was set for grazing year 1988 at \$1.54 per animal unit month.*





*The Red Rock Sale-Exchange memorandum of understanding was signed in March of 1988. Ed Spang, Nevada State Director for BLM (left), Dick Bonar of Howard Hughes Properties (center), and Willie Molini, head of the Nevada Department of Wildlife (right), signed the agreement which enhances the Red Rock Canyon Recreation Lands. Hughes offered 5,303 acres to The Nature Conservancy and BLM for sale and exchange for two parcels, one of 439 acres and one of 4,864 acres.*

## WILDLIFE HABITAT MANAGEMENT

The Bureau manages wildlife habitat values to assure full consideration in multiple use decisions for public lands. Such habitat values hold a particularly important meaning since virtually 100 percent of Nevada's wildlife -- including such animals as mule deer, antelope, elk, and bighorn sheep -- depend upon habitat on BLM lands in the course of their annual life cycle.

The Nevada wildlife program consists of two primary efforts, direct habitat improvement through projects specifically for wildlife, and indirect benefits realized from other program actions carried out with wildlife needs in mind. These two aspects encompass the singular objective of the wildlife program: maintaining or improving habitat conditions necessary for fish and animals to thrive. The Habitat Management Plan (HMP), of which 58 have been completed in Nevada to date, remains the primary mechanism for direct habitat and wildlife restoration efforts. Implementation work is progressing on all of these plans as funding permits. The ultimate goal is to have HMPs developed and implemented on all public lands in Nevada considering all species of wildlife: game and non-game, terrestrial and aquatic.

A major aspect of both the direct and indirect program is the coordination of resource management planning with other federal and state wildlife agencies and user interests. Through this coordination, benefits to wildlife are often realized through incorporating wildlife provisions in other subactivity management plans, developing stipulation and mitigative measures for wildlife and providing for habitat rehabilitation following development.

In fiscal year 1988, habitat improvement through construction of specific projects or maintenance of existing developments was accomplished within 24 habitat plan areas across the state. A wide range of projects was completed, varying from placement of bird ladders in stock troughs to stream structures for fisheries improvement, guzzler construction and design of projects for fiscal year 1989. Value of these accomplishments exceeded \$250,000 of public funding. Contributions of an additional \$250,000 in funding and donated labor came from wildlife organizations and the Nevada Department of Wildlife. The improvements and ongoing management of public lands in Nevada provides habitat for some 250,000 mule deer, 14,000 antelope, 2,000 elk, 5,600 bighorn sheep and numerous fishes, birds and small mammals. In addition to game species, there are some 61 endemic fishes whose habitats warrant special attention and management. There are two birds and seven plants which are protected under the Endangered Species Act or require special management to prevent the need for listing.

### WILDLIFE PROJECT WORK COMPLETED IN FY 88

New water facilities	25
Water facilities improved	16
Stream bank stabilization	60 acres
Protective fencing	3 miles
Riparian revegetation	2 acres
Fence modification for wildlife	10 miles





*Blackjack, an adopted wild horse, takes time at Palomino Valley Wild Horse and Burro Placement Center to take a drink. Blackjack was adopted by Fred Wyatt (shown), who is manager of the facility. Blackjack was gentled by Wyatt applying the resistance free training method.*

## WILD HORSE AND BURRO MANAGEMENT

This program was created with passage of the Wild, Free-Roaming Horse and Burro Act on December 15, 1971. This federal law provides for the protection, management, and control of all wild horses and burros on lands administered by the BLM and the U.S. Forest Service.

Nationally, about 44,000 wild horses and burros inhabit these lands. The bulk (42,300 horses and burros) live on public lands administered by the BLM in 10 western states. Nevada's share, which includes most of the wild horses, is outlined below.

### WILD FREE-ROAMING HORSES AND BURROS IN NEVADA - FY 88

DISTRICT	HORSES	BURROS
Elko	1,439	
Winnemucca	5,006	281
Carson City	4,258	63
Ely	3,249	-
Las Vegas	4,910	618
Battle Mountain	7,298	356
<b>TOTALS</b>	<b>26,160</b>	<b>1,318</b>

The BLM's goal is to provide uniform and effective direction for the management of these animals on public lands and to establish a natural ecological balance to benefit wild horses and burros and all other users of these lands.

The BLM gathers wild horses and burros for a variety of reasons. The agency continues to plan for "appropriate management levels" and to make progress towards achieving those levels by removing excess animals. The Bureau, by law, honors removal requests by private landowners if wild horses or burros stray from public lands onto privately owned lands. The total removed in fiscal year 1988 is noted below.

### GATHERS COMPLETED - FY 1988

DISTRICT	HORSES GATHERED	BURROS GATHERED
Elko	602	-
Winnemucca	961	-
Carson City	666	60
Ely	567	-
Las Vegas	-	61
Battle Mountain	-	-
<b>TOTALS</b>	<b>2,796</b>	<b>121</b>

After a gather, excess wild horses are transported to a Bureau placement center for handling. In Nevada, the animals are conveyed to the Palomino Valley Corrals near Sparks. There, the animals are carefully checked, given necessary veterinary care, inoculated, and branded with a permanent identification code. Those animals found to be branded and privately owned are turned over to the State of Nevada for handling. Some animals either die from natural causes or are humanely destroyed as ordered by a veterinarian because of certain illnesses or infirmities.

The large majority of excess animals are adopted under the Bureau's Adopt-A-Horse program, either from the Nevada facility at Palomino Valley near Sparks or from one of the Bureau's adoption centers in other states. Many Nevada horses and burros are adopted in "satellite" adoptions in the East and Southwest. A typical satellite is held on a weekend, in an area where sufficient adoption demand has been identified to place 50 to 100 animals in private care. Nationally, there are six adoption centers owned and operated all year by BLM, as well as three contract adoption centers—one in Pennsylvania, one in Tennessee and one in Texas.

In 1985 three long-term holding facilities were opened to maintain animals awaiting adoption. In 1988, the Nevada center at Lovelock was closed. There remains one BLM-contracted holding facility in Bloomfield, Nebraska. Many of the older horses held at Lovelock were sent to two sanctuaries established in South Dakota. The nation's first wild horse sanctuaries are in the Black Hills and in Todd County, both South Dakota. The sanctuaries are managed by the Institute of Range and the American Mustang.

In addition to the sanctuary program, prisons in the states of California, Wyoming, New Mexico and Colorado have programs to gentle and halter break horses which are then offered for adoption. Excess animals gentled in those programs often come through Palomino Valley.

### DISPOSITION OF EXCESS ANIMALS - FY 88

**No. Adopted in Nevada: 213**  
**No. at Palomino Valley, Start of FY 87: 11**  
**Branded/Private: 0**  
**Died or Humanely Destroyed: 129**  
**Balance Remaining at Palomino Valley, End of FY 87: 59**



# GRAZING MANAGEMENT

During 1988 emphasis in the grazing management program in Nevada continued to be on plan implementation which includes preparation of grazing plans or allotment management plans (AMPs) and monitoring to measure the attainment of land use plan objectives. The Bureau is also entering into grazing agreements, or, where necessary, issuing decisions which effect a change in grazing use in order to meet land use plan objectives.

With the completion of Nevada's 14 environmental impact statements and land use plans<sup>1/</sup>, such as Resource Management Plans, Nevada BLM is in the process of monitoring all of its grazing allotments. Emphasis is on "I" (improve) and "M" (maintain) allotments to evaluate and insure these allotments are meeting land use plan objectives.

The results of monitoring studies are the basis to determine if management is meeting resource objectives or if adjustments in grazing use are necessary. Grazing uses are being monitored for livestock, wildlife, wild horses and burros. An agreement will be entered into with each permittee, or where necessary a decision issued, by the end of the fifth year of monitoring following the completion of each land use plan. Monitoring may indicate that existing management is meeting land use plan objectives. However, if monitoring studies indicate that an adjustment in livestock use is appropriate, adjustments will be made. Important in this process is the cooperation, consultation and coordination with livestock permittees and other interested publics.

The grazing management program has assigned priorities to management efforts using a selective management approach where grazing allotments are categorized into "IMC" management categories. The objectives for these categories are to: (1) improve (I) current unsatisfactory condition; (2) maintain (M) current satisfactory condition; or (3) manage custodially (C), while protecting existing resource values. Proposed actions for managing allotments within each category are designed to meet these objectives.

## NUMBER OF GRAZING ALLOTMENTS AND ACRES BY ALLOTMENT CATEGORY

	Category I	Category M	Category C	Uncategorized
Allotments	256	278	260	5
Acres	28,236,537	10,322,614	6,838,686	66,065

**TOTAL** Grazing Allotments: 799

**TOTAL** Acreage: 45,463,902

## NUMBER OF ALLOTMENTS AND ACRES MONITORED

	Category I	Category M	Category C	Uncategorized
Allotments	267	260	136	0
Acres	28,441,394	9,811,038	3,236,113	0

**TOTAL** Allotments Monitored: 663

**TOTAL** Acres Monitored: 41,488,545

Grazing management program personnel continue to administer and manage the public lands by issuing grazing authorizations, conducting compliance checks, and taking action on trespass, when necessary.

An important aspect of the grazing management program is the development of activity plans or Allotment Management Plans. Of the 799 grazing allotments in Nevada, 150 have implemented Allotment Management Plans. The coordinated resource management planning process which began in 1981 incorporates various interest group's input into this effort. Special emphasis is also being given to the reassessment and evaluation of riparian areas and whether objectives identified in the land use plans are being met for riparian areas.

**FORAGE PROVIDED AND NUMBER OF LIVESTOCK  
AUTHORIZED TO GRAZE ON PUBLIC LANDS  
FEE YEAR 1987\***

DISTRICT	NUMBER OPERATORS	ANIMAL UNIT MONTHS**	NUMBER CATTLE	NUMBER HORSES	NUMBER SHEEP
Elko	179	503,861	99,967	558	53,730
Winnemucca	107	238,486	40,510	152	13,817
Carson City	83	132,705	19,851	23	41,348
Sec. 15***	1	105	18	-	-
Ely	119	224,432	35,908	33	99,652
Las Vegas	105	88,826	12,880	128	14,369
Sec. 15***	4	3,278	335	-	-
Battle Mtn.	74	266,671	37,192	147	50,637
Sec. 15***	<u>13</u>	<u>38,933</u>	<u>5,315</u>	<u>-</u>	<u>-</u>
<b>TOTALS</b>	685	1,497,297	251,976	1,041	273,553

\*Grazing fee year 1987 ran from March 1, 1987, to February 1, 1988.

\*\*Active use plus trailing use. An animal unit month is a measure of forage needed to feed one cow or five sheep for one month.

\*\*\*Section 15 refers to grazing outside established grazing districts.

1/ For location of land use plan areas, please refer to the Land Use Plans Map.



*Nevada State Director Ed Spang addresses a recruitment seminar held in Reno for BLM employees.*



## SOIL, WATER, AND AIR RESOURCE MANAGEMENT

The long-range objectives of this program are to stabilize watersheds, to protect the soil, water, and air resources from further deterioration, and to develop or improve watershed conditions to meet specific resource needs. Typical needs include greater water quality and/or quantity, reduction of flood damage, reduction of sediment, and minimization of airborne materials. The needs are determined by soil, water, and air resource inventory and analysis.

The short-range goals are accomplished through resource development and conservation programs which apply land treatments such as grass seeding, brush control, or fencing that will control or help prevent soil erosion and water and air resource degradation. By reducing erosion and restoring soil productivity, other resource use values such as fish and wildlife development, livestock forage, timber production, outdoor recreation, and aesthetic values on watershed areas are enhanced. These treatments result in better air and water quality, renewal of ground water supplies, control of flood and sediment, protection of public health, and stabilization of local economies.

In order to assist the State of Nevada and to determine impacts of land management practices, a planned water quality monitoring program has been underway since 1979 on Bureau-administered lands statewide. These key sample locations are part of a continuing program to provide management information regarding the quality of water on public lands within Nevada. This effort is coordinated with the State of Nevada and other Federal agencies.

Nevada BLM in 1984-85 established three acid rain monitoring stations at the Saval Ranch near Elko, at Lehman Caves National Monument in White Pine County (in cooperation with the National Park Service), and at the Red Rock Canyon Recreation Lands near Las Vegas. The three sites are part of the National Atmospheric Deposition Program and the National Trends Network. They will measure different levels of acidic substances as they occur in various precipitation forms. The results of the information will be used for comparative purposes and with other monitoring stations to track possible emission sources.

Soil surveys are being conducted statewide to provide land managers with information about the soil resource so that soils can be used within their capability and treated according to their needs when making land use decisions. Soil interpretive data provides base line information that will assist in making decisions as it relates to: identification of present and potential ecological plant communities; ecological condition of the plant communities; identification of potential agricultural soils; soil suitability for rangeland seeding; location of structures, highways, utility corridors, recreational facilities, etc.; determination of allowable soil losses and control of erosion; reclamation of mined land, burn areas; integrated and comprehensive assessment of soil resources for land use planning.

The long-range goal is to inventory soils on all BLM-administered land in Nevada by 1993. As of October 1, 1988, almost 54 million acres of soil inventories have been completed. Following is a list of BLM district accomplishments for fiscal year 1988 and cumulative totals.



## SOIL INVENTORIES

District	FY 87	Soil Survey Accomplishments (Acres)* Cumulative to Oct. 1, 1988	Ecological Status Inventories Cumulative to Oct. 88
Elko	558,000	8,894,472	3,951,000
Winnemucca	808,000	8,702,569	6,060,000
Carson City	0	6,414,152	4,400,000
Ely	655,000	7,424,754	1,310,000
Las Vegas	360,000	8,649,535	788,000
Battle Mountain	200,000	12,057,187	1,430,000
Susanville	<u>0</u>	<u>1,813,226</u>	<u>0</u>
<b>TOTALS</b>	2,581,000	53,955,895**	17,939,000

\* Includes "checkerboard" railroad lands and scattered parcels of private lands within BLM planning area boundaries.

\*\* Acreage includes approximately 6,000,000 acres of low intensity (Order 4) soil surveys that will be converted to Order 3.

## PUBLIC DOMAIN FORESTRY

The revenue received from the sale of minor forest products decreased by six percent in 1988. The decrease came in the demand for Christmas trees and firewoods. All forest products are sold at fair market value.

The pinyon nut crop was below average, but sales were over 58,000 lbs. which is a 100 percent increase over fiscal year 1987.

### SUMMARY OF FOREST PRODUCTS SALES FOR 1988

	Christmas Trees	Cord- wood	Pinenuts (lbs)	Fence Posts	Misc.*	Total \$ Value
Elko	4,597	1,384	-	255	26	21,945
Winnemucca	481	138	-	-	-	1,033
Carson City	10,579	1,915	5,000	20	29	48,991
Ely	4,978	2,185	53,050	3,032	12	37,052
Las Vegas	5,900	1,363	200	2,760	206	21,906
Battle Mountain	<u>1,070</u>	<u>709</u>	<u>-</u>	<u>675</u>	<u>63</u>	<u>8,077</u>
<b>TOTALS</b>	27,605	7,694	58,250	6,742	336	\$139,004

\* Includes wildings, joshua, yucca, and cactus.



# FIRE MANAGEMENT

The fire management program includes the following activities: fire prevention, presuppression, suppression, and the use of fire as a resource management tool. These activities are integrated with the land use planning process to ensure that fire use and fire control actions are compatible with the involved ecosystems and other management actions.

During fiscal year 1988, fire prevention activities were conducted in all Nevada BLM districts with emphasis on cooperation with the Nevada Division of Forestry and the U.S. Forest Service. Activities included public education through presentations at local schools and distribution of Combined Forest Fire Prevention (Smokey Bear) posters, signs, and educational materials. There were discussions with recreationists, campers, ranchers, and other users of the public lands to explain local burning policies and procedures.

Most of Nevada BLM fire control or suppression actions occur between May 15 and October 31. BLM district organizations initiate fire control actions. Through an extensive communication system, the districts' fire dispatch offices coordinate the use of fire engines, hand line crews, helicopters, smokejumpers, and retardant aircraft. Electronic technology such as the automatic lightning detection system is also employed.

During 1988, on a trial basis, the Nevada State Office's Fire Logistics Office served as the Statewide Interagency Fire Coordination Center for Nevada. This involved coordination of firefighting resources between NDF regions, National Forests and BLM districts, as well as firefighting resources coming into or going out of the state. Over 1,000 Nevada personnel were dispatched to assist the other Western States, Alaska and Canada.

The 1988 fire season was near average, with 613 fires for a total of 94,521 acres burned. An average season is considered to be 625 fires, with about 100,000 acres burned.

## FIRE ACTIONS DURING CALENDAR YEAR 1988

District	Number of Fire Actions					Acres Burned		
	9 Acres or less	10-99 Acres	100+ Acres	Totals	Assist Fires	BLM	Other Ownership	Totals
Elko	50	15	14	79	33	21,301	1,427	22,728
Winnemucca	47	5	21	73	16	22,465	4,510	26,975
Carson City	148	2	8	158	57	4,635	1,373	6,008
Ely	110	10	5	125	29	3,463	40	3,503
Las Vegas	133	10	10	153	49	13,717	20,540	34,257
Battle Mountain	20	2	3	25	9	1,305	15	1,050
<b>TOTALS</b>	<b>508</b>	<b>44</b>	<b>61</b>	<b>613</b>	<b>193</b>	<b>66,616</b>	<b>27,905</b>	<b>94,521</b>

### PERCENT-AGES

83	7	10	100	*	70	30	100
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Statewide the cause of fires were: Human caused - 250 fires (55,995 acres);  
Lightning caused - 363 fires (38,526 acres).

\* The districts assisted other agencies on 193 fires.

# FIRE REHABILITATION

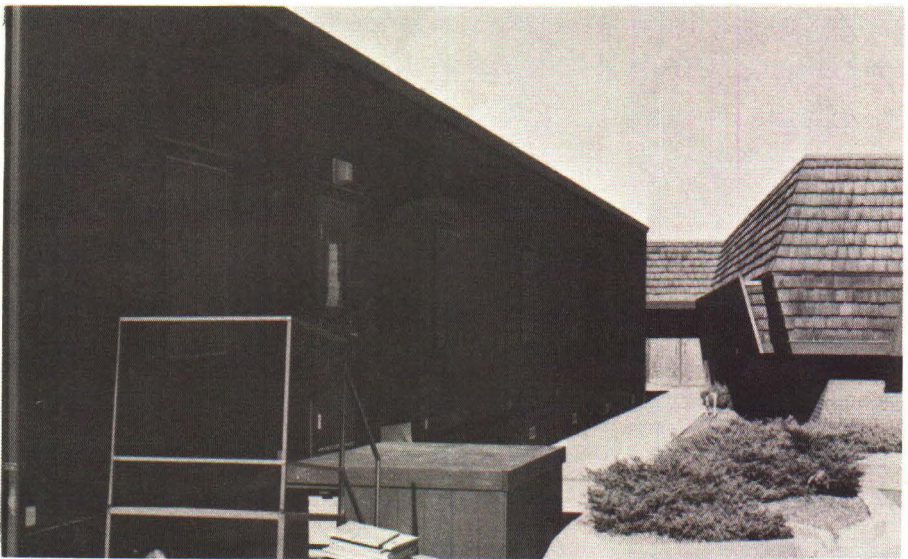
Immediately after a wildfire on the public lands is contained by BLM firefighters, other resource specialists begin evaluating the area to see if it has the potential to be rehabilitated and if the rehabilitation is cost-effective or necessary to meet resource objectives. The Bureau considers fire rehabilitation an emergency measure, second only to suppression of the wildfire and protection of life and property from flood or other natural disasters that can follow wildfires.

The goals of the BLM's fire rehabilitation efforts are to minimize the loss of soil and productivity, loss of water control, deterioration of water quality, and damage to property on or near the burned area.

The decision on whether or not to attempt rehabilitation is based upon a thorough but expeditious environmental assessment of the area. In some cases the assessment may indicate that rehabilitation efforts are not necessary and could be even more damaging to the area than the fire; in other cases the Bureau begins planning the seeding or construction efforts within 30 days after the fire is controlled. Actual rehabilitation work commences no more than 90 days after the fire unless the State Director defers the time because of a lack of moisture.

## TOTAL FIRE REHABILITATION COMPLETED ON PUBLIC LANDS AS OF SEPTEMBER 30, 1988

DISTRICT	SEEDING (ACRES)	FENCE CONSTRUCTION (MILES)
Elko	0	0
Winnemucca	7,620	8.5
Carson City	720	0
Ely	0	0
Las Vegas	0	0
Battle Mtn.	0	0
<b>TOTALS</b>	<b>8,340</b>	<b>8.5</b>



*This new, 5,500-square foot modular office building was installed at the Las Vegas District Office during fiscal year 1988.*



# CADASTRAL SURVEYS

Cadastral surveys, the official government surveys of public lands, are conducted by the Cadastral Survey Branch in each BLM state office. These surveys are fundamental to the proper development and effective administration of the public lands. In Nevada, this program was initiated in 1861.

About 29 million acres surveyed prior to 1910 are in need of resurvey because of little remaining evidence of the original corner monuments placed at that time. About 19 million acres are unsurveyed.

Immediate goals of the program are to accomplish surveys necessary to provide descriptions for land disposals including desert land entries, sales, exchanges, and mineral patents, and to define the boundaries of public lands in areas of intermingled public and private ownership patterns so the public lands can be properly managed.

During fiscal year 1988, four BLM survey crews field completed surveys of section lines enclosing 220,000 acres of land. A summary of other survey statistics and surveys approved in fiscal year 1988 is outlined below:

ITEM	SURVEY STATUS	
	FY 87	FY 88
Acres surveyed		
BLM	16,580	
National Park Service		4,693
Acres resurveyed		
Indian Affairs	16,214	
Forest Service	11,969	9,209
National Park Service		140
BLM	186,531	166,428
Acres unsurveyed	19,242,989	19,238,296
Minerals surveyed	8*	8**
Plats accepted	50	36
Acres surveyed to present	51,085,971***	51,090,664***

\*Approved FY 1987, 8 mineral surveys consisting of 8 lode claims, 1 placer and 169 millsites.

\*\*Approved FY 1988, 8 mineral surveys consisting of 40 lode claims, and 13 millsites.

\*\*\*Total includes all rectangular surveys in Nevada, including public, state, and private lands.

## BUILDINGS, FACILITIES, ROADS

The Bureau spent \$640,200 in fiscal year 1988 to maintain buildings and recreational facilities in Nevada. Seventy-one buildings, including 15 offices, 16 residences, 1 visitor center/museum, and 39 other structures ranging from warehouses and shops to simple covered storage buildings, and miscellaneous outbuildings had \$225,900 spent on them. Eight fully developed campgrounds containing 154 family units and 50 other sites with various levels of development were operated and maintained for \$414,300.

The Bureau maintains approximately 9,400 miles of road in Nevada. In fiscal year 1988 about 20 percent of the roads were maintained, at a cost of \$290,800.



*A gold pour at the Maggie Creek Mine of Newmont Gold. The Newmont Gold Co. and its predecessor company, Carlin Gold, pioneered the "invisible gold" mining process in 1965.*

## MINERALS MANAGEMENT

Minerals development is an important land use within the Bureau's multiple-use program in Nevada. Nevada is currently seeing the benefits and impacts of a new gold rush; most of the new activity is occurring on Federal lands. More than 54 percent of the gold mined in the United States now comes from lands in Nevada. Geothermal development has also expanded greatly with six power plants and one direct use facility on Federal lands now producing and with others under construction or permit.

Mineral production on public land in Nevada involves three distinct systems: location, leasing, and material sale. Location involves minerals like gold and silver under the general mining laws, such as the Mining Law of 1872. Miners locate claims to acquire mineral rights. When a valuable deposit is found, the mining claim may be patented and title obtained to both the mineral and surface land. Oil and gas, geothermal, sodium, and other similar minerals are available through mineral leasing. Leases on tracts are issued for specific periods of time and the lessee pays a rental fee and royalties on the mineral produced. Common sand, gravel, and other construction materials are available through material sales or through free use permits to governmental agencies and nonprofit organizations.

Mineral production on Indian lands involves primarily a leasing or contract system. All minerals, including gold and silver, are leasable on Indian lands. BLM acts as a mineral consultant to the Bureau of Indian Affairs for exploration and mining operations on Indian lands.

The Bureau also continues implementing a minerals resource policy reflecting the mandates of the Executive and Legislative branches. Generally, this policy recognizes that public lands are an important source of the Nation's mineral and energy resources and that public lands should be available for orderly and efficient development of these resources under principles of balanced multiple use management and economically and environmentally sound practice. BLM has also been employing the need for additional upfront coordination by field offices with the public on the new plans and notices submitted to BLM.

In fiscal year 1988, the mineral receipts from leasable mineral activity in Nevada totaled 12.5 million. About half of these receipts go to the State of Nevada, as required by the Mineral Leasing Act. About 95 percent of total receipts were derived from oil and gas lease rentals and royalties.



# LOCATABLES

During 1988, Nevada continued to be a major producer of nonfuel mineral resources and the primary exploration target for precious base metals. Nevada was first in the nation in the production of gold, silver, barite, magnesite, gemstones and mercury. Nevada produced 2.7 million ounces of gold in 1988 which was about 54 percent of the total United States production. It was a major producer of lithium, and diatomite. A total of 78,978 claims were recorded during the fiscal year which brought the total claims recorded in Nevada under the Federal Land Policy and Management Act to 514,442. Nevada BLM offices received 793 notices and 120 plans under the hardrock mining regulations contained in 43 Code of Federal Regulations 3809. This has resulted in 3,592 active operations in the state which must be monitored; more operations than any other state with federal lands. Sixteen of the 30 largest gold mines in the United States are partially or fully on public lands in Nevada.

## MINING CLAIM RECORDATION STATUS, FY 88

Total claims recorded during fiscal year 1988:	78,978
Total claims recorded through September 30, 1988:	514,442

## MINING CLAIM PATENTS, FY 88

TYPE	NO.	ACREAGE
Lode	1	20.651
Millsite	<u>24</u>	<u>109.466</u>
<b>TOTALS</b>	25	130.117

## NOTICES AND PLANS OF OPERATIONS FILED UNDER THE HARDROCK SURFACE MANAGEMENT REGULATIONS, FY 88

DISTRICT	NO. NOTICES	NO. PLANS
Elko	134	28
Winnemucca	184	9
Carson City	101	11
Ely	45	5
Las Vegas	56	20
Battle Mountain	<u>273</u>	<u>47</u>
<b>TOTALS</b>	793	120

## SALABLES

Common sand, gravel and other construction materials on federal lands are disposed of through material sales or through free use permits for governmental agencies and nonprofit organizations. Other materials include top soil, clay, rip rap, common borrow, etc.

The BLM maintains 73 community pits in Nevada for the public to use sand and gravel, rip rap, decomposed granite and other salable minerals. For additional information, see the local BLM District Office.



*In Nevada, mining is no longer the lone miner on foot, digging for gold. Today gold mining is intensive exploration, drilling, trenching, bulk sampling, etc. This Haulpak is typical of the equipment used to move masses of earth.*

### MINERAL MATERIALS, FY 88

TYPE CASE	NO. OF PERMITS	VOLUME	VALUE
Material Sales	356	1,054,391 cubic yards	\$ 288,543
Free Use Permits	<u>97</u>	<u>4,318,934</u> cubic yards	<u>1,023,933</u>
<b>TOTALS</b>	453	5,373,325	\$1,312,476

### SOLID LEASABLES

There has been renewed activity in exploration and development of sodium and potassium. Preference right lease applications are being processed for Humboldt Sink, Winnemucca Lake and the White Basin area in the Lake Mead region. Three of these proposed operations are solar evaporation projects for near-surface brines where the primary products would be sodium chloride and sodium sulphate. One project would be an underground operation for sodium sulphate. Interest in Nevada's playas for solar salt-brine extraction operations can be expected to continue.

The BLM has also been in consultation with Indian tribes and the Bureau of Indian Affairs concerning possible hardrock mineral development in Nevada. All minerals are leasable on tribal reservations. BLM also conducts production verification activities for current mineral production on tribal lands. In the past year this has primarily been for sand and gravel on the Pyramid Lake Reservation.

The following chart includes Indian land leases.

### MINERAL LEASES AND PERMITS IN EFFECT, FY 88

TYPE	NO.	ACREAGE
Sodium, potassium leases-permits	13	30,414
Preference right lease applications	6	11,913
Lake Mead permit applications	14	12,383
Sodium, potassium permit applications	10	21,128
Sand and gravel lease-applications	9	4,002
Gold lease application	1	480
Gold permit application	1	280
<b>TOTALS</b>	54	80,600



## OIL AND GAS

Cautious, persistent and committed describes the oil and gas industry's activity on Nevada's public lands in fiscal year 1988. Cautious because the history of success versus failure is strongly tilted in the favor of the methodical company which gathers and carefully analyzes abundant geological and geophysical data before deciding upon a drill location.

Cautious, too, because today's pace of leasing and exploration of Nevada's public lands reflects the stabilizing influence of long-term exploration strategies and not the fluctuations seen in early years after a significant new discovery. For example, when Grant Canyon was discovered in 1983, there were 17,500,000 acres under lease for oil and gas.

Persistent because the search for oil and gas may take years of analysis and repeated drilling efforts to begin to see patterns in the geological data. Persistence to then try to predict the next drilling location which contains all the critical factors to allow formation, migration and trapping of the oil.

Committed to the lengthy process of data acquisition analysis and careful decision necessary to develop prospective drill locations in Nevada's complex geologic environment. Committed, too, by agreements with the BLM to expend effort and money in the search for petroleum in relatively unexplored areas. These unit agreements and development contracts call for the drilling of wells and/or significant financial expenditures to gather geological data to pursue these elusive minerals. Recent oil lease sales conducted pursuant to a new all competitive leasing law demonstrate long-term commitment, cautious approach and persistence.

### NEVADA OIL AND GAS ACTIVITY

	FY 84	FY 85	FY 86	FY 87	FY 88
Applications for Permit to Drill Approved	49	38	24	17	19
Oil Wells Spudded	33	33	19	12	17
Units Approved	14	14	9	11	8
Contracts Approved	0	0	0	1	5
Acres under Lease	16,284,296	*NA	8,312,618	5,991,560	8,002,468

\* Not available.

Oil was discovered on three wells on public lands in fiscal year 1988: the Kate Spring well of Mike Evans; J.R. Bacon's Munson Ranch, 14-42; and Makoil's Munson Ranch, 14-34x. Two private wells have come on line in the fiscal year -- the first non-federal oil production in Nevada's history. Foreland Corporation brought in these two wells in the northern end of Pine Valley just north of the Blackburn field in Eureka County. Nevada's cumulative oil production through the fiscal year was a little over 22 million barrels with the price per barrel staying close to the \$10 mark. Production for fiscal year 1988 has regained the 3 million level, with 3.16 million barrels of oil sold from federal leases.

Drilling activity remains relatively stable at modest levels, but interest in Nevada's petroleum potential remains strong. In no other state has industry entered into as many substantial long-term exploration commitments. Nevada is still considered one of the last frontier areas for oil and gas exploration in the lower 48 states.

## OIL & GAS LEASES IN EFFECT BY COUNTY, FY 88

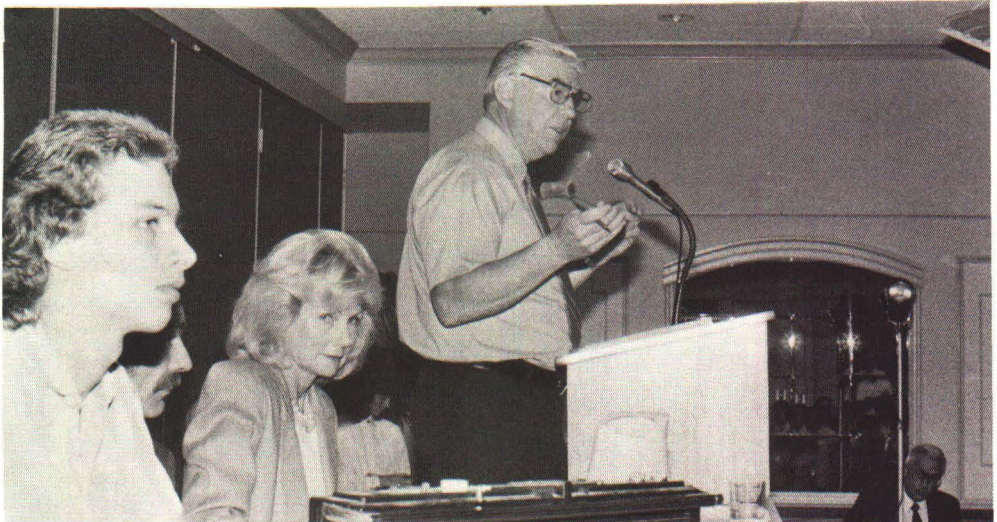
County Name	COMPETITIVE <sup>o</sup>		NON-COMPETITIVE		SIMULTANEOUS*	
	# Leases	Acres	# Leases	Acres	# Leases	Acres
Carson City	0	0	0	0	0	0
Churchill	0	0	10	21,207	12	20,701
Clark	0	0	55	86,666	54	58,827
Douglas	0	0	0	0	0	0
Elko	14	26,982	172	407,212	204	533,295
Esmeralda	0	0	1	1,287	0	0
Eureka	30	58,807	248	853,313	225	771,080
Humboldt	0	0	10	6,541	0	0
Lander	0	0	11	37,833	8	29,541
Lincoln	12	23,631	187	481,619	121	388,605
Lyon	0	0	0	0	0	0
Mineral	0	0	0	0	0	0
Nye	81	92,614	332	861,596	639	1,179,532
Pershing	0	0	11	18,665	1	6,402
Storey	0	0	0	0	0	0
Washoe	0	0	1	1,040	0	0
White Pine	<u>53</u>	<u>100,229</u>	<u>226</u>	<u>604,782</u>	<u>465</u>	<u>1,330,461</u>
<b>TOTALS</b>	190	302,263	1,264	3,381,761	1,729	4,318,444

### TOTALS

Acreage: 8,002,468  
Leases: 3,183

<sup>o</sup> The presence of a Known Geologic Structure (KGS) is no longer a prerequisite to competitive leasing.

\* The Simultaneous Leasing Program has terminated because of the December 22, 1987, amendment of the 1920 Mineral Leasing Act.



*A new law and associated regulations directed that federal land available for lease for the exploration and development of oil and gas be offered at competitive lease sales. Nevada BLM held its first oral auction on August 11. Successful bidders may hold the leases for a primary term of five years and longer if there is production in paying quantities.*



## GEOHERMAL ENERGY

The BLM issues two type of leases on public lands for geothermal exploration and development, non-competitive and competitive. Non-competitive leases are issued, subject to any applicable environmental protection stipulations, on a first-come, first-served basis. These leases require a filing fee plus the first year's base rental, which is due upon application. The base rental is one dollar per acre per year. Competitive leases may be obtained by competitive sealed bonus bid. The successful bidder pays the required competitive base rental fee of two dollars per acre per year. Geothermal leases have a primary period of ten years. Beginning in the sixth year of either type of lease there is a diligent exploration expenditure obligation to ensure exploration will continue until a commercial well is completed or the lease is terminated. Alternatively, the lessee may pay an additional rental charge of three dollars per acre per year.

As of the end of fiscal year 1988, there were 157 non-competitive geothermal leases totalling 258,340 acres, and 66 competitive geothermal leases totalling 122,393 acres. This total of 380,643 acres leased is a drop of some 245,000 acres since fiscal year 1980, reflecting industry interest has centered on proven development areas. This is further evidenced by a near doubling of the number of leases and acreage issued competitively from the last fiscal year total.

During the 1988 fiscal year, geothermal development activity in Nevada continued to expand. With the approval of the Plans for Production for the Dixie Valley and the Steamboat Hot Springs power plants, there are now six power plants and one direct use facility in Nevada utilizing public geothermal resources. Electrical generation from these power plants totals 115 megawatts. Sales of electricity during the fiscal year exceeded \$19 million, with royalties totalling \$400,000, half of which was returned to the State of Nevada. The direct use facility is a heat exchange system operated in conjunction with a heap leach mining operation.

### GEOHERMAL DRILLING ACTIVITY IN NEVADA, FY 88

Number of Exploration Wells Drilled: 2    Number of Development Wells Drilled: 13  
Number of Development Plans Submitted: 3

### GEOHERMAL WELL SUMMARY FY 88

Total number of all temperature gradient holes drilled as of September 1988: 423

Total number of all exploratory wells drilled as of September 1988:

Producible or usable:	88
Plugged and abandoned:	<u>5</u>

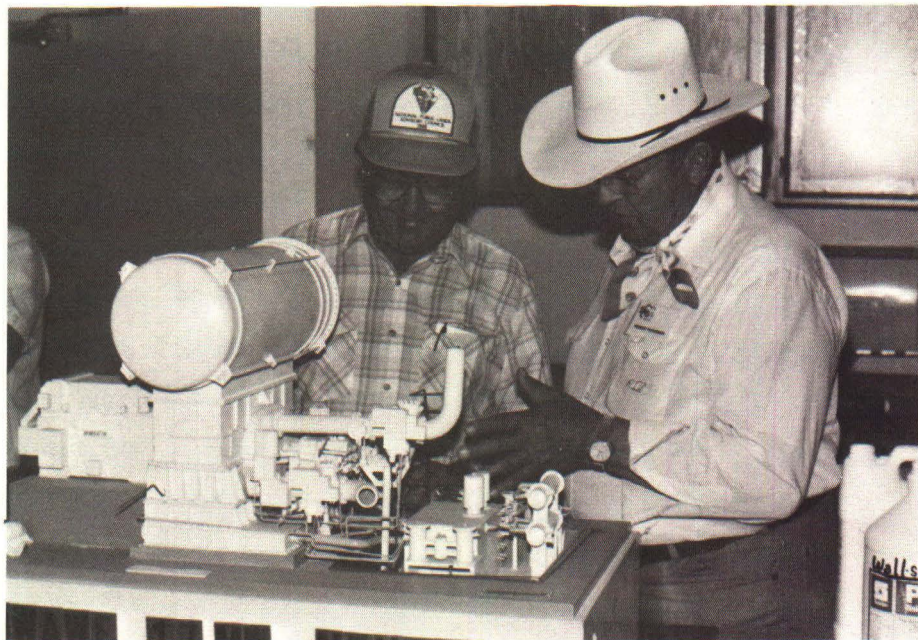
**TOTAL**                      93

### COMPETITIVE LEASE SALE

Sale Date	Number Parcels Sold	Total Acres Sold	Total High Bids
Jan. 28, 1988	9	19,201	\$283,040

## GEOTHERMAL DEVELOPMENT PROJECTS

STATUS	OPERATOR	MEGAWATTS	BLM OFFICE
<b>OPERATIONAL</b>			
Beowawe	Chevron	16.6	Battle Mountain, Elko DOs
Desert Peak	Chevron	10	Winnemucca DO
Steamboat	Caithness Power, Inc.	15	Carson City DO
San Emidio	Ormat	4.8	Winnemucca DO
Soda Lake	Chevron	3.6	Carson City DO
Dixie Valley	Oxbow	65	Carson City, Winnemucca DOs
Round Mountain	Round Mtn. Gold	Direct use	Battle Mountain DO
<b>PROPOSED</b>			
Brady Hot Springs	Brady Assoc.	8.1	Winnemucca DO
Fish Lake Valley	Steam Reserve Corp.	15	Battle Mountain DO



*Members of the National Public Lands Advisory Council toured the 16.6 megawatt Beowawe Geothermal Plant in July of 1988. This model is at the plant's facility. The Beowawe plant is operated by Chevron and power is sent to customers in the Los Angeles area.*



## HAZARDOUS MATERIALS

The BLM has developed a new program emphasis to address the issue of hazardous materials or wastes associated with federal lands. Although the primary responsibility lies with the State of Nevada or the Environmental Protection Agency (EPA), BLM as land manager, has initiated several program efforts in reporting, safety awareness, inventory, education and potential site assessment on federal lands. Each District Office has a hazardous material coordinator. The Nevada BLM State Office hazardous waste coordinator operates within the Minerals Division.

The primary objectives of the Hazardous Materials Program, in Nevada, are to identify and locate hazardous material sites, assess land status, and develop a strong safety, employee information and reporting program.

Current activities include assessment of potential hazards from active and inactive mines; monitoring of Recreation and Public Purpose lease sites for potential adverse environments/health impacts and the maintenance of the list of inventory sites on or affecting public lands. All efforts are coordinated with both the Nevada Division of Environmental Protection and the Federal EPA, Region IX. Nevada has entered into a Memorandum of Understanding with the State of Nevada to coordinate hazardous materials issues on public lands.

Nevada is one of the few states in the United States that has no superfund sites.