

NEVADA PROGRESS REPORT

86



1986



United States Department of the Interior
BUREAU OF LAND MANAGEMENT
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 year 1986 was marked by accomplishment at the Bureau of Land Management (BLM) in Nevada. Several long-term projects were completed or significant strides were made toward completion of goals. Some of the major activities were:

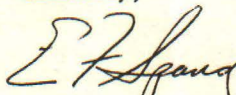
- In fiscal year 1986, there were 1,644 volunteers who contributed 25,038 hours to help improve Nevada's public lands.
- As the result of a heavy fire season in fiscal year 1985, more than 55,177 acres were revegetated in 1986. Winnemucca District and Elko District were the heaviest hit by fires and supervised most of the seeding projects.
- More than \$120,000 were expended for Desert Bighorn sheep habitat improvements. This included Bureau costs and volunteer efforts and contributions.
- About 3,135,000 acres of lands were inventoried in the ongoing soil survey project the goal of which is to provide managers with information so soils can be used within their capability to respond.
- The last of 14 grazing environmental impact statements/land management plans was completed. The documents have analyzed possible impacts of grazing.
- A national adopt-a-horse or burro program continued, placing many animals gathered on Nevada ranges with eastern and mid-western adopters. About 28,000 horses or burros live on the ranges in the state.
- Sales contracts have now been signed which will result in the development of seven areas for geothermal energy. A total of 120 megawatts of power should be produced in these areas.
- The Geological Survey and Bureau of Mines are writing mineral reports on some Wilderness Study Areas (WSAs) in Nevada. Studies have been completed on most WSAs in the state.
- Almost 4,000 recreation-related permits were issued for such activities as camping, competitive recreational events and commercial recreational use.
- Interpretive programs at archaeological areas, investigation of prehistoric sites and inventories of historic sites were conducted by BLM archaeologists assisted by volunteers.
- The 1986 fire season was above average with approximately 101,400 acres burned. BLMers responded to 728 fires on public land and assisted with 131 other fires.

-- Interest in minerals on public lands remains high. Gold and silver mining is a major activity. One company signed a major contract to explore for oil near an existing producing field. And, there was renewed activity in sodium and potassium exploration and development.

Personnel at the Reno headquarters office of the Nevada BLM made a physical move in mid-1986. BLMers moved from four separate locations in Reno to one central facility at 850 Harvard Way. The facility allows a consolidation of equipment and services and better public access to records and those employees who provide technical guidance and program leadership to field offices. Other efficiencies gained in the new building include access to conference rooms for in-house training and meetings.

Highlights of these and other events during the year follow in this year's edition of the Nevada Progress Report.

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 1986 covers the 12-month period from October 1, 1985 to September 30, 1986.

Produced by Public Affairs, Nevada State Office.

Photographs contributed by: Robert Stewart, Mark Davis, Ed Ryan, Jim Yoakum, Paul Caplinger, all BLM. Stateline Resource Area personnel photograph taken by Bureau of Reclamation, Public Affairs staff. Editor, Maxine Shane. Layout, Caroline Norris. Public Land Resources art, Diane Colcord.



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 piñon-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 strives to administer the public lands.

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



These lands produce more gold than any other state. Most of Nevada's production, which leads the United States, 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, some of Nevada's most scenic and remote lands, are under study for their wilderness potential.

The geothermal resources on these public lands now produce 26.6 gross megawatts of electric power from two power plants. In the next few years another 80 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 640 livestock operators run approximately 317,000 cattle, 1,350 horses and 254,000 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.

Volunteers contribute time, talent, materials and supplies to improve public lands. Recreation, wildlife, and archaeological-his-toric 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 make more than 1.5 million visits annually to Nevada public lands.

There have been more than 391,000 mining claims located on public lands in Nevada. Approximately 290,000 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.



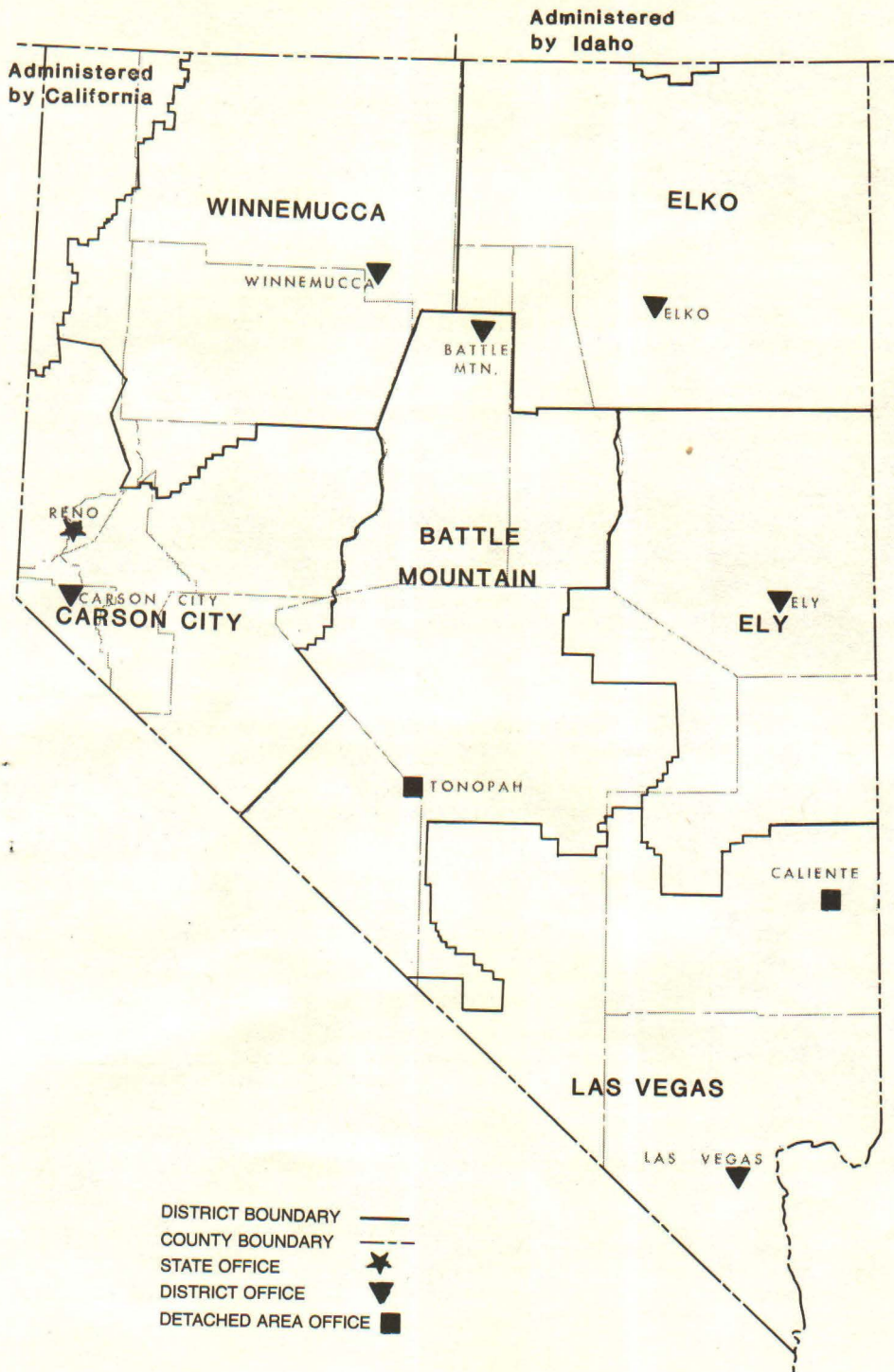
Some 16,000 acres of land containing significant fossil specimens are given special management attention as an Area of Critical Environmental Concern. The only known site in the world which is similar is in mainland China.

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 40,000 Christmas trees and 12,500 cords of firewood annually.

Revenues from leasing and production of leasable minerals exceeded \$14 million in fiscal year 1986. 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	784-5451
Associate State Director	Fred Wolf	784-5451
Secretary	Carol Hadley	784-5452
Equal Employment Opportunity Specialist	William Moon	784-5773

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	784-5311
Secretary	Dana Jensen	
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 Saval Ranch Project Manager		784-5455
Chief, Biological Resources Range Management Monitoring Specialist Fisheries and Forestry Hydrologist Soils, Watershed Wild Horses and Burros Wildlife	Daniel Rathbun Virginia McClure Peter Lent Les Sweeney Brad Hines David Griggs Osborne Casey Houng Ming Joung James McLaughlin Milt Frei Dave Goicoechea	784-5572 784-5455
Chief, Lands, and Recreation Archaeology Lands and Realty Recreation Wilderness	Staff below alternates as acting Lynda Armentrout Ken Stowers Steve Smith Steve Smith, acting	784-5748

Chief, Planning and Environmental

Staff	Jack Seley
Regional Planning	Neil Talbot
Regional Economy	Paul Myers
Sociologist	Bert Bresch
Environmental Coordinator	Ed Tilzey

784-5448

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
 Secretary
 Petroleum Engineer
 Geologists

Tom Leshendok
 Betty Jones
 Ellis Hammett
 Neil Brecheisen
 Jack Crowley
 Larry Steward
 Richard Hoops
 Galo Silva
 Cheryl Jacobs

784-5676

Physical Scientist
 Mining Engineer
 Minerals Assistant
 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
 Secretary
 Chief, Appraisal
 Chief, Cadastral Survey
 Chief, Engineering
 Chief, Lands & Minerals
 Lands Transactions
 Minerals Transactions
 Accounts
 Mining Claims Information
 Dockets

Robert Steele
 Kathy Wiegard
 Charles Hancock
 Lancel Bland
 Harold Payne
 Marla Bohl
 Wayne Lowman
 Jody Woodin
 Bob Matthews
 Walter Phelps
 Cecelia Guenaga

784-5281
 784-5282
 784-5474
 784-5484
 784-5275
 784-5703
 784-5703
 784-5703
 784-5432
 784-5751
 784-5445

Public Contact	Pam Reynolds	784-5496
Titles, Records Information	Charles Valentine	784-5976
Chief, Law Enforcement	Len Sims	784-5683
Chief, Mapping	Steve Rasmussen	784-5731
Chief, Fire and Aviation	Al Dunton	784-5100

DIVISION OF ADMINISTRATION

Provides administrative and non-technical support for personnel, incentive awards, budget analysis, procurement, property management, organizational planning, management systems, training, office services, information services, central records and equal opportunity employment.

Deputy State Director, Administration	Melvin R. Bunch	784-5491
Secretary	Sally Morrin	784-5491
Budget Officer	Fredrick Ramstad	784-5187
Chief, Administrative Services	Castulo Martinez	784-5791
Procurement	Bonnie Johnson	784-5494
Central Records, Library	Patsy McDuffie	784-5196
Printing, Reproduction	Calvin Robinson	784-5746
Word Processing	Teena Fredianelli	784-5498
Chief, Information Services	Dennis Anderson	784-5836
ADP	Georgia Wells	784-5216
Telecommunications	Alan Coombs	784-5218
Chief, Personnel Management	Delbert Estey	784-5881
Classification	Iluminado Gentolizo	784-5881
Training	John Chappell	784-5881
Staffing, Employee Relations	Ronald Banegas	784-5881

BLM DISTRICT OFFICES

Elko District Office	738-4071
P.O. Box 831, 3900 E. Idaho Street	
Elko, Nevada 89801	

District Manager	Rod Harris
Elko Resource Area Manager	Tim Hartzell
Wells Resource Area Manager	John Phillips
Chief, Division of Resource Management	Merle Good
Chief, Division of Operations, Acting	Bill Baker
Chief, Division of Administration	Michele Good

Winnemucca District Office	623-3676
705 East 4th Street	
Winnemucca, Nevada 89445	

District Manager	Frank Shields
Paradise-Denio Resource Area Manager	Scott Billing

Sonoma-Gerlach Resource Area
Manager
Chief, Division of Resource
Management
Planning and Environmental Contact
Chief, Division of Operations
Chief, Division of Administration

Gerald Brandvold

Bob Neary
Gerald Moritz
Les Boni
Ted Angle

Carson City District Office
1535 Hot Springs Rd., Suite 300
Carson City, Nevada 89701

882-1631

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
Star Route 5, Box 1
Ely, Nevada 89301

289-4865

District Manager
Egan Resource Area Manager
Schell Resource Area Manager
Chief, Division of Resource
Management
Planning and Environmental
Coordination Contact
Chief, Division of Operations
Chief, Division of Administration

Ken Walker
Gene Draais
Gerald Smith
Cris Ann Bybee, acting

Jake Rajala
Hal Bybee
Sue Perkins

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

385-6403

~~388-6403~~
388-6627

Stateline Resource Area
301 E. Stewart
P.O. Box 7384
Las Vegas, Nevada 89125

388-6627

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

726-3141

District Manager
Associate District Manager
Stateline Resource Area Manager

Ben Collins
Charles Frost
Dave Hunsaker, acting

Caliente Resource Area Manager
Chief, Division of Resource
Management
Chief, Division of Operations
Chief, Division of Administration

Curtis Tucker

Joe Ross
Tom Combs
John Crew

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

635-5181

Detached Area Office
Tonopah Resource Area
P.O. Box 911
Tonopah, Nevada 89049

482-6214

District Manager
Shoshone-Eureka Resource Area
Manager
Tonopah Resource Area Manager
Chief, Division of Resources
Planning and Environmental
Coordination Contact
Chief, Division of Operations
Chief, Division of Administration

Terry Plummer

Mary O'Brien
Roger Oyler, acting
Mike Mitchel

Calvin McKinlay
P. John Keenan
Thomas Jury



A unit award for excellence of service was presented to members of the Stateline Resource Area, Las Vegas District, for their outstanding achievements in recruiting and training volunteers. The award was signed by the Secretary of the Interior, Donald Hodel.

FEDERALLY ADMINISTERED LANDS IN NEVADA BY AGENCY AS OF THE 1985 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 727 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	5,150,093.0	
Soil Conservation Service	.4	
Department Subtotal	5,150,093.4	7
Department of Energy		
Energy Research and Development Administration	797,804.4	
Western Area Power Admin.	8,810.2	
Department Subtotal	806,614.6	1
Department of the Interior		
Fish & Wildlife Service	2,214,974.8	
Geological Survey	70.8	
Bureau of Indian Affairs	3,981.7	
Bureau of Land Management	47,812,525.0	
Bureau of Mines	4.5	
National Park Service	264,137.9	
Bureau of Reclamation	708,641.6	
Department Subtotal	51,004,336.3	72
Department of Transportation		
Federal Aviation Administration	1,863.1	*
Department of Defense		
Air Force	2,903,606.0	
Army	163,317.0	
Navy	63,653.7	
Corps of Engineers	671.0	
Department Subtotal	3,131,247.7	4
Other Federal Agencies		
General Services Administration	13.2	*
Coast Guard	.2	*
Health Services Administration	.2	*
United States Postal Service	30.6	*
Veterans Administration	12.5	*
Other Agencies Subtotal	56.7	
TOTALS	60,094,211.8	85

*Less than one percent.

NOTE: Data from the General Services Administration. Current BLM figures are shown on the opposite page.

PUBLIC LANDS IN NEVADA BY COUNTY AS OF SEPTEMBER 30, 1986

COUNTY	PUBLIC LANDS MANAGED BY BLM*	TOTAL ACREAGE IN COUNTY	PERCENTAGE OF TOTAL ACRES MANAGED BY BLM
Carson City	42,385	97,920	43
Churchill	2,294,744	3,144,320	73
Clark	3,184,081	5,173,760	62
Douglas	179,101	480,640	37
Elko	6,784,144	10,995,840	62
Esmeralda	2,210,607	2,284,800	97
Eureka	2,020,010	2,676,480	75
Humboldt	4,321,474	6,210,560	70
Lander	3,011,598	3,597,440	84
Lincoln	5,749,541	6,816,000	84
Lyon	711,011	1,295,360	55
Mineral	1,693,028	2,455,680	69
Nye	6,698,529	11,560,960	58
Pershing	2,910,404	3,859,840	75
Storey	12,528	167,680	7
Washoe	2,642,210	4,229,120	62
White Pine	<u>4,363,937</u>	<u>5,699,200</u>	<u>77</u>
TOTALS	48,829,332	70,745,600	69

*Changes in public land acreages are because of recalculations, better data, land transfers and exchanges, etc.

BY BLM DISTRICT

DISTRICT	TOTAL ACRES MANAGED BY BLM
Elko	7,383,894
Winnemucca	8,252,123
Carson City	5,321,290*
Ely	8,007,132
Las Vegas	7,287,453
Battle Mountain	11,107,797
Susanville	1,452,138**
Boise	<u>58,082***</u>
TOTAL	48,869,909

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

**Land in Washoe and Humboldt Counties 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 86

Total Public Land Receipts Collected by BLM \$11,041,608	Total Funds Paid Out by BLM from the U.S. Treasury Relating to Public Land Management in Nevada
Total Mineral Receipts Collected by MMS \$14,535,447	Direct Cost Expenditures \$26,245,800 Payments to State of Nevada 1,668,364 Payments in Lieu of Taxes <u>5,611,340</u>
	TOTAL \$33,525,504

RECEIPTS FY 86

<u>Receipts Source - BLM</u>	<u>Amount</u>
Mineral Leases and Permits	
Oil and Gas Pipeline Right-of-Way Rentals	\$ 491,508
Sale of Land and Materials	
Land	7,339,451
Materials	166,416
Timber	76,539
All Others	31,672
Grazing	
Section 3*	2,334,915
Section 15**	55,357
Fees and Commissions	199,268
Rights-of-Way	251,694
Rents of Land	24,456
All Others	<u>70,332</u>
TOTAL	\$11,041,608

*Section 3 refers to grazing within grazing districts.

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

<u>Receipts Source - MMS</u>	<u>Amount</u>
Royalties	
Oil	\$ 5,048,208
Geothermal Steam	83,781
Geothermal, Oil and Gas, Minimum Royalties	34,765
Sand, Gravel	159,475
Rents	
Geothermal	611,650
Oil and Gas	8,358,348
Bonuses	
Geothermal	38,649
Oil and Gas	200,280
Interest	381
TOTAL	<u>\$14,535,447</u>

DIRECT COST EXPENDITURES

CONSTRUCTION AND MAINTENANCE	
Range, Wildlife Habitat, Soil and Water Improvements (\$1,090,500 of this amount is directly from grazing fees)	\$ 1,741,500
Maintenance of Range, Wildlife Habitat, Soil and Water Improvements	50,200
Recreation and Other Facility Construction	79,800
Road Construction and Easement Acquisition	36,000
Maintenance of Roads and Facilities	744,300
RESOURCE PROTECTION	
Fire Prevention	1,678,000
Fire Suppression	5,460,700
MANAGEMENT	
Lands and Realty	1,678,500
Energy and Minerals	
Oil and Gas	564,600
Geothermal	363,900
Non-Energy Minerals	1,063,000
Forest Management	193,000
Grazing Management	2,909,700
Wild Horse and Burro Management	2,962,600
Cultural Management	373,100
Wilderness Management	512,400
Recreation and Visual Resource Management	585,600
Soil, Air, and Water Management	2,353,700
Wildlife Habitat Management	827,300
Fire Management	453,800
Planning for Multiple Use	584,500
Law Enforcement	157,800
CONTRIBUTIONS AND REIMBURSABLES	<u>871,800</u>
TOTAL	<u>\$26,245,800</u>

PAYMENTS MADE TO THE STATE OF NEVADA FY 86

BLM	
Land sales (state, county receive)	\$1,257,762*
Sale of materials, timber, etc.	76,447*
Grazing	
Section 3	316,950*
Section 15	17,205*
MMS	
Mineral Receipts	<u>7,413,502**</u>
TOTAL	<u>\$9,081,866</u>

* These amounts were actually paid out in fiscal year 1986.

** Payments made monthly to the State of Nevada by the Minerals Management Service.

PAYMENT IN LIEU OF TAXES

COUNTY	PAYMENT	COUNTY	PAYMENT	COUNTY	PAYMENT
Carson City	\$ 36,476	Esmeralda	66,364	Mineral	258,763
Churchill	416,814	Eureka	63,290	Nye	416,814
Clark	958,359	Humboldt	359,190	Pershing	170,903
Douglas	198,418	Lander	210,568	Storey	9,024
Elko	528,220	Lincoln	170,279	Washoe	985,831
		Lyon	447,016	White Pine	315,011
			TOTAL		\$5,611,340

EQUAL EMPLOYMENT OPPORTUNITY

During the 1986 fiscal year, numerous training programs and special emphasis awareness activities were held to demonstrate management's commitment to the Equal Employment Opportunity (EEO) program.

The goal of EEO is to provide equal opportunity for all Americans, and to have a work force that is reflective of the diversity of our nation. At the same time, BLM supports and rewards employee performance on the basis of ability and effort.

In keeping with the agency's objectives, appropriate activities were held to commemorate the observances of women's equality and history week, Black history month, Hispanic heritage and Asian/Pacific American heritage.

Many managers and supervisors actively participated in recruiting activities, including the Washoe County School District Job Fair held in Reno. Information and materials on careers and job opportunities available with the Bureau of Land Management were distributed.

BLM'S NEVADA WORKFORCE FY 86

Statewide permanent workforce	468	Minority Groups	
Non-minority females	111 (23.7%)	Asians	7 (1.5%)
Minorities	54 (11.5%)	Native Americans	22 (4.7%)
		Blacks	10 (2.1%)
		Hispanics	15 (3.2%)

VOLUNTEER PROGRAM

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

During 1986, the amount of time contributed by volunteers to help improve Nevada's public lands totaled 25,038 hours. The 1,644 volunteers came from local community service groups, youth organizations, and outdoor interest groups, as well as individual citizens with a desire to help.

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 86

Number of volunteers	1,644
Hours of service	25,038
Value of volunteer work	\$216,271
BLM costs to manage program	\$1,732



These Boy Scouts were among the volunteers who donated time to improving the public lands this past year. They cleaned up fire pits at the Sand Mountain campground.

BLM EMPLOYMENT

Employment in the BLM in Nevada in fiscal year 1986 showed no significant change in the permanent work force from the fiscal year 1985 figures, as predicted. There were a considerable number of temporary employees on the rolls at the peak of the fiscal year 1986 field season.

BLM EMPLOYMENT FY 86

OFFICE	PERMANENT	WAE*	PART-TIME	TEMPORARY	TOTALS
State Office	142	2	3	28	175
Elko	54	2	0	41	97
Winnemucca	50	0	1	22	73
Carson City	65	7	0	68	140
Ely	52	2	1	17	72
Las Vegas	70	5	2	39	116
Battle Mountain	<u>49</u>	<u>4</u>	<u>0</u>	<u>14</u>	<u>67</u>
TOTALS	482	22	7	229	740

*When Actually Employed, less than full-time.

BUILDINGS, FACILITIES, ROADS

The Bureau spent \$548,000 in fiscal year 1986 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 out-buildings had \$241,500 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 \$306,500.

The Bureau maintains approximately 9,400 miles of road in Nevada. In fiscal year 1986 about 20 percent of the roads were maintained, at a cost of \$251,300.

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 1986, four BLM survey crews field completed surveys of section lines enclosing 190,000 acres of BLM lands. A summary of other survey statistics and surveys approved in fiscal year 1986 is outlined below:

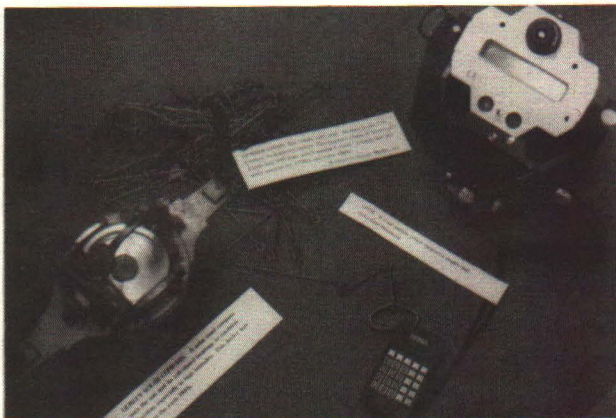
SURVEY STATUS

ITEM	FY 85	FY 86
Acres surveyed		
BLM	10,761	23,066
Acres resurveyed		
Forest Service	0	0
BLM	176,548	77,044
Acres unsurveyed	19,282,635	19,259,569
Minerals surveyed	8**	10*
Plats accepted	33	32
Acres surveyed to present	51,046,325***	51,069,391***

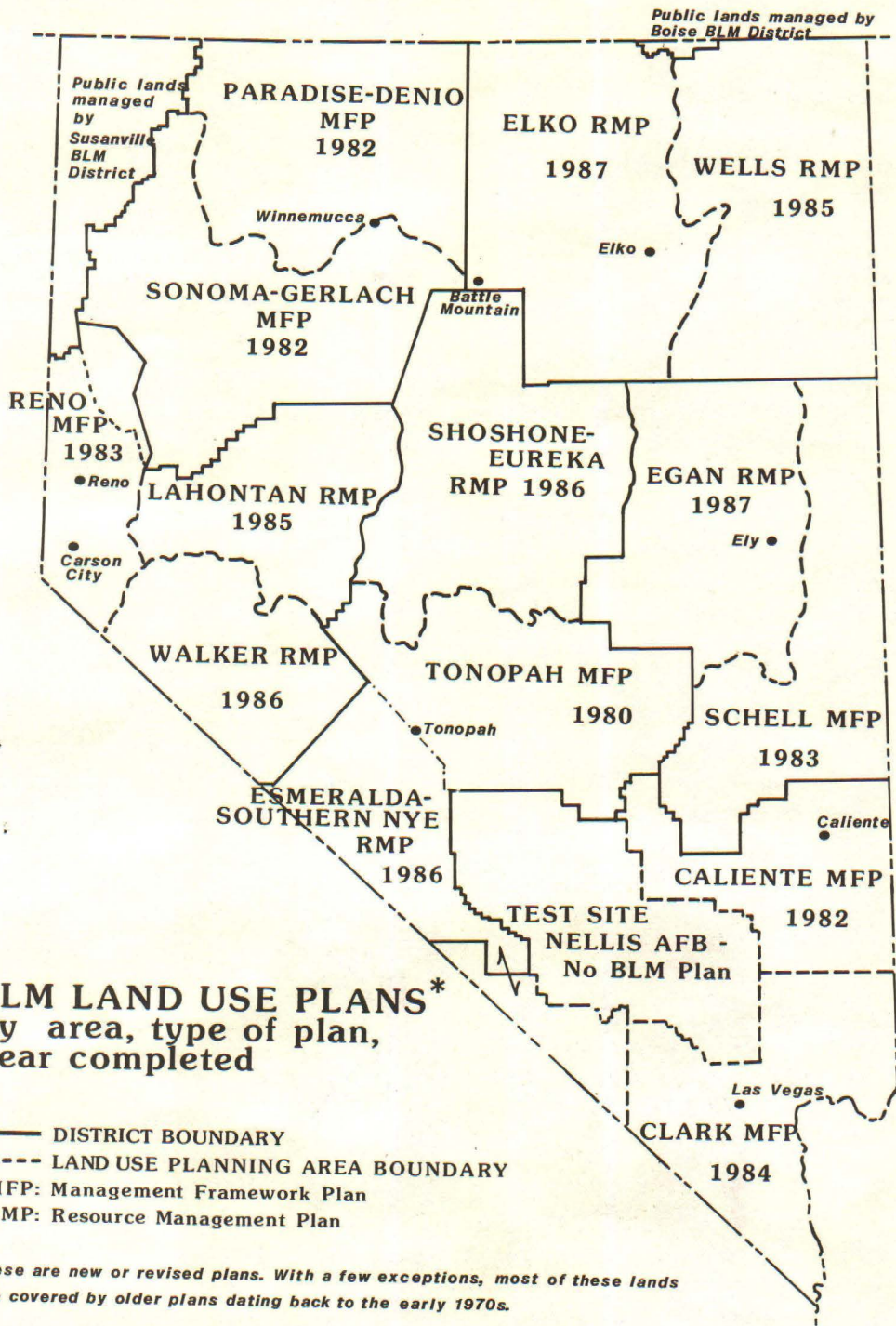
*Approved FY 1986, 10 mineral surveys consisting of 49 lode claims, and 38 millsites.

**Approved FY 1985, 8 mineral surveys consisting of 45 lode claims and 26 millsites.

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



Cadastral surveyors tools have changed considerably since the days when the Gurley solar compass and the Gunther chain were in vogue. The Omni, on the right, is a total station which measures angles and horizontal distances.



LAND USE PLANNING

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 1986 PLANS

Nevada RMPs and their associated Environmental Impact Statements (EISs) prepared in 1986 encompassed a number of issues which were developed through public involvement. Issues included wilderness, rangeland management, land tenure and utility corridors, recreation and minerals, to name a few. In each instance, the proposed resolution of these issues -- and their accompanying resource conflicts -- touch on a number of Bureau programs such as wildlife, wild horses and burros, forestry and cultural resources.

Resource Management Plans were completed and Records of Decision issued for the Walker Resource Area, Carson City District; Esmeralda-Southern Nye Planning Area, Battle Mountain and Las Vegas Districts; Shoshone-Eureka Resource Area, Battle Mountain District; and the Elko Resource Area, Elko District.

The Resource Management Plan for the Egan Resource Area will be finalized in fiscal year 1987.

MINERALS MANAGEMENT

Minerals development, especially gold and silver mining, is an important land use within the Bureau's multiple-use program in Nevada. More than 50 percent of the gold mined in the United States now comes from public lands in Nevada. Geothermal development has also expanded greatly with two power plants on Federal lands now producing and with several others under construction or permit.

The minerals program in fiscal year 1986 was influenced by two major trends: the continued management of the hardrock surface management program under the 1872 Mining Law, with Nevada BLM having the largest state management program, and the expansion of the geothermal program on federal lands in Nevada because of the completion of producing power plants.

Mineral production on public land in Nevada involves three distinct systems: location, leasing, and material sale. Location involves minerals like gold and silver. 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 continued 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.

In fiscal year 1986, the mineral receipts from leasable mineral activity in Nevada totaled \$14,535,447. 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 1986, 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, barite, magnesite and mercury. It was a major producer of lithium, gemstones and diatomite. There were an estimated 400 active mining operations in Nevada. A total of 29,447 claims were recorded during the fiscal year which brought the total claims recorded in Nevada under the Federal Land Policy and Management Act to 378,098. Nevada BLM offices received 594 notices and 79 plans under the hardrock mining regulations contained in 43 Code of Federal Regulations 3809. These totaled more than any other state with federal lands.

MINING CLAIM RECORDATION STATUS FY86

Total claims recorded during fiscal year 1986: 29,447
Total claims recorded through September 30, 1986: 378,098

MINING CLAIM PATENTS FY86

TYPE	NO.	ACREAGE
Lode	10	152,774
Placer	120	2,268,104
Millsite	<u>0</u>	<u>0</u>
TOTALS	130	2,420,878

NOTICES AND PLANS OF OPERATIONS FILED UNDER THE HARDROCK SURFACE MANAGEMENT REGULATIONS, FY 86

DISTRICT	NO. NOTICES	NO. PLANS
Elko	74	32
Winnemucca	100	6
Carson City	69	18
Ely	46	5
Las Vegas	66	4
Battle Mountain	<u>239</u>	<u>14</u>
TOTALS	594	79

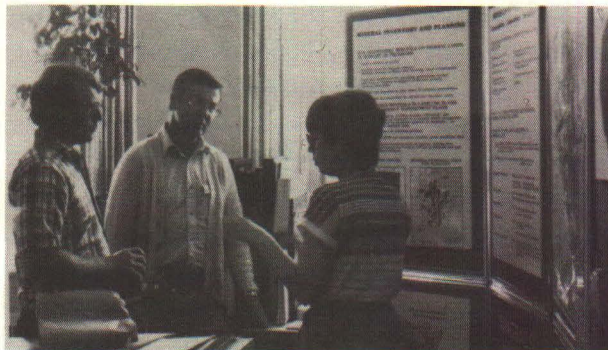
SALABLES

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 68 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.

MINERAL MATERIALS, FY 86

TYPE CASE	NO. OF PERMITS	VOLUME	VALUE
Material Sales	748	676,007 cubic yards	\$ 150,245
Free Use Permits	<u>113</u>	<u>47,707,187</u> cubic yards	<u>9,566,916</u>
TOTALS	861	48,383,194	\$9,717,161



BLM personnel prepare an exhibit about minerals managed on public lands. The exhibit deals with mineral inventory and planning, mining claims and millsites, surface management requirements and other aspects of the program.

LEASABLES

There has been renewed activity in exploration and development of sodium and potassium. Preference right lease applications have been received for Rhodes Marsh, 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. The primary products would be sodium chloride and sodium sulphate. One proposed project would be an underground operation for sodium sulphate. Interest in Nevada's plays 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.



Exploring for minerals at the Crowfoot Mine in Humboldt County, east of Sulphur.

Several prospecting permits and leases in the Lake Mead National Recreation Area are involved in a suit filed by the Sierra Club, so action is awaiting a court decision. The following chart includes Indian land leases.

MINERAL LEASES AND PERMITS IN EFFECT FY 86

TYPE	NO.	ACREAGE
Sodium Leases/Permits	18	40,921
Other (Silica Sand and Gravel, etc.)	<u>8</u>	<u>302,781</u>
TOTALS	26	343,702

OIL AND GAS

Nevada reflected the nationwide economic slump in oil exploration and leasing as seen by a decline in Applications for Permit to Drill (APD) and a similar drop in leasing activity. A total of 19 exploration wells were drilled in fiscal year 1986, as compared with 33 wells in fiscal year 1985 and 33 in fiscal year 1984.

Nine unit applications were approved in fiscal year 1986, compared to 14 in fiscal year 1985 and 5 in fiscal year 1984. Wildcat exploration targets in Nevada are usually tested through the use of unit agreements. Unit agreements allow the lease owners to share both the cost of exploration and the considerable risks involved in a frontier area such as Nevada. The oil and gas industry has demonstrated the usefulness of unit agreements by using this method to drill the majority, 63 percent, of the wells during the last three fiscal years. Of the 38 units approved in the last three fiscal years, 97 percent were actually drilled and satisfied unit obligations. (Six unit agreements had been approved as of the time of this printing in fiscal year 1987.)

The Pinon Development contract was put into effect in fiscal year 1986. The contract calls for Exxon Company to commit resources and dollars to explore an area just north and east of the producing Blackburn Field with the intent of delineating exploration targets and possibly testing those targets. The contract area involves nearly 640,000 acres in Eureka, Elko and White Pine Counties.

Production during the fiscal year was curtailed during the severe price drop of early 1986. The overall effect of the curtailment is evidenced by the fact that yearly production does not show an increase in volume. Yearly production for fiscal year 1986 mirrors fiscal year 1985 production at 3,000,000 barrels. Several smaller volume wells were suspended during the year, but some strengthening market for oil recently prompted reactivation of some of these "stripper" wells.

OIL AND GAS LEASES IN EFFECT BY COUNTY, FY 86

COUNTY	COMPETITIVE		NON-COMPETITIVE	
	No. Leases	No. Acres	No. Leases	No. Acres
Carson City	0	0	0	0
Clark	0	0	284	484,105.02
Churchill	0	0	107	248,133.03
Douglas	0	0	0	0
Elko	0	0	598	1,394,079.22
Esmeralda	0	0	0	0
Eureka	0	0	523	1,151,515.18
Humboldt	0	0	29	37,883.02
Lander	0	0	53	95,442.64
Lincoln	0	0	518	1,244,675.17
Lyon	0	0	0	0
Mineral	0	0	10	30,615.70
Nye	20	2,071.28	1,050	1,764,802.21
Pershing	0	0	29	67,719.09
Storey	0	0	0	0
Washoe	0	0	55	14,655.37
White Pine	0	0	813	1,777,921.22
TOTALS	20	2,071.28	4,069	8,311,546.87

GEOTHERMAL 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 change of three dollars per acre per year.

During the 1986 fiscal year, activity in Nevada remained in a development phase. Additional electric power sales contracts totalling 30 megawatts have been signed involving federal lands in four different reservoir areas. Signed sales contracts involving seven development areas now total 120 megawatts.

Electrical generation from the 16.6 megawatt Beowawe power plant and the 10 megawatt Desert Peak power plant continued at near full capacity and availability. Each plant utilizes two production wells and one injection well. Electricity from the plants, which are operated by Chevron Resources Company, is sold to both California and Nevada utility companies.

Oxbow Geothermal Corporation is proposing to construct and operate a 62.5 megawatt dual flash power plant in Dixie Valley. A Plan of Utilization for the proposed project has been approved. The plant will utilize 11 production wells and generate electricity for sale to a southern California utility. Transmission of the electricity from Dixie Valley to California will be accomplished by the construction of a 220-mile powerline.

GEOTHERMAL DRILLING ACTIVITY IN NEVADA FY 86

Number of Exploration Wells Drilled: 2 Number of Development Wells Drilled: 6
Number of Development Plans Submitted: 2

GEOTHERMAL WELL SUMMARY FY 86

Total number of all temperature gradient holes drilled as of September 1986: 415

Total number of all exploratory wells drilled as of September 1986:

 Producible or usable: 58
 Plugged and abandoned: 5

TOTAL 63

As of the end of fiscal year 1986, there were 366 geothermal leases totalling 636,692 acres; this shows a drop of some 35,000 acres since 1985.

COMPETITIVE LEASE SALE

Sale Date	Number Parcels Sold	Total Acres Sold	Total High Bids
Sept. 25, 1986	8	15,281	\$55,059

GEOTHERMAL DEVELOPMENT PROJECTS

OPERATOR	LOCATION & BLM OFFICE	SALES CONTRACT SIGNED	PLAN OF UTILIZATION SUBMITTED	PLANT STARTUP	MEGA- WATTS
Phillips	Desert Peak Winnemucca DO	March 1984	March 1984	Dec. 1985	10
Chevron	Beowawe Battle Mountain, Elko DOs	Dec. 1984	Sept. 1984	Dec. 1985	16.6
Oxbow Geo. Corp.	Dixie Valley Carson City, Winnemucca DOs	Oct. 1984	March 1986	Early 1988	65
Chevron	Soda Lake Carson City DO	Nov. 1986	Feb. 1987	Mid 1987	3.8
Munson Geo. Corp.	Brady Hot Springs Winnemucca DO	Nov. 1985	----	Late 1987	10
Phillips	Steamboat Hot Springs Carson City DO	Nov. 1986	Dec. 1986	Late 1987	12.5
Steam Reserve Corp.	Fish Lake Valley Battle Mountain DO	----	Feb. 1986	Late 1987	15
Stewart	San Emidio Winnemucca DO	----	----	Late 1987	2.4
South Central Nevada Holdings, Inc.	Railroad Valley Battle Mountain DO	----	----	Late 1987	2 & Direct Use
Third Wave Technology	Wabuska Hot Springs Carson City DO	----	----	Mid 1986	Direct Use from Well on Fee Land

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, 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 Department of Environmental Protection and the Federal EPA, Region IX. In fiscal year 1986, Nevada 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.

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.

Twelve watersheds (see table) throughout Nevada have been monitored since 1962 for water resources, climatological and air resources information. These watersheds represent typical remote watersheds throughout Nevada, and the information collected is used by management for input into decisions where water and air resource information is essential.

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.

NEVADA BLM WATERSHED MONITORING 1962 TO PRESENT

DISTRICT	WATERSHED	AREA	
		SQ. MILES	ACRES
Elko	Rock Springs	77	49,280
	Crain Springs	30	19,200
Winnemucca	Crowley Creek	56	35,840
	Cow Creek	115	73,600
Carson City	Eastgate	213	136,320
	Churchill	73	46,720
Ely	Duckwater	96	61,440
	Steptoe Canyon	45	28,800
Las Vegas	Pine Canyon	32	20,480
	Mathews Canyon	36	23,040
Battle Mountain	Coils Creek	50	32,000
	Mill Creek	23	14,720

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 1992. As of October 1, 1986, almost 49 million acres of soil inventories have been completed. Following is a list of BLM district accomplishments for fiscal year 1986 and cumulative totals.

SOIL INVENTORIES

DISTRICT	SOIL SURVEY ACCOMPLISHMENTS (ACRES)*		ECOLOGICAL STATUS
	FY 86	CUMULATIVE TO OCT. 1, 1986	INVENTORIES CUMULATIVE TO OCT. 86
Elko	569,877	8,336,472	3,165,000
Winnemucca	989,606	6,861,845	2,440,843
Carson City	180,350	6,414,152	4,100,000
Ely	686,320	5,921,754	760,440
Las Vegas	409,234	8,049,535	650,000
Battle Mountain	300,000	11,357,187	1,855,500
Susanville	<u>0</u>	<u>1,813,226</u>	0
TOTALS	3,135,387	48,754,171**	12,971,783

* 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.

GRAZING MANAGEMENT

The Elko Final Environmental Impact Statement/Resource Management Plan was completed during the 1986 fiscal year. It was the last of 14 such statements/management plans required to analyze the possible impacts of grazing in Nevada. (For location of this and other resource areas, please refer to the Land Use Plans Map.)

With the completion of BLM's environmental impact statements and land use plans, such as a Resource Management Plan, grazing management decisions and/or agreements are being completed. These decisions and agreements follow a period of monitoring studies coupled with consultation and coordination processes that implement grazing management with specific resource objectives. The results of monitoring studies are the basis to determine if management is meeting the resource objectives or if adjustments in grazing use are necessary. Grazing uses that are being monitored are wildlife, livestock, and wild horses and burros.

The grazing management program has assigned priorities to management efforts using a selective management approach where grazing allotments are categorized into a MIC management category. The objectives for these categories are to: (1) maintain current satisfactory condition; (2) improve current unsatisfactory condition; or (3) manage custodially, 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	Total
Allotments	260	277	276	4	817
Acres	29,212,535	9,808,584	7,802,955	23,182	46,847,256

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.

Another important aspect of the grazing management program is the development of activity plans or Allotment Management Plans. Of the 817 grazing allotments in Nevada, 137 have implemented Allotment Management Plans. The coordinated resource management planning process which began in 1981 incorporates various interest group input into this effort. Special emphasis is also being given to the reassessment of riparian areas and riparian area management.

FORAGE PROVIDED AND NUMBER OF LIVESTOCK AUTHORIZED TO GRAZE ON PUBLIC LANDS FEE YEAR 1985*

DISTRICT	NUMBER OF OPERATORS	ANIMAL UNIT** MONTHS***	NUMBER OF CATTLE	NUMBER OF HORSES	NUMBER OF SHEEP
Elko	163	544,867	127,125	821	52,077
Winnemucca	103	276,786	56,260	181	18,756
Carson City	78	135,775	19,428	35	15,881
Ely	119	304,627	40,449	63	107,233
Las Vegas	91	114,215	14,701	137	9,250
Battle Mtn.	85	429,969	59,316	106	50,715
TOTALS	639	1,806,239	317,279	1,343	253,912

*Grazing fee year 1985 ran from March 1, 1985, to February 1, 1986.

**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.

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. 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 and provide additional water to a resident band of wild horses and burros.

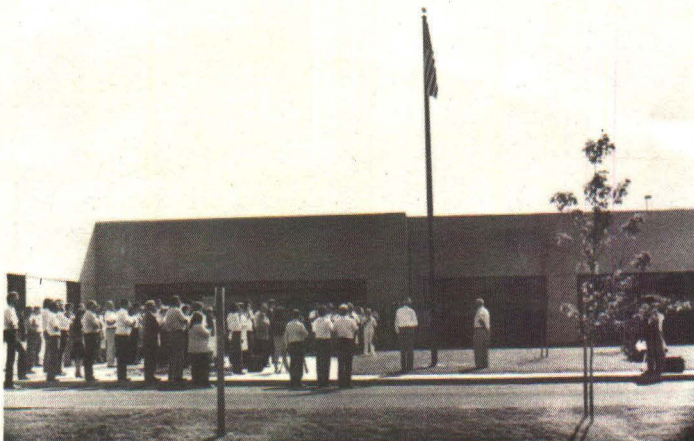
The majority of funding for this program originates from the grazing fees paid by livestock operators holding grazing leases and licenses. However, this source may be supplemented by funds appropriated under the Public Rangelands Improvement Act of 1978, direct Congressional appropriations, or from contributions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

Consistent with the Bureau's Rangeland Improvement Policy, range betterment funds were spent to support both the terrestrial and aquatic wildlife habitat improvement programs as shown below.

RANGELAND IMPROVEMENTS COMPLETED IN FY 86

TYPE OF IMPROVEMENT	NEW CONSTRUCTION (RANGE)	NEW CONSTRUCTION (WILDLIFE)
Cattleguards/Management Facilities	34 each	
Fences	191.3 miles	30.6 miles
Water Facilities	39 units	12 units
Vegetation Manipulation	6,134 acres	

* Range betterment fund and partially contributed funds only.



The Reno headquarters of the Nevada BLM moved to a new office on Harvard Way in mid-1986. Two former State Directors, Ed Rowland and Nolan Keil, raised the flag.

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 42,000 wild horses and 8,000 wild burros inhabit these lands. The bulk (40,753 horses and 7,607 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 86

DISTRICT	HORSES	BURROS
Elko	1,367	-
Winnemucca	6,946	265
Carson City	4,794	139
Ely	2,699	-
Las Vegas	4,789	736
Battle Mountain	6,169	333
TOTALS	<u>26,764</u>	<u>1,473</u>

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 rounds up and removes wild horses and burros for a variety of reasons, such as requests by private landowners or to abide by a coordinated resource management plan. The total removed in fiscal year 1986 is noted below.

GATHERS COMPLETED-FY 1986

DISTRICT	HORSES GATHERED
Elko	107
Winnemucca	4,220
Carson City	1,018
Ely	485
Las Vegas	1,278
Battle Mountain	<u>1,081</u>
TOTAL	8,189

After a gather, excess wild horses are transported to a Bureau placement center for handling. There, the animals are carefully checked, given necessary veterinary care, inoculated, and branded with a permanent identification code. Sometimes, a few animals are turned back onto the range because of age or temperament; some are found to be branded and privately owned and are turned over to the State of Nevada for handling; and some either die from natural causes or are humanely destroyed as ordered by a veterinarian because of certain illnesses or infirmities. The large majority 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.

Three contracted adoption centers were opened in 1985 to maintain captured animals. They are in Nevada, Nebraska and Texas.

DISPOSITION OF EXCESS ANIMALS- 1986

NO. ADOPTED IN NEVADA	NUMBER AT PALOMINO VALLEY START OF FY 86	BRANDED/ PRIVATE	DIED OR HUMANELY DESTROYED	BALANCE REMAINING AT PALOMINO VALLEY END OF FY 86
254	1,271	9	358	593



The Children's Television Workshop of New York, producers of "3-2-1 Contact" visited a gather at Button Point in the Winnemucca District. The October 1986 gather will be shown on Public Broadcast Service within the year.

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 of 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 75 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.

Actual habitat improvement through development of new projects or maintenance of existing developments was undertaken within 30 Habitat Management Plan areas across the State. A wide range of improvement projects was completed, varying from placement of bird ladders in stock troughs to placement of stream structures for fisheries improvement, guzzler construction and design of projects for fiscal year 1987. Dollars expended in these accomplishments exceeded \$225,000 of direct Bureau expenditures, and contributions of an additional \$200,000 in money and donated labor by private interests and the Nevada Department of Wildlife. Bureau costs for materials, project design and actual construction combined with volunteer efforts and their contributions made a total expenditure of more than \$120,000 for Desert Bighorn sheep habitat improvement.

WILDLIFE PROJECT WORK COMPLETED IN FY 86

Developed water facilities and habitat improvement projects	16
Maintenance and development of aquatic riparian-associated projects	108 projects involving repair of water developments and enclosure maintenance.



Bighorn sheep habitat improvements have been made throughout the state in recent years. Volunteer groups have been especially interested in the habitat of these animals.

WILDERNESS



Desatoya Wilderness Study Area, looking west down Park Canyon.

Inventory, the first phase of the Bureau's wilderness review, was brought to a close during fiscal year 1981. 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. 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). 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.

Protests of the statewide wilderness inventory decisions were resolved and several appeals were filed with the Interior Board of Land Appeals as a result of the protest decisions. All of these appeals have been reviewed by the Board, and decisions on each appeal have been issued. Some areas have been removed from WSA status as a result of appeal decisions.

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 resource is evaluated along with all the other resources on the public lands. Public involvement is an important step in this process. 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. Public comment opportunities will be held on mineral survey reports on WSAs written by the Geological Survey and the Bureau of Mines.

Recent litigation has resulted in the addition of 13 new WSAs in Nevada, totalling 193,000 acres. The lands will undergo a future wilderness study.

STATUS OF THE WILDERNESS REVIEW BY THE END OF FISCAL YEAR 1986 *

Acres designated WSAs	5,082,824	(102 units)
Acres eliminated from consideration	44,193,577	(1,618 units)
WSA acres undergoing wilderness study	5,082,824	(102 units)

* Acreage includes public land in Nevada managed by the California and Idaho BLM Offices, but does not include land in California managed by the Nevada BLM.

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 1986 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 15,149,738 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; and Indian Creek, Walker Lake, and the East Fork of the Carson River in the Carson City District.

Some 3,934 recreation-related permits were issued in fiscal year 1986. Of these, 3,819 were fee site (camping) permits; 47 were authorized for competitive recreational events; and 68 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 1986 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 relating to ORV use. Fiscal year 1980 was the first year public lands in Nevada were designated open, closed or limited to ORV use. All public lands will be designated through the land use planning system.

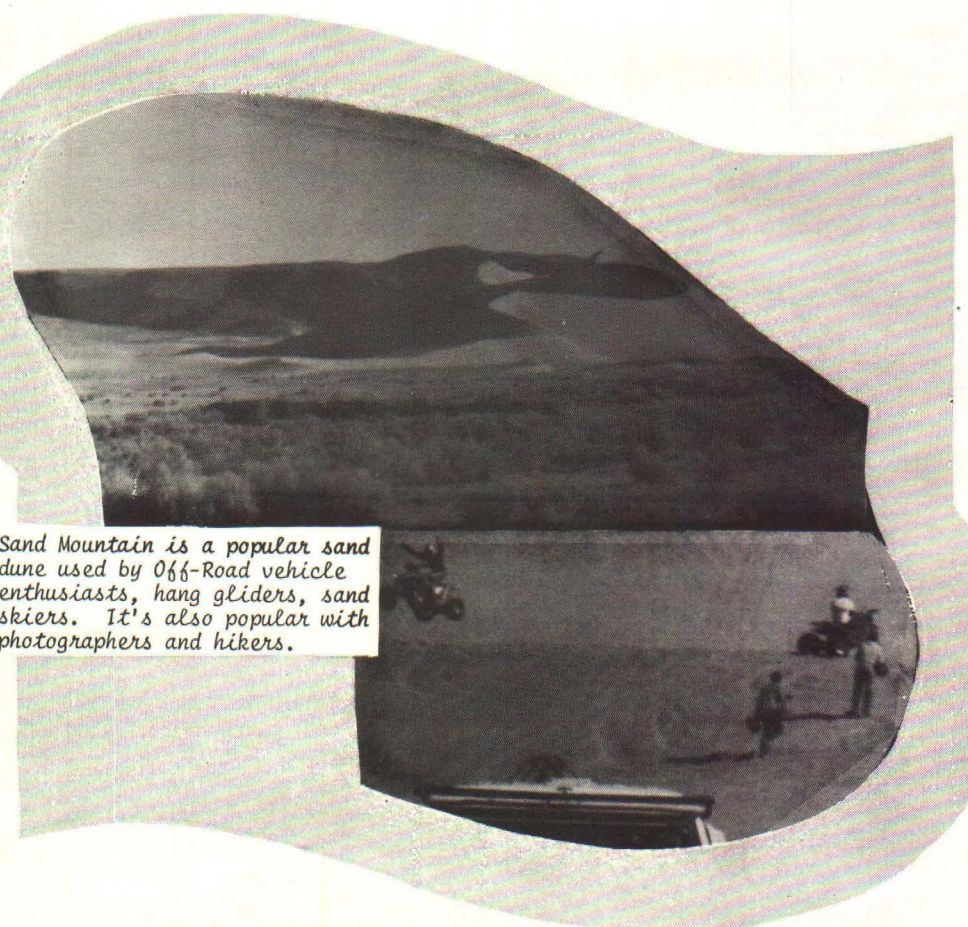
Cooperative efforts with other agencies in fiscal year 1986 included continuation of an agreement for the provision of general management services at the Red Rock Canyon Recreation Lands near Las Vegas and continuation of a cooperative agreement for general management and maintenance of the North Wildhorse Recreation Area in Elko County. Both ventures were negotiated with the Nevada Division of State Parks.

Campgrounds are popular recreation spots and the Bureau currently maintains nine developed sites in Nevada. Details on these sites follow:

BLM DEVELOPED RECREATION SITES

DISTRICT	NAME OF SITE	NUMBER OF UNITS	OVERNIGHT FEE
Elko	*Ruby Marsh	35	\$4.00
	*North Wildhorse	19	\$3.00
	*Wilson Reservoir	15	-
Carson City	Sportsman's Beach	17	-
	*Indian Creek (California)	30	tent site \$4.00 vehicle site \$6.00
Las Vegas	Willow Creek	7	-
	Cold Creek	4	-
	Willow Spring (Day use only)	19	-
Battle Mountain	Hickison Petroglyph	21	-

*Water suitable for drinking



Sand Mountain is a popular sand dune used by Off-Road vehicle enthusiasts, hang gliders, sand skiers. It's also popular with photographers and hikers.

CULTURAL RESOURCE MANAGEMENT

The objectives of the cultural resources program are to discover and preserve prehistoric, historic, and Indian sites for scientific, cultural, and religious use by present and future generations. The Bureau's cultural resource management program includes inventory, protection or stabilization, and interpretation of these pieces of the past.

Inventory and protection activities are implemented through performance of professional level clearances on all Bureau actions, or actions allowed by permit, that may have a potentially adverse effect on known or previously undiscovered cultural resources. Through various interpretive and public awareness activities such as signing, construction of interpretive trails, and publications, the BLM is taking a positive step toward increasing public appreciation of the remains of our western heritage.

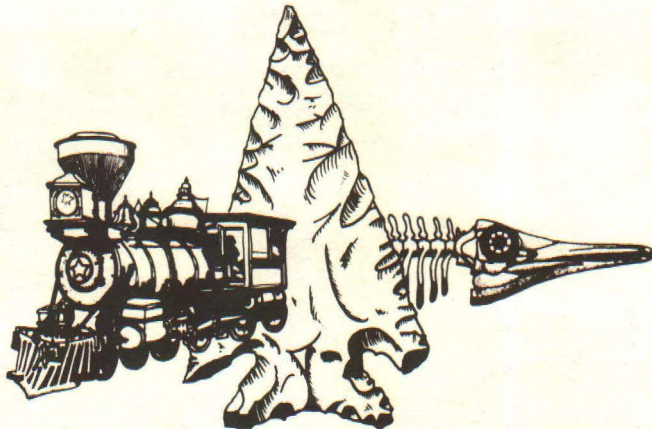
Volunteer contributions to the BLM archaeological program have increased this past year. For example, in the Ely District, more than 384 volunteer hours have aided Bureau archaeologists in special programs. Projects included a high school mentor program involving rock art studies and a photo documentation of the Mt. Irish Petroglyph District.

In the Carson City District, the Pistone Site (an extensive prehistoric complex of rock art, hunting blinds and residential features) was investigated by a collaborative team from the BLM, the Nevada State Museum, and California State University, Fresno. More than 1,000 volunteer hours were contributed to survey and excavation of this important site.

The interpretative programs at Hidden Cave and Grimes Point in Churchill County continue to be popular attractions. In excess of 120 volunteer hours were contributed to facilitate public visitation of the site. Since its opening in 1982, over 10,000 people, including many school groups, have toured Hidden Cave.

The Las Vegas District completed two cooperative management agreements which involve volunteer participation. The West Point Cemetery will be restored, fenced and signed by BLM in cooperation with the Moapa Valley Historical Society and the Overton Creek Moose Lodge. Also Archeo-Nevada, an amateur archeological society, will cooperatively continue to patrol and monitor selected sites in Clark County.

An intensive inventory (five meter spacing) of seven historic antelope traps was completed. The traps date to the early and mid 1800s. The purpose was to recover dates and samples from the traps, which are decomposing and being vandalized. The sites were also mapped and permanent datums installed.



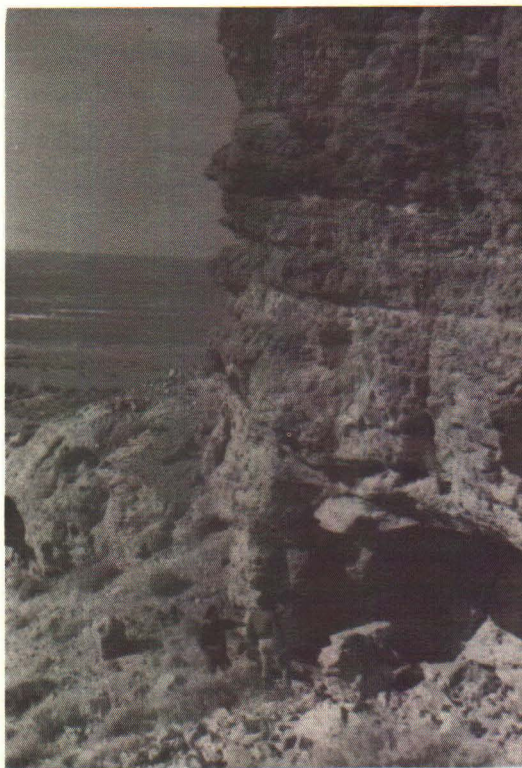
CULTURAL RESOURCE INVENTORY

	WORK DONE IN FY 86	TOTAL THROUGH FY 86
Class 3 (Intensively Assessed Acres)	87,213	636,707
Class 2 (Extensively Assessed Acres)	73,440	519,580

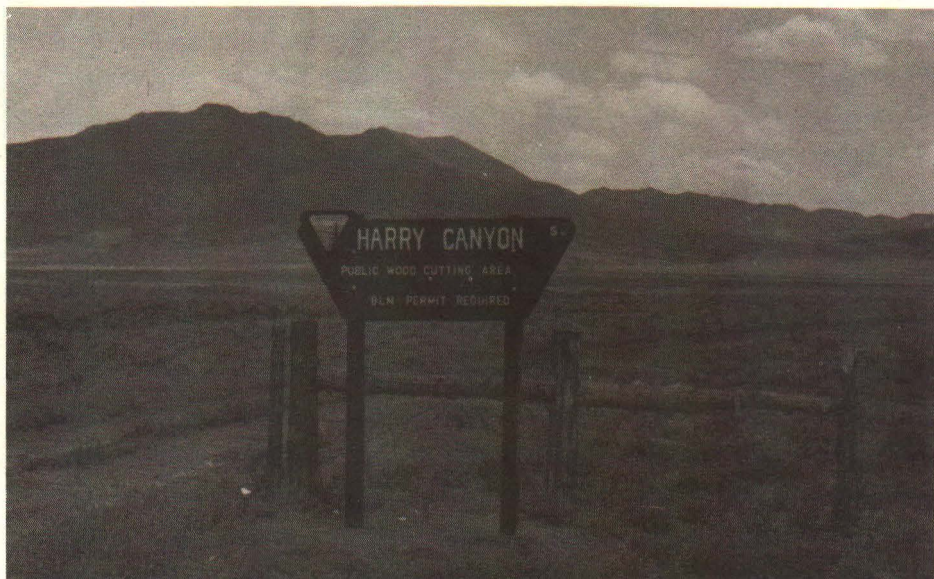
PROTECTION, STABILIZATION AND INTERPRETATION PROJECTS

ACTIVITY	FY 86	TOTAL THROUGH FY 86
Positive Protection Signing	13	42
Research Excavations	2	18
Interpretive Schemes	4	13
Fencing	2	30
Stabilization	1	4
Irregular Patrol and Maintenance	16	96
Regular Patrol and Maintenance	9	35
Protective Withdrawals	0	4
Cultural Resource Publications	2	23

This rock shelter located on the eastern edge of the Black Rock Desert may have clues to Nevada's archaeological past.



PUBLIC DOMAIN FORESTRY



The demand for forest products fell slightly in 1986. The average price received for Christmas trees fell from \$2.56 in 1985 to \$2.00 in 1986. Cordwood sales decreased by 1,000 cords from 1985 while the price per cord fell 11 cents to \$6.00 per cord. The pinyon nut crop was reduced by drought conditions during the early summer months and only 43,000 lbs. were harvested, making 1986 the second year in a row with a poor nut crop.

SUMMARY OF FOREST PRODUCTS SALES FOR 1986

	Christmas Trees	Cord- wood	Pinenuts (lbs)	Fence Posts	Total \$ Value
Elko	4,216	1,708	-	2,520	16,666
Winnemucca	391	156	-	50	1,035
Carson City	10,246	2,286	23,000	-	30,509
Ely	3,515	1,613	14,000	3,264	17,314
Las Vegas	8,786	1,685	6,000	1,582	44,817
Battle Mountain	3,581	897	-	2,170	13,732
TOTALS	<u>30,735</u>	<u>8,345</u>	<u>43,000</u>	<u>9,586</u>	<u>\$124,074</u>

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 86

KIND	NO.	ACRES
Desert Land Entry	2	640.00
Sales	40	1,106.37
Recreation and Public Purposes	8	649.04
Exchange	3	6,560.99
Mineral Entry	5	2,420.88
Color of Title	3	160.91
Indian Fee Patents	28	690.00
TOTALS	89	12,228.19

LAND LEASES IN EFFECT SEPTEMBER 30, 1986

LAND LEASES IN EFFECT SEPTEMBER 30, 1986

KIND	NO.	ACRES
Recreation and Public Purposes	163	16,000.56
Airport	42	12,298.33
Small Tract	3	15.00
TOTALS	208	28,313.89

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 1986, 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. The districts' fire dispatch offices coordinate, through an extensive communication system, the use of pumper trucks, hand line crews, helicopters, and retardant aircraft. Electronic technology such as the automatic lightning detection system is also employed.

The 1986 fire season was above average with 728 fires for a total of 101,404 acres burned. An average season is considered 450 fires with about 60,000 acres burned.

FIRE ACTIONS DURING CALENDAR YEAR 1986

DISTRICT	NUMBER OF FIRE ACTIONS				ACRES BURNED			
	9 ACRES OR LESS	10-99 ACRES	100 + ACRES	TOTALS	ASSIST FIRES	BLM	OTHER OWNER- SHIP	TOTALS
Elko	82	18	16	116	25	13,277	6,766	20,043
Winnemucca	30	10	20	60	7	56,055	2,949	59,004
Carson City	125	11	6	142	34	4,003	1,780	5,783
Ely	111	10	8	129	20	6,960	46	7,006
Las Vegas	237	5	7	249	26	3,297	121	3,418
Battle Mtn.	28	3	1	32	19	6,145	5	6,150
TOTALS	613	57	58	728	131	89,737	11,667	101,404
PERCENTAGES	84	8	8	100	*	88	12	100

* The districts assisted other agencies on 131 fires.



Thousands of acres of public lands were seeded in fire rehabilitation efforts during 1985. This rangeland drill was one of 35 sent to the Winnemucca District. In the case of one fire (Jungo) a contractor worked virtually every day from November to April.

FIRE REHABILITATION

Immediately after a wildfire on the public lands is contained by BLM fire-fighters, 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, 1986

DISTRICT	SEEDING (ACRES)	FENCE CONSTRUCTION (MILES)
Elko	13,650	11
Winnemucca	38,917	58.5
Carson City	910	0
Ely	0	0
Las Vegas	0	0
Battle Mtn.	<u>1,700</u>	<u>9</u>
TOTALS	55,177	78.5