

NEVADA DAWN
LAPPIN
PROGRESS REPORT

1987

87



**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 89520-0006



IN REPLY REFER TO:

Volunteers are part of an American tradition, neighbor helping neighbor.

Fortunately for the Bureau of Land Management we've had an increasing opportunity to work with volunteers. It's very gratifying to work side-by-side with individuals who are interested in improving the public land and its resources. We are always thankful for the volunteers who help put "the icing on the cake." We in public land management often cannot adequately express our appreciation. However, 1987 was one of the positive years!

The Fraternity of the Desert Bighorn, an organization dedicated to the survival of the desert bighorn sheep, received one of President Ronald Reagan's Volunteer Action Awards. The award was presented to Tom and Penny Allen of the Fraternity in a ceremony at the White House on June 30, 1987. This marks the first time a Nevada group has received the national award.

The group was chosen from more than 2,000 nominations submitted in ten categories. The BLM nominated the Fraternity for its work in making remote mountain desert areas habitable for bighorn sheep. The Fraternity provided more than \$46,000 of service to the Ely and Las Vegas BLM Districts in the form of construction labor, project design, equipment and materials.

Many of the group's members work in the construction trades as masons, plumbers, heavy equipment operators, sheet metal machinists, etc. Their collective expertise was invaluable in overcoming complex logistical problems associated with constructing large water developments (5,000 gallon storage tanks) in extremely rugged terrain.


Of course, not all of the activities associated with BLM in 1987 were as well publicized as the national award. There were, however, notable accomplishments. They include the following:

- Nevada public lands are the scene of a new Western gold rush, this one by big mining corporations. We in the BLM are emphasizing upfront coordination with the public as new mining plans are filed.
- Mineral production in other products continues to flourish. Nevada was the first in the nation in the production of barite, magnesite, gemstones and mercury, as well as gold. It is also a major supplier of lithium, silver and diatomite. Virtually all of these commodities come from public lands.

- Ten wilderness final environmental impact statements were completed and sent to the public for review. Mineral surveys are being conducted on all Wilderness Study Areas (WSAs) preliminarily recommended as suitable. A final statewide report on all WSAs is expected to be submitted by BLM to the Secretary of the Interior by 1990.
- Emphasis in the grazing management program shifted to plan implementation, which includes the preparation of grazing plans or allotment management plans and monitoring to measure the attainment of land use plan objectives. Also, the Bureau is entering into grazing agreements or, when necessary, issuing decisions which effect a change in grazing use to meet land use plan objectives.
- Fiscal year 1987 marked the completion of land use plans for the entire state with the exception of the Nellis Air Force Range.
- Two geothermal plants are producing electricity (Desert Peak and Beowawe). During the fiscal year, production started on three additional power plants and one direct use facility. Construction is ongoing on a 65 megawatt power plant in Dixie Valley and a 200-mile transmission line.

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



Hiking in the Schell Creek Range, Ely District. Honorable mention in the Nevada BLM's 1987 photo contest. Photo by Jake Rajala. Pictured are the photographer's sons Matt and Andy.

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This booklet contains information and statistics about the Bureau of Land Management in Nevada. Fiscal year 1987 covers the 12-month period from October 1, 1986 to September 30, 1987.

Produced by Public Affairs, Nevada State Office.
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Photographs: pp. 17, 22, 33, Bob Stewart; p. 11, Maxine Shane.



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 administers 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 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 50 gross megawatts of electric power from six power plants. In the next few years another 65-88 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 700 livestock operators run approximately 306,000 cattle, 1,500 horses and 330,000 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 1,253 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 more than 16.5 million visitor hours annually on public lands in Nevada.

There have been more than 435,000 mining claims located on public lands in Nevada. Approximately 314,560 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.



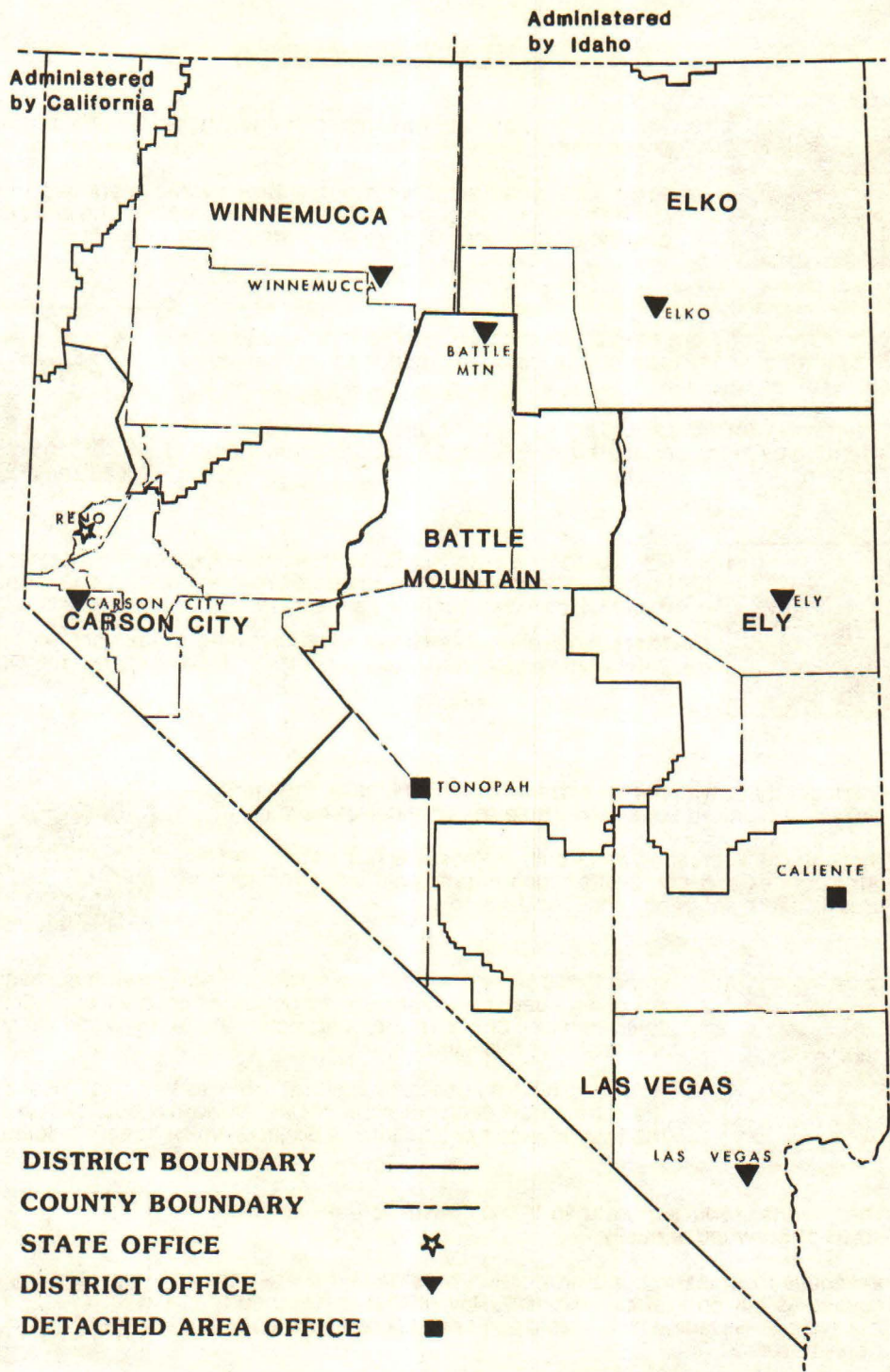
Some 16,000 acres of land containing significant fossil specimens are given special management attention as an Area of Critical Environmental Concern. The only known site in the world which is similar is in mainland China.

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 36,000 Christmas trees and 8,600 cords of firewood annually.

Revenues from leasing and production of leasable minerals exceeded \$9 million in fiscal year 1987. Half of that is returned to the state of Nevada which uses the money primarily for educational purposes.





DISTRICT BOUNDARY —————
COUNTY BOUNDARY - - - - -
STATE OFFICE ★
DISTRICT OFFICE ▼
DETACHED AREA OFFICE ■

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

Chief, Planning and Environmental
Staff
Regional Planning
Regional Economy
Sociologist
Environmental Coordinator

Jack Seley
Neil Talbot
Paul Myers
Bert Bresch
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

Physical Scientist
Mining Engineer
Minerals Assistant
Petroleum Engineering Technician,
Ely

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

John Stout

784-5676

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
Public Contact
Titles, Records Information

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

784-5281

784-5282

784-5474

784-5484

784-5275

784-5703

784-5703

784-5703

784-5432

784-5751

784-5445

784-5496

784-5976

Chief, Law Enforcement
Chief, Mapping
Chief, Fire and Aviation

Len Sims
Steve Rasmussen
Al Dunton

784-5683

784-5731

784-5100

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 | 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 | Del Estey | 784-5881 |
| Classification | Ivy Gentolizo | 784-5881 |
| Training | John Chappell | 784-5881 |
| Staffing, Employee Relations | Ron 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 | Jim Rasmussen |
| Chief, Division of Administration | Michele Good |

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

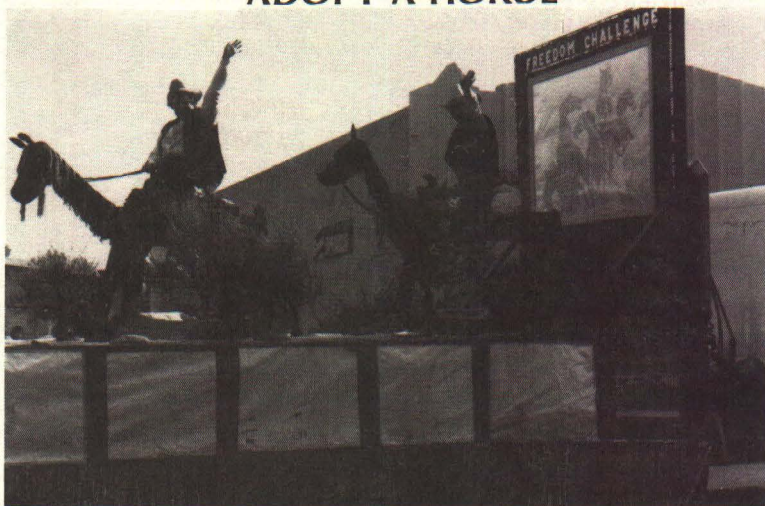
| | |
|--|------------------|
| District Manager (Acting) | Robert Neary |
| Paradise-Denio Resource Area Manager | Scott Billing |
| Sonoma-Gerlach Resource Area Manager | Gerald Brandvold |
| Chief, Division of Resource Management | Bob Neary |
| Chief, Division of Operations | Les Boni |
| Chief, Division of Administration | Judy Drago |

Carson City District Office 882-1631
1535 Hot Springs Rd., Suite 300
Carson City, Nevada 89706-0638

| | |
|--------------------------------|------------------|
| District Manager | James Elliott |
| Lahontan Resource Area Manager | Mike Phillips |
| Walker Resource Area Manager | John Matthiessen |

| | | |
|---|---|----------|
| Division of Wild Horse and Burro Operations Chief, Division of Resource Management Chief, Division of Operations Chief, Division of Administration | 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 Chief, Division of Operations Chief, Division of Administration | Ken Walker Gene Drais Gerald Smith Terry Daily Hal Bybee Sue Perkins | |
| Las Vegas District Office 4765 W. Vegas Drive P.O. Box 26569 Las Vegas, Nevada 89126 | | 388-6403 |
| 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 Runore Wycoff | |
| Caliente Resource Area Manager Chief, Division of Resource Management Chief, Division of Operations Chief, Division of Administration Chief, Lands Staff | Curtis Tucker Joe Ross Tom Combs John Crew Mike Moran | |
| 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 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 | Terry Plummer Mary O'Brien Ted Angle Mike Mitchel P. John Keenan Thomas Jury | |

ADOPT-A-HORSE



Several avenues to make the public aware of the Adopt-A-Horse program are pursued each year. In the 1987 Nevada Day Parade in Carson City, the Security National Bank's float featured an artist's rendition of wild horses (Freedom Challenge) and sported Adopt-A-Horse posters.

Federally Administered Lands in Nevada By Agency As Of 1986 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 | <u>5,150,093.4</u> | 7 |
| Department of Energy | | |
| Energy Research and Development Administration | 797,842.7 | |
| Western Area Power Admin. | <u>8,810.2</u> | |
| Department Subtotal | <u>806,652.9</u> | 1 |

| | | |
|---------------------------------|--------------|----|
| Department of the Interior | | |
| Fish & Wildlife Service | 2,191,406.7 | |
| Geological Survey | 70.8 | |
| Bureau of Indian Affairs | 3,981.7 | |
| Bureau of Land Management | 47,739,520.0 | |
| Bureau of Mines | 4.5 | |
| National Park Service | 264,137.9 | |
| Bureau of Reclamation | 635,375.1 | |
| Department Subtotal | 50,834,496.7 | 72 |
| Department of Transportation | | |
| Federal Aviation Administration | 1,863.1 | * |
| Department of Defense | | |
| Air Force | 2,903,606.0 | |
| Army | 152,659.0 | |
| Navy | 63,653.7 | |
| Corps of Engineers | 67.1 | |
| Department Subtotal | 3,119,985.8 | 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 | 59,911,285.5 | 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, 1987

| COUNTY | PUBLIC LANDS MANAGED BY BLM* | TOTAL ACREAGE IN COUNTY | PERCENTAGE OF TOTAL ACRES MANAGED BY BLM |
|-------------|---------------------------------|----------------------------|--|
| Carson City | 42,384 | 97,920 | 43 |
| Churchill | 2,060,259 | 3,144,320 | 66 |
| Clark | 3,475,983 | 5,173,760 | 67 |
| Douglas | 179,281 | 480,640 | 37 |
| Elko | 6,765,868 | 10,995,840 | 62 |
| Esmeralda | 2,210,577 | 2,284,800 | 97 |
| Eureka | 2,021,305 | 2,676,480 | 76 |
| Humboldt | 4,321,484 | 6,210,560 | 70 |
| Lander | 3,011,748 | 3,597,440 | 84 |
| Lincoln | 5,659,856 | 6,816,000 | 83 |
| Lyon | 662,065 | 1,295,360 | 51 |
| Mineral | 1,681,728 | 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 | 2,640,017 | 4,229,120 | 62 |
| White Pine | 4,361,756 | 5,699,200 | 77 |
| TOTALS | 48,714,404 | 70,745,600 | 69 |

*These acreages are the same as those used for calculating Payment in Lieu of Taxes (PILT) figures (FY 1987), and are as accurate as possible using the technology and base figures available to BLM. Changes include national legislated changes, exchanges, patents, sales, etc. Major acreage changes in the 1987 fiscal year were due to: Public Laws 99-389, 99-387, 94-485 and 99-606 and Public Land Order 6591.

Public Lands In Nevada

By BLM District

| DISTRICT | TOTAL ACRES MANAGED BY BLM |
|-----------------|----------------------------|
| Elko | 7,379,538 |
| Winnemucca | 8,252,123 |
| Carson City | 5,320,943* |
| Ely | 8,006,960 |
| Las Vegas | 7,286,970 |
| Battle Mountain | 11,107,506 |
| Susanville | 1,452,181** |
| Boise | <u>58,082***</u> |
| TOTAL | 48,864,303 |

*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 87

| | |
|-----------------------------------|--|
| Total Public Land Receipts | Total Funds Paid Out by BLM from the |
| Collected by BLM \$7,386,494 | U.S. Treasury Relating to Public Land |
| | Management in Nevada |
| Total Mineral Receipts | Direct Cost Expenditures \$29,902,200 |
| Collected by MMS \$9,475,879 | Payments to State of Nevada 533,717 |
| | Payments in Lieu of Taxes <u>5,804,131</u> |
| | TOTAL \$36,240,048 |

Receipts FY 87

| <u>Receipts Source - BLM</u> | <u>Amount</u> |
|---|---------------|
| Mineral Leases and Permits | |
| Oil and Gas Pipeline Right-of-Way Rentals | \$ 411,950 |
| Sale of Land and Materials | |
| Land | 3,464,881 |
| Materials | 210,849 |
| Timber | 135,421 |
| All Others | 15,602 |
| Grazing | |
| Section 3* | 2,357,430 |
| Section 15** | 42,636 |
| Fees and Commissions | 358,246 |
| Rights-of-Way | 268,799 |
| Rents of Land | 16,605 |
| All Others | 104,075 |
| TOTAL | \$ 7,386,494 |

*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 | \$ 3,370,727 |
| Geothermal Steam | 260,106 |
| Sand, Gravel | 215,862 |
| Rents | |
| Geothermal | 191,413 |
| Oil and Gas | 5,056,413 |
| Potash | 2,002 |
| Phosphate | 20 |
| Bonuses | |
| Geothermal | 301,170 |
| Oil and Gas | 405 |
| Rents and Minimum Royalties | |
| Products Unidentified | 77,741 |
| TOTAL | \$9,475,879 |

Direct Cost Expenditures

CONSTRUCTION AND MAINTENANCE

| | |
|--|--------------|
| Range, Wildlife Habitat, Soil and Water Improvements (\$1,150,500 of this amount is directly from grazing fees) | \$ 1,776,500 |
| Maintenance of Range, Wildlife Habitat, Soil and Water Improvements | 67,000 |
| Road Construction and Easement Construction | 41,100 |
| Maintenance of Roads and Facilities | 909,500 |
| Repair of Damaged Lands | 17,300 |
| Red Rock Recreation Lands | 64,500 |
| (Summa Land Exchange Purchase; Land and Water Conservation Fund Total of \$3,020,000) | |

NATURAL RESOURCE PROTECTION

| | |
|--------------------------|-----------|
| Fire Presuppression | 1,653,300 |
| Fire Suppression | 4,878,800 |
| Emergency Rehabilitation | 392,600 |

MANAGEMENT

| | |
|---------------------------------------|-----------|
| Lands and Realty | 1,859,300 |
| Energy and Minerals | |
| Oil and Gas | 624,000 |
| Geothermal | 361,200 |
| Non-Energy Minerals | 1,251,200 |
| Forest Management | 180,800 |
| Grazing Management | 3,187,000 |
| Wild Horse and Burro Management | 2,420,000 |
| Cultural Management | 383,500 |
| Wilderness Management | 741,500 |
| Recreation | 574,100 |
| Soil, Water, and Air Management | 2,133,600 |
| Wildlife Habitat Management | 907,300 |
| Fire Management | 454,300 |
| Multiple-Use Planning | 576,800 |
| Data Management | 318,800 |
| Cadastral Survey | 521,200 |
| Resource Protection (Law Enforcement) | 163,800 |
| Engineering Services | 49,800 |
| Equal Employment Opportunity | 97,200 |
| Administrative Services | 2,807,100 |
| Aviation Management | 48,500 |

CONTRIBUTIONS AND REIMBURSABLES

440,600

TOTAL \$29,902,200

Payments Made To The State Of Nevada FY 87

| | | |
|--|-------|--------------------|
| BLM | | |
| Sale of lands, materials, woodland products, etc. | \$ | 214,174* |
| Grazing | | |
| Section 3 | | 291,864* |
| Section 15 | | 27,679* |
| MMS | | |
| Mineral Receipts | | <u>4,737,940**</u> |
| | TOTAL | \$5,271,657 |

* These amounts were actually paid out in fiscal year 1987.

** 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 | \$ 37,683 | Esmeralda | 68,548 | Mineral | 266,987 |
| Churchill | 430,485 | Eureka | 65,373 | Nye | 430,532 |
| Clark | 989,881 | Humboldt | 371,012 | Pershing | 176,528 |
| Douglas | 214,281 | Lander | 217,498 | Storey | 9,321 |
| Elko | 545,606 | Lincoln | 175,883 | Washoe | 1,017,208 |
| | | Lyon | 461,926 | White Pine | 325,379 |
| | | TOTAL | | | \$5,804,131 |

Equal Employment Opportunity

During fiscal year 1987, the Equal Employment Opportunity (EEO) program enjoyed a measure of success in terms of outreach recruitment for women and minorities, monitoring and coordination of special emphasis programs. Three Cooperative Education Program students were hired for professional positions. One was in the Battle Mountain District and two were in the Nevada State Office (Minerals and Operations).

A statewide workshop for all special emphasis program managers was held in the Nevada State Office. The workshop was to provide in-depth EEO training and instructions and to enhance program delivery. Training updates on EEO were provided to managers and supervisors in each of the six district offices, plus the Tonopah Resource Area and the Nevada State Office. Subjects covered were preventing sexual harassment and age discrimination.

Extensive efforts were directed to strengthening recruiting and other relationships. Working with the BLM's Personnel Office, there has been a close coordination on all personnel actions with respect to the review of hiring of women and minorities. Statistical data has been garnered to support recommendations to management.

Nevada BLM had no formal EEO complaints filed in the 1987 fiscal year. The EEO Office has worked to resolve concerns informally.

NEVADA BLM's PERMANENT WORKFORCE FY 88

Statewide permanent workforce: 462

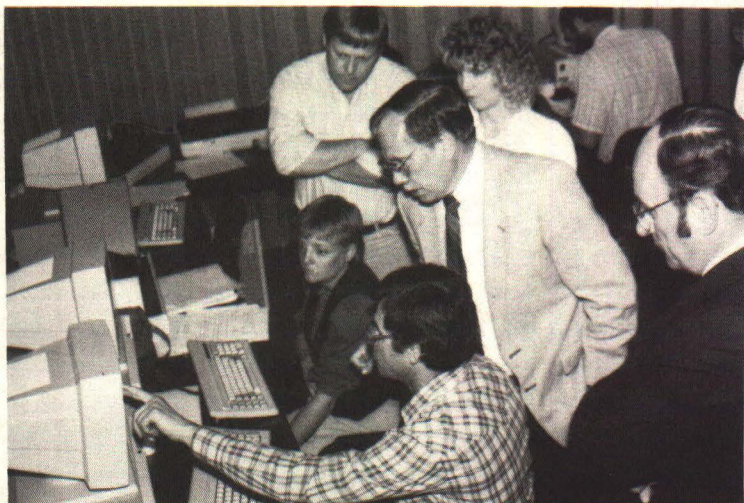
| | | | |
|--------------------------|-------------|------------------|-----------|
| Non-minority females | 118 (25.5%) | Asians | 6 (1.3%) |
| Ethnic/racial minorities | 51 (11.0%) | Native Americans | 19 (4.1%) |
| | | Blacks | 11 (2.4%) |
| | | Hispanics | 15 (3.2%) |

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 individuals from other states volunteer their time and talent to help manage and improve Nevada's public lands.

During 1987, the amount of time contributed by volunteers to help improve Nevada's public lands totaled 25,762 hours. The 1,253 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.



Computers are being utilized to improve the record keeping in a number of programs at the Nevada BLM. Training in the use of automated data processing is scheduled both in the state office and in the district offices.

Volunteer Service FY 87

| | |
|-----------------------------|-----------|
| Number of volunteers | 1,253 |
| Hours of service | 25,762 |
| Value of volunteer work | \$247,857 |
| BLM costs to manage program | \$7,158 |

BLM Employment

Employment in the BLM in Nevada in fiscal year 1987 showed a slight reduction in permanent work force from fiscal year 1986 figures, as predicted. There were a considerable number of temporary employees on the rolls at the peak of the fiscal year 1987 field season.

BLM Nevada Employment FY 87

| OFFICE | PERMANENT | WAE* | PART-TIME | TEMPORARY | TOTALS |
|-----------------|-----------|----------|-----------|-----------|-----------|
| State Office | 140 | 1 | 6 | 22 | 169 |
| Elko | 55 | 0 | 0 | 32 | 87 |
| Winnemucca | 48 | 0 | 1 | 24 | 73 |
| Carson City | 61 | 7 | 1 | 75 | 144 |
| Ely | 49 | 1 | 1 | 16 | 67 |
| Las Vegas | 66 | 5 | 6 | 42 | 119 |
| Battle Mountain | <u>45</u> | <u>2</u> | <u>0</u> | <u>13</u> | <u>60</u> |
| TOTALS | 464 | 16 | 15 | 224 | 719 |

*When Actually Employed, less than full-time.



Employees and volunteers in the Carson City District were honored for their contributions to land management in 1987. Pictured are: Front row: District Manager Jim Elliott, Steve Edgar, Gary Licata, Roy Kidder, Cheryl Saucedo. Back row: Pat Boykin, Don Stetson, John Noneman, Russ Bird, Chuck Pope and volunteer Richard Mason. Not pictured are volunteers Dale Collins and Michael Owens. (Photo courtesy of Nancy Adams.)

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 1987, four BLM survey crews field completed surveys of section lines enclosing 270,000 acres of BLM lands. A summary of other survey statistics and surveys approved in fiscal year 1987 is outlined below:

Survey Status

| ITEM | FY 86 | FY 87 |
|---------------------------|---------------|---------------|
| Acres surveyed | | |
| BLM | 23,066 | 16,580 |
| Acres resurveyed | | |
| Indian Affairs | 0 | 16,214 |
| Forest Service | 0 | 11,969 |
| BLM | 77,044 | 186,531 |
| Acres unsurveyed | 19,259,569 | 19,242,989 |
| Minerals surveyed | 10** | 8* |
| Plats accepted | 32 | 50 |
| Acres surveyed to present | 51,069,391*** | 51,085,971*** |

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

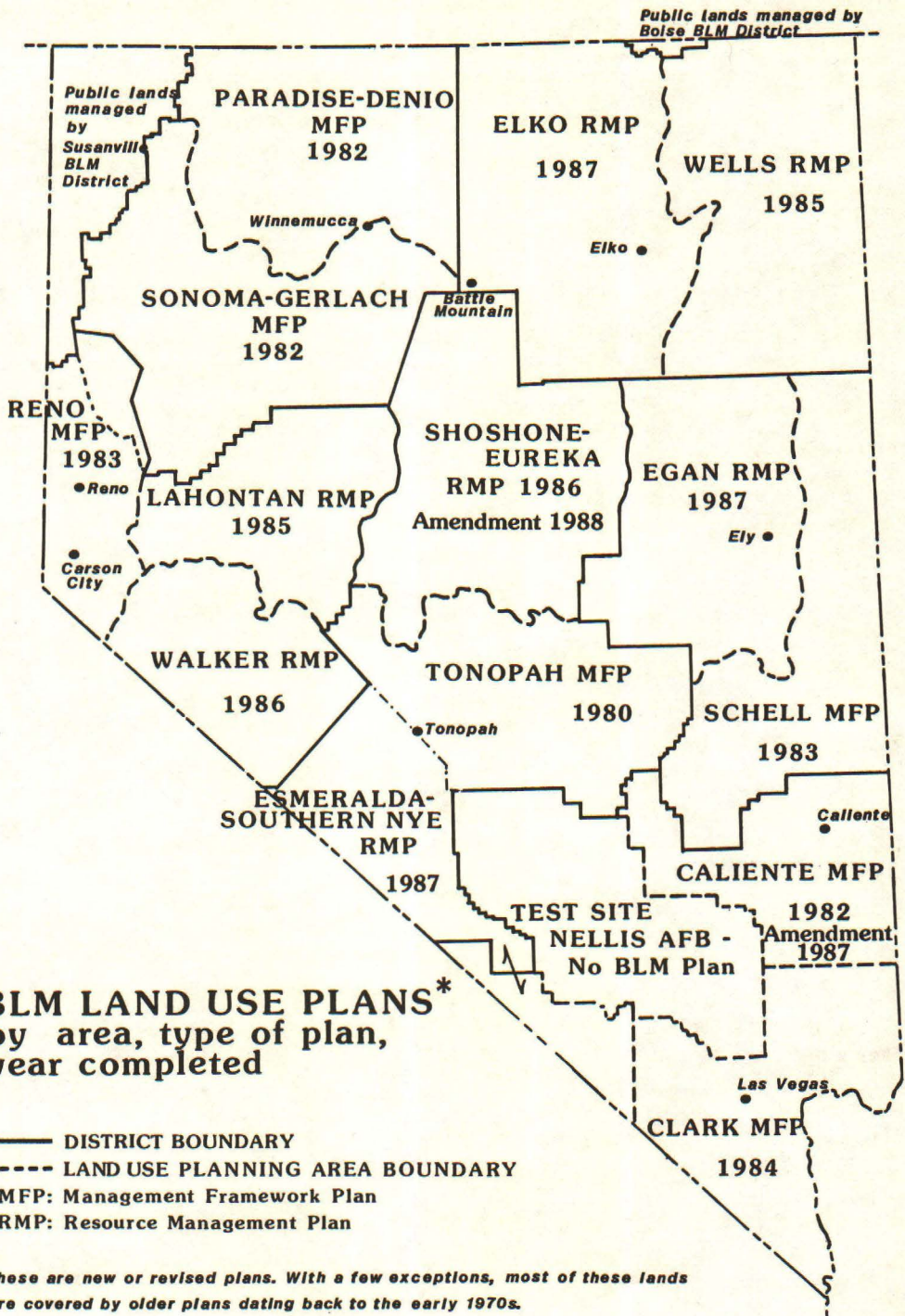
**Approved FY 1986, 10 mineral surveys consisting of 8 lode claims and 38 millsites.

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

Buildings, Facilities, Roads

The Bureau spent \$583,700 in fiscal year 1987 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 \$228,200 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 \$355,500.

The Bureau maintains approximately 9,400 miles of road in Nevada. In fiscal year 1987 about 20 percent of the roads were maintained, at a cost of \$258,400.



BLM LAND USE PLANS*
by area, type of plan,
year completed

- DISTRICT BOUNDARY
- - - LAND USE PLANNING AREA BOUNDARY
- MFP: Management Framework Plan
- RMP: Resource Management Plan

* These are new or revised plans. With a few exceptions, most of these lands are covered by older plans dating back to the early 1970s.

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 1987 Accomplishments

During the 1987 fiscal year, Records of Decision were completed for the Elko RMP (Elko District), the Egan RMP (Ely District) and the Esmeralda-Southern Nye RMP (Battle Mountain and Las Vegas Districts). One land use plan was amended and the draft and final environmental impact statements (EISs) were reviewed by the public for another proposed plan amendment. One amendment was for a bighorn sheep reintroduction into the Hiko Mountains; that was an amendment to the Caliente plan, Las Vegas District. The other amendment was for the inclusion of 18 grazing allotments being categorized in the "Improve" category and scheduled for intensive grazing management and additional range improvements; that was the Shoshone-Eureka RMP in the Battle Mountain District.

Fiscal year 1987 marked the completion of land use plans for the entire state, except for the Nellis Air Force Range. Completed RMPs and MFPs encompass a number of issues which were developed through public involvement. These issues included: wilderness, land tenure, utility corridors, recreation, minerals, wildlife habitat, wild horses and burros and livestock grazing. In each instance, the proposed resolution of these issues and their accompanying resource conflicts touch on a number of other Bureau programs such as cultural resources, access, visual resource management, threatened and endangered species, etc.



Membership and participation in professional societies are important means of keeping abreast of individual disciplines and implementing the BLM's mission. Here the Society of Range Management meets in Wendover, Nevada. Ralph (Cub) Wolfe of the BLM's Carson City District is the Nevada Society's president.

The environmental program in Nevada continues 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 580 separate proposed actions; they developed mitigating measures to lessen the impacts to the environment in many of these studies. These proposed actions included mining plans of operations, range improvement projects, land sales and exchanges, rights-of-way, forest product sales and other varied resource uses.

Ten wilderness EISs were completed and sent to the public for review. Eight of these EISs were filed with the Environmental Protection Agency during the 1987 fiscal year.

Information has been provided and reviews conducted for several major project EISs proposed to occur within Nevada. These include: Groom Range EIS, Fallon Supersonic Operating Area, Yucca Mountain, Fallon Navy withdrawal, Kern River natural gas pipeline, supersonic super collider, the Thousand Springs power project AT&T fiber optic cable, the Aerojet land exchange and the special Nevada Report.

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 87

| KIND | NO. | ACRES |
|---|-----|-------|
| Desert Land Entry | 2 | 640 |
| Sales | 24 | 922 |
| Recreation and Public Purposes | 4 | 30 |
| Exchange | 3 | 3,476 |
| Mineral Entry | 2 | 321 |
| Conveyance of Federally-Owned Mineral Interests | 3 | 765 |
| Indian Fee Patents | 5 | 50 |
| TOTALS | 43 | 6,204 |

Land Leases In Effect September 30, 1987

| KIND | NO. | ACRES |
|--------------------------------|-----|--------|
| Recreation and Public Purposes | 175 | 18,663 |
| Airport | 41 | 12,215 |
| Small Tract | 3 | 15 |
| TOTALS | 219 | 30,893 |

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 85 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.

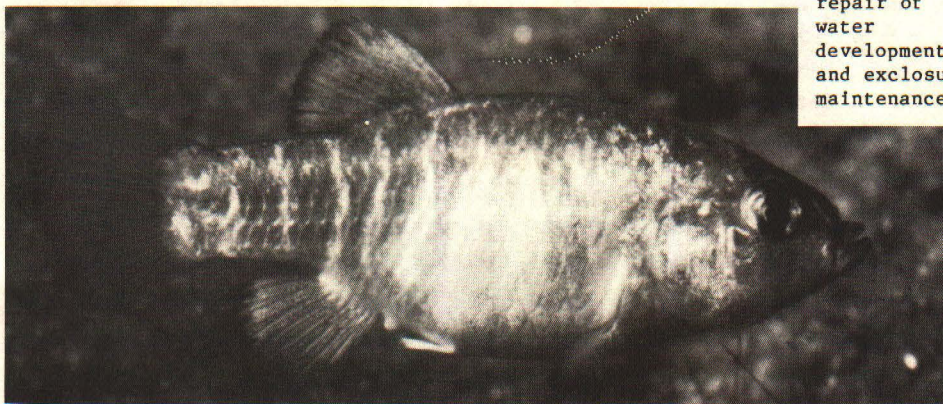
A major aspect of both the direct and indirect program is the coordination of resource management planning with other federal and state wildlife agencies and user interests. Through this coordination, benefits to wildlife are often realized through incorporating wildlife provisions in other subactivity 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 35 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 1988. Dollars expended in these accomplishments exceeded \$300,000 of direct Bureau expenditures, and contributions of an additional \$250,000 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 87

Developed water facilities and habitat improvement projects
Maintenance and development of aquatic riparian-associated projects

79
101 projects involving repair of water developments and enclosure maintenance.



Big Springs Pupfish. The critical habitat for this species is found on BLM lands. This is just one of the 18 species of threatened or endangered fish found in Nevada. (Photo courtesy of Alan M. Heller.)

Wilderness



Caving in the Worthington Mountains. Second place in black and white category, Nevada BLM's 1987 photo contest. Photo by Jake Rajala.

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.

In fiscal year 1988 14 WSAs, located mostly in southern Nevada, will be the subjects of a draft environmental impact statement. The 200,918 acres will be studied in the Nevada Contiguous Lands Wilderness Environmental Impact Statement.

Status Of The Wilderness Review By The End Of Fiscal Year 1987*

| | |
|--|-----------------------|
| Acres designated WSAs and undergoing wilderness study | 5,104,013 (103 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.

Cultural Resources 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.

An inventory of a large chert quarry was completed. This was used by the White-Knife Shoshone as a source for material for tools. The quarry area also has an historic component; early miners extracted mercury as well as other locatable metals.

Volunteer contributions to the BLM archaeological program are steadily increasing. In the Ely District, volunteers are continuing to assist Bureau archaeologists in special programs, including the documentation of rock art.

The Las Vegas District has two cooperative management agreements which involve volunteer participation. Volunteers monitor and maintain historic cemeteries, as well as monitor and patrol other fragile sites in Clark County.

The interpretative programs at Hidden Cave and Grimes Point in Churchill County continue to be popular attractions. Lovelock Cave in Pershing County is also open for public visitation. More than 130 volunteer hours were contributed to facilitate public visitation of the Hidden Cave-Grimes Point sites and to patrol to prevent vandalism. More than 1,100 people--including school groups--have toured Hidden Cave since its opening in 1982.

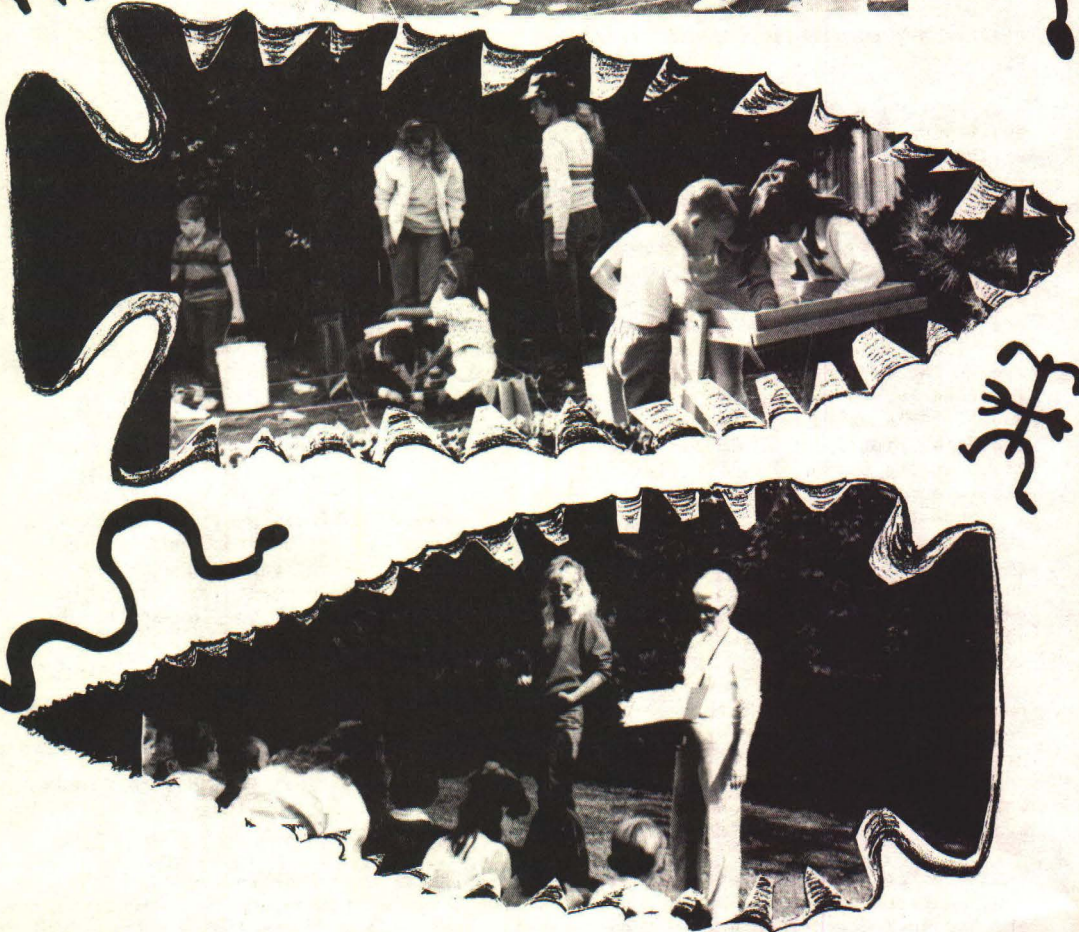
In the Carson City District over 1,000 acres in the Clan Alpine Range were surveyed by the BLM and the Far West Anthropological Research Group. This was accomplished under a cooperative management agreement. A large hunting complex was discovered, which included 115 rock cairns which were most likely used as anchors for a drift fence, used in animal drives. More than 300 volunteer hours were contributed to this project.

Cultural Resource Inventory

| | WORK DONE IN FY 87 | TOTAL THROUGH FY 87 |
|--------------------------------------|-----------------------|------------------------|
| Class 3 (Intensively Assessed Acres) | 66,668 | 703,375 |
| Class 2 (Extensively Assessed Acres) | 43,218 | 562,798 |

Protection, Stabilization And Interpretation Projects

| ACTIVITY | FY 87 | TOTAL THROUGH FY 87 |
|----------------------------------|-------|------------------------|
| Positive Protection Signing | 11 | 53 |
| Research Excavations | 4 | 22 |
| Interpretive Schemes | 1 | 14 |
| Fencing | 2 | 32 |
| Stabilization | 1 | 5 |
| Irregular Patrol and Maintenance | 10 | 106 |
| Regular Patrol and Maintenance | 8 | 44 |
| Protective Withdrawals | 0 | 4 |
| Cultural Resource Publications | 3 | 26 |



Washoe County students had an opportunity in the fall to participate in a mock archaeological dig. Archaeologist Lynda Arrentrout, left in upper photo, directs the "salting" of the dig with BLMer Linda Hansen and teacher Dr. Mary Lou Murphy. In middle photo, students dig, sift and record the carefully selected artifacts and remnants. A discussion of archaeological methods and tools, past cultures and the behavior of people as shaped by their needs and environment followed.

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.

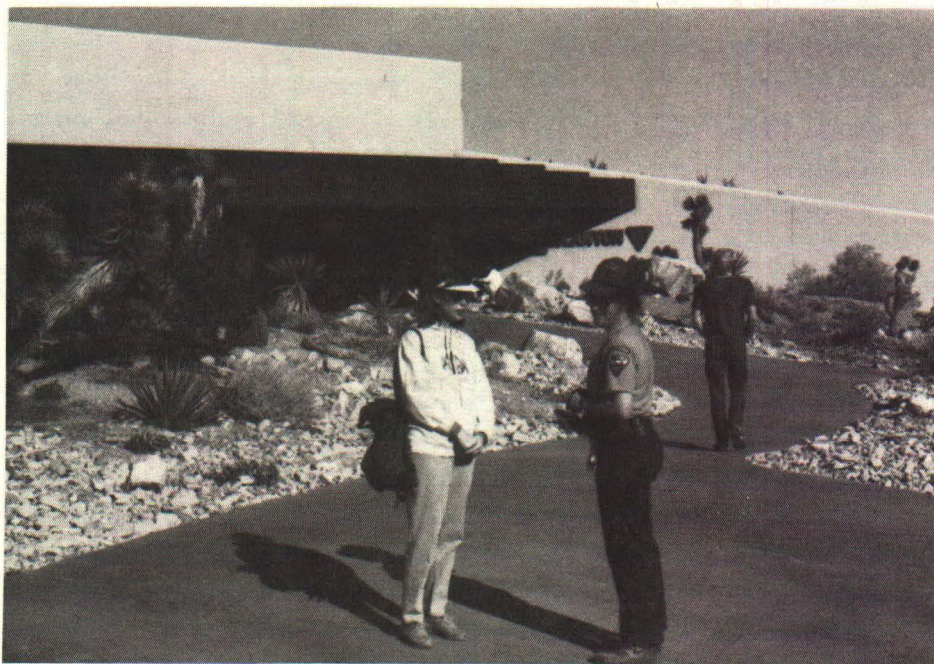
The visual resource management program serves a dual purpose: to manage the quality of the visual environment and to reduce the visual impact of development activities while maintaining effectiveness in all BLM resource programs. Visual resource management also identifies scenic areas that warrant protection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

Considerable emphasis in fiscal year 1987 was placed on managing 26 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 26 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 16,550,021 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 1,607 recreation-related permits were issued in fiscal year 1987. Of these, 1,469 were fee site (camping) permits; 47 were authorized for competitive recreational events; and 55 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 1987 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 1987 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.



Red Rock Visitor Center, Las Vegas. Park Ranger Chris Miller assists visitor Kathy Ross. For those interested in organized activities, staff at the Center offer a variety of hikes each month. Many of the activities are lead by volunteers well versed about the plants, animals, geology and history of the area. (Photo courtesy of Joe Ross.)

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 | *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 | 9 | - |
| | Cold Creek (Day use only) | 4 | - |
| | Willow Spring (Day use only) | 19 | - |
| Battle Mountain | Hickison Petroglyph | 16 | - |
| | Mill Creek | 4 | - |

*Water suitable for drinking

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 46,000 wild horses and burros inhabit these lands. The bulk (43,300 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 87

| DISTRICT | HORSES | BURROS |
|-----------------|--------|--------|
| Elko | 1,675 | - |
| Winnemucca | 7,996 | 298 |
| Carson City | 4,920 | 163 |
| Ely | 3,448 | - |
| Las Vegas | 3,522 | 736 |
| Battle Mountain | 5,627 | 333 |
| TOTALS | 27,188 | 1,530 |

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, such as requests by private landowners or to abide by a coordinated resource management plan. The total removed in fiscal year 1987 is noted below.

Gathers Completed FY 1987

| DISTRICT | HORSES GATHERED |
|-----------------|-----------------|
| Elko | 533 |
| Winnemucca | 1,528 |
| Carson City | 746 |
| Ely | 466 |
| Las Vegas | 1,206 |
| Battle Mountain | 2,121 |
| TOTAL | 6,600 |

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. Now there are two centers, one in Nevada and one in Nebraska.

DISPOSITION OF EXCESS ANIMALS - FY 87

| NO. ADOPTED IN NEVADA | NUMBER AT PALOMINO VALLEY START OF FY 87 | BRANDED/ PRIVATE | DIED OR HUMANELY DESTROYED | BALANCE REMAINING AT PALOMINO VALLEY END OF FY 87 |
|-----------------------|--|------------------|----------------------------|---|
| 95 | 706 | 2 | 341 | 11 |



Animals which are excess and gathered from the range are available for adoption by qualified American citizens 18 years or older. In Nevada until a horse or burro is placed with a foster home, they are fed and cared for at either the Palomino Valley Wild Horse and Burro Adoption Center or at the contracted holding facility at Lovelock. (Photos by Bob Goodman.)



Grazing Management

During 1987 emphasis in the grazing management program in Nevada shifted to 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, such as a Resource Management Plan, Nevada BLM is in the process of monitoring all of its grazing allotments with emphasis on it's "I" (improve) and "M" (maintain) allotments to evaluate and insure these allotments are meeting land use plan objectives. (For location of land use plan areas, please refer to the Land Use Plans Map.)

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 that are being monitored are livestock, wildlife and 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 an IMC management category. The objectives for these categories are to: (1) improve current unsatisfactory condition; (2) maintain current satisfactory 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 | 256 | 278 | 260 | 5 | 799 |
| Acres | 28,236,537 | 10,322,614 | 6,838,686 | 66,065 | 45,463,902 |

Number Of Allotments And Acres Monitored

| Category I | | Category M | | Category C | | Uncategorized | |
|------------|------------|------------|-----------|------------|-----------|---------------|-------|
| Allotments | Acres | Allotments | Acres | Allotments | Acres | Allotments | Acres |
| 237 | 25,839,153 | 250 | 9,774,215 | 123 | 3,213,820 | 0 | 0 |

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 799 grazing allotments in Nevada, 145 have implemented Allotment Management Plans. The coordinated resource management planning process which began in 1981 incorporates various interest groups' 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 1986 ***

| DISTRICT | NUMBER OF OPERATORS | ANIMAL UNIT** MONTHS*** | NUMBER OF CATTLE | NUMBER OF HORSES | NUMBER OF SHEEP |
|---------------|---------------------|-------------------------|------------------|------------------|-----------------|
| Elko | 184 | 562,136 | 124,312 | 944 | 64,112 |
| Winnemucca | 107 | 257,965 | 46,216 | 185 | 20,865 |
| Carson City | 84 | 121,995 | 20,495 | 31 | 30,510 |
| Sec. 15 | 1 | | | | |
| Ely | 119 | 345,383 | 45,634 | 73 | 155,980 |
| Las Vegas | 110 | 107,859 | 15,331 | 140 | 14,738 |
| Sec. 15 | 6 | 2,826 | 303 | 0 | 0 |
| Battle Mtn. | 75 | 364,272 | 47,488 | 129 | 44,017 |
| Sec. 15 | 13 | 43,194 | 6,143 | 0 | 0 |
| TOTALS | 699 | 1,805,630 | 305,922 | 1,502 | 330,222 |

*Grazing fee year 1986 ran from March 1, 1986, to February 1, 1987.

**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.

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 important for other resource values or uses and provide additional 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 holding grazing privileges or 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 not only domestic livestock grazing but also terrestrial and aquatic wildlife habitat improvement programs as shown below.

Rangeland Improvements Completed FY 87*

| TYPE OF IMPROVEMENT | NEW CONSTRUCTION (RANGE) | NEW CONSTRUCTION (WILDLIFE) |
|------------------------------------|--------------------------|-----------------------------|
| Cattleguards/Management Facilities | 3 each | |
| Fences | 34.3 miles | 2.6 miles |
| Water Facilities | 7 units | 4 units |
| Vegetation Manipulation | 7,120 acres | |

* Range betterment fund and partially contributed funds only.
Does not include fire rehabilitation funds.



State Director Ed Spang, left, and Nevada rancher Buster Dufurrena view some of the Black Rock Range in the Winnemucca District.

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, 1987, more than 51 million acres of soil inventories have been completed. Following is a list of BLM district accomplishments for fiscal year 1987 and cumulative totals.

| DISTRICT | Soil Inventories | | ECOLOGICAL STATUS |
|-----------------|---|----------------------------|---|
| | SOIL SURVEY ACCOMPLISHMENTS (ACRES)* FY 86 | CUMULATIVE TO OCT. 1, 1987 | INVENTORIES CUMULATIVE TO OCT. 87 |
| Elko | 0 | 8,336,472 | 3,600,000 |
| Winnemucca | 1,032,724 | 7,894,569 | 5,300,000 |
| Carson City | 0 | 6,414,152 | 4,400,000 |
| Ely | 848,000 | 6,769,754 | 840,400 |
| Las Vegas | 300,000 | 8,349,535 | 650,000 |
| Battle Mountain | 500,000 | 11,857,187 | 1,129,000 |
| Susanville | <u>0</u> | <u>1,813,226</u> | <u>0</u> |
| TOTALS | 2,680,724 | 51,434,895** | 15,919,400 |

* 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.

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, 1987

| DISTRICT | SEEDING (ACRES) | FENCE CONSTRUCTION (MILES) |
|-------------|--------------------|-------------------------------|
| Elko | 0 | 0 |
| Winnemucca | 14,825 | 21 |
| Carson City | 0 | 0 |
| Ely | 0 | 0 |
| Las Vegas | 0 | 0 |
| Battle Mtn. | <u>0</u> | <u>0</u> |
| TOTALS | 14,825 | 21 |

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 1987, 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 1987 fire season was above average with 671 fires for a total of 93,023 acres burned. An average season is considered 450 fires with about 60,000 acres burned.

Fire Actions During Calendar Year 1987

| DISTRICT | NUMBER OF FIRE ACTIONS | | | | TOTALS | ACRES BURNED | | | TOTALS |
|--------------------|------------------------|----------------|----------------|-----------------|------------|---------------|-------------------------|---------------|--------|
| | 9 ACRES OR LESS | 10-99 ACRES | 100 + ACRES | ASSIST FIRES | | BLM | OTHER OWNER- SHIP | | |
| Elko | 46 | 5 | 8 | 59 | 50 | 14,595 | 9,425 | 24,020 | |
| Winnemucca | 69 | 16 | 18 | 103 | 12 | 25,684 | 12,083 | 37,767 | |
| Carson City | 161 | 10 | 0 | 171 | 78 | 347 | 10,328 | 10,675 | |
| Ely | 106 | 3 | 4 | 113 | 18 | 9,612 | 1,347 | 10,961 | |
| Las Vegas | 199 | 8 | 8 | 215 | 38 | 8,741 | 250 | 8,991 | |
| Battle Mtn. | 9 | 0 | 1 | 10 | 8 | 608 | 1 | 609 | |
| TOTALS | 590 | 42 | 39 | 671 | 204 | 59,587 | 33,436 | 93,023 | |
| PERCENTAGES | 88 | 6 | 6 | 100 | * | 64 | 36 | 100 | |

* The districts assisted other agencies on 204 fires.

Public Domain Forestry

The revenue received from the sale of minor forest products increased by 19 percent in the 1987 fiscal year. Christmas trees were the most popular item with over 36,000 trees sold. Cordwood sales were up slightly at 8,625 cords, but are still below the 1980 to 1982 period when more than 11,000 cords were sold annually.

The pinyon nut crop was nearly wiped out by the drought conditions and only 27,000 pounds were sold. This is the third consecutive year of below average production of pinenuts.

Summary Of Forest Products Sales For 1987

| | Christmas Trees | Cord- wood | Pinenuts (lbs) | Fence Posts | Misc.* | Total \$ Value |
|-----------------|--------------------|---------------|-------------------|----------------|--------------|-------------------|
| Elko | 5,014 | 1,470 | 0 | 1,245 | 0 | 24,245 |
| Winnemucca | 392 | 140 | 0 | 0 | 0 | 952 |
| Carson City | 12,446 | 2,211 | 4,000 | 140 | 4,000** | 47,625 |
| Ely | 5,790 | 1,780 | 16,500 | 2,612 | 320 | 25,542 |
| Las Vegas | 7,609 | 1,457 | 0 | 2,070 | 991 | 27,184 |
| Battle Mountain | 4,801 | 1,567 | 6,500 | 2,570 | 24 | 22,585 |
| TOTALS | <u>36,052</u> | <u>8,625</u> | <u>27,000</u> | <u>8,637</u> | <u>5,335</u> | <u>\$148,133</u> |

* Includes wildings, Joshua, yucca, and cactus.

** The Carson City District also sold 208,000 board feet of saw timber in California.



Riparian area management is a topic of increasing interest in Nevada and other public land states. Here, an inter-agency group tours an area which has been managed to enhance the diversity of the ecosystem. (Photo by Osborne Casey.)

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 Western gold rush; most of the new activity is occurring on Federal lands. More than 60 percent of the gold mined in the United States now comes from lands in Nevada. Geothermal development has also expanded greatly with five power plants and one direct use facility on Federal lands now producing and with others under construction or permit.

The minerals program in fiscal year 1987 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 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 1987, the mineral receipts from leasable mineral activity in Nevada totaled \$9,475,879. 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 1987, 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, gemstones and mercury. Nevada produced 2.7 million ounces of gold in 1987 which was about 63 percent of the total United States production. It was a major producer of lithium, silver and diatomite. A total of 57,366 claims were recorded during the fiscal year which brought the total claims recorded in Nevada under the Federal Land Policy and Management Act to 435,464. Nevada BLM offices received 691 notices and 126 plans under the hardrock mining regulations contained in 43 Code of Federal Regulations 3809. This has resulted in 3,381 active operations in the state which must be monitored; more operations than any other state with federal lands.

Mining Claim Recordation Status FY 87

Total claims recorded during fiscal year 1987: 57,366
Total claims recorded through September 30, 1987: 435,464

Mining Claim Patents, FY 87

| TYPE | NO. | ACREAGE |
|----------|-----------|----------------|
| Lode | 4 | 74.851 |
| Placer | 0 | 0 |
| Millsite | <u>69</u> | <u>246.400</u> |
| TOTALS | 73 | 321.251 |

Notices And Plans Of Operations Filed Under The Hardrock Surface Management Regulations, FY 87

| DISTRICT | NO. NOTICES | NO. PLANS |
|-----------------|-------------|-----------|
| Elko | 83 | 48 |
| Winnemucca | 162 | 4 |
| Carson City | 94 | 17 |
| Ely | 44 | 7 |
| Las Vegas | 60 | 10 |
| Battle Mountain | <u>248</u> | <u>40</u> |
| TOTALS | 691 | 126 |

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.

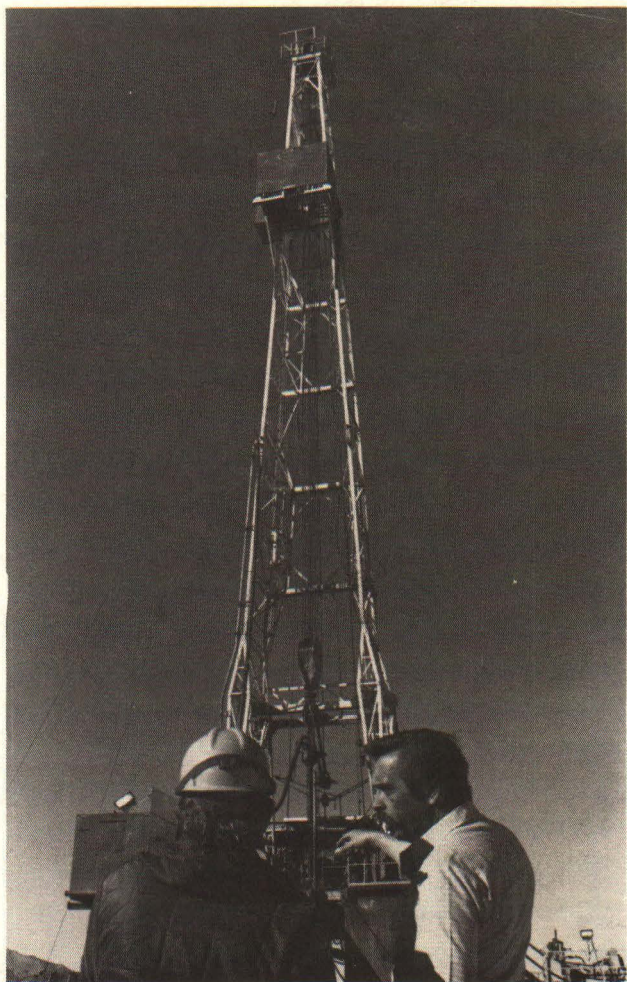
The BLM maintains 73 community pits in Nevada for the public to use sand and gravel, rip rap, decomposed granite and other salable minerals. For additional information, see the local BLM District Office.

Mineral Materials, FY 87

| TYPE CASE | NO. OF PERMITS | VOLUME | VALUE |
|------------------|----------------|------------------------------|------------------|
| Material Sales | 345 | 896,954 cubic yards | \$ 187,013 |
| Free Use Permits | <u>91</u> | <u>5,574,555</u> cubic yards | <u>1,142,569</u> |
| TOTALS | 436 | 6,471,509 | \$1,329,582 |

Leaseables

There has been renewed activity in exploration and development of sodium and potassium. A preference right lease has been granted for Rhodes Marsh. 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. In addition, four prospecting permits for sodium have been granted for the Desert Peak Area. Interest in Nevada's playas for solar salt-brine extraction operations can be expected to continue.



Drill rig in the Las Vegas District. Honorable mention in the Nevada BLM's 1987 photo contest. Photo by Joe Ross. Pictured are BLM geologists Brent Bestram and Byard Kershaw.

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.

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 87

| TYPE | NO. | ACREAGE |
|--------------------------------------|----------|----------------|
| Sodium Leases/Permits | 15 | 34,166 |
| Other (Silica Sand and Gravel, etc.) | <u>8</u> | <u>302,781</u> |
| TOTALS | 23 | 336,947 |

Oil And Gas

International economic oil problems and concerns were reflected in Nevada as there was a decrease of Nevada leasing and drilling activity in fiscal year 1987. Although the same number of Applications for Permit to Drill (APDs) were received in fiscal years 1987 and 1986, only 12 were drilled in fiscal year 1987. This compares to 19 drilled in fiscal year 1986.

Nine unit applications were approved in fiscal year 1987. 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, 64 percent, of the wells during the last four fiscal years. Of the 44 units approved in the last four fiscal years, 96 percent were actually drilled and satisfied unit obligations. (Five agreements had been approved as of the time of this printing in fiscal year 1988.)

No new commercial oil wells were completed in fiscal year 1987 and production declined from three million barrels in fiscal year 1986 to 2.75 million barrels in fiscal year 1987. Nevada's cumulative oil production through fiscal year 1987 was 16.5 million barrels and the average price per barrel in Nevada at the end of fiscal year 1987 was less than \$10.00 per barrel. Through fiscal year 1987, all Nevada production was from BLM-managed land, but at the close of fiscal year 1987, one non-Federal well was awaiting testing. One other Federal well was also awaiting testing and one was rigging up to drill. However, there were several new wells drilled and completed for production by the end of calendar year 1987. All the suspensions of production requirements were continued through fiscal year 1987, but end of the year drilling activity could trigger renewed interest and an increase in new applications, approvals and wells drilled in fiscal year 1988.

Although production and drilling dropped in Nevada, this state's continued activity, especially relative to greater decreases in neighboring states, show that strong interest by industry continues. Nevada is still considered one of the last, unexplored frontier areas for oil and gas exploration in the lower 48 states.

Oil And Gas Leases In Effect By County FY 87

| COUNTY | COMPETITIVE | | OVER-THE-COUNTER | | SIMULTANEOUS | |
|---------------|-------------|-----------------|------------------|----------------------|--------------|----------------------|
| | NO. LEASES | NO. ACRES | NO. LEASES | NO. ACRES | NO. LEASES | NO. ACRES |
| Carson City | 0 | 0 | 0 | 0 | 0 | 0 |
| Churchill | 0 | 0 | 77 | 185,143.040 | 16 | 38,594.310 |
| Clark | 0 | 0 | 75 | 132,730.190 | 70 | 115,725.418 |
| Douglas | 0 | 0 | 0 | 0 | 0 | 0 |
| Elko | 0 | 0 | 194 | 520,477.921 | 188 | 481,266.331 |
| Esmeralda | 0 | 0 | 1 | 1,287.000 | 0 | 0 |
| Eureka | 0 | 0 | 169 | 398,317.760 | 185 | 498,162.040 |
| Humboldt | 0 | 0 | 16 | 10,502.250 | 0 | 0 |
| Lander | 0 | 0 | 8 | 16,086.300 | 7 | 9,817.090 |
| Lincoln | 0 | 0 | 234 | 550,265.696 | 107 | 277,859.410 |
| Lyon | 0 | 0 | 0 | 0 | 0 | 0 |
| Mineral | 0 | 0 | 0 | 0 | 0 | 0 |
| Nye | 20 | 2,071.28 | 293 | 556,606.225 | 563 | 790,206.216 |
| Pershing | 0 | 0 | 22 | 47,068.060 | 2 | 13,438.230 |
| Storey | 0 | 0 | 0 | 0 | 0 | 0 |
| Washoe | 0 | 0 | 1 | 1,040.000 | 0 | 0 |
| White Pine | 0 | 0 | 183 | 374,962.065 | 419 | 969,934.160 |
| TOTALS | 20 | 2,071.28 | 1,273 | 2,794,486.520 | 1,557 | 3,195,003.210 |

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 charge of three dollars per acre per year.

As of the end of fiscal year 1987, there were 163 non-competitive geothermal leases totalling 268,903 acres, and 39 competitive geothermal leases totalling 72,148 acres. This total of 341,051 acres leased is a drop of some 295,641 acres since fiscal year 1980, reflecting industry interest has centered on proven development areas.

During the 1987 fiscal year, geothermal development activity in Nevada continued to expand. 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. Electricity from the plants, which are operated by Chevron Resources Company, is sold to both California and Nevada utility companies.

Plans of Utilization were approved and production has started on three additional power plants and one direct use facility. The power plants will generate an additional 23.4 megawatts, which will bring total generation involving public lands in Nevada to 50 megawatts. A 15 megawatt power plant is being operated at Steamboat Hot Springs by Caithness Power Company. Chevron Resources Company is operating a 3.6 megawatt power plant at Soda Lake, and Ormat Inc., is operating a 4.8 megawatt power plant at San Emidio. Round Mountain Gold Corporation is operating a direct use facility for use with heap leach mining operations. Oxbow Geothermal Corporation is constructing a 65 megawatt power plant in Dixie Valley and a 200 mile transmission line to deliver the electricity to a California utility. Two additional Plans of Utilization were submitted, and are in review, proposing power plants at Brady Hot Springs and Fish Lake Valley.

Geothermal Drilling Activity in Nevada FY 87

Number of Exploration Wells Drilled: 2 Number of Development Wells Drilled: 13
Number of Development Plans Submitted: 7

Geothermal Well Summary FY 87

Total number of all temperature gradient holes drilled as of September 1987: 420

Total number of all exploratory wells drilled as of September 1987:

Producible or usable: 73
Plugged and abandoned: 5

TOTAL 78

Competitive Lease Sale

| Sale Date | Number Parcels Sold | Total Acres Sold | Total High Bids |
|----------------|------------------------|---------------------|--------------------|
| Sept. 25, 1987 | 10 | 20,500 | \$287,000 |

Geothermal Development Projects

| STATUS | OPERATOR | MEGAWATTS | BLM OFFICE |
|---------------------------|-----------------------|------------|--------------------------------|
| OPERATIONAL | | | |
| 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 |
| Round Mountain | Round Mtn. Gold | Direct use | Battle Mountain DO |
| UNDER CONSTRUCTION | | | |
| Dixie Valley | Oxbow | 65 | Carson City, Winnemucca DOs |
| PROPOSED | | | |
| Brady Hot Springs | Brady Assoc. | 8.1 | Winnemucca DO |
| Fish Lake Valley | Steam Reserve Corp. | 15 | Battle Mountain DO |

Hazardous Material

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.