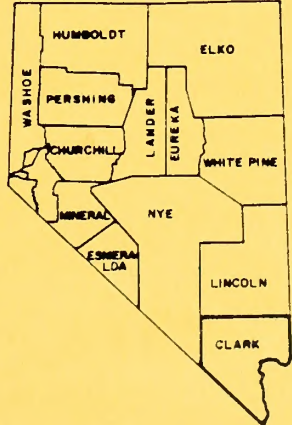
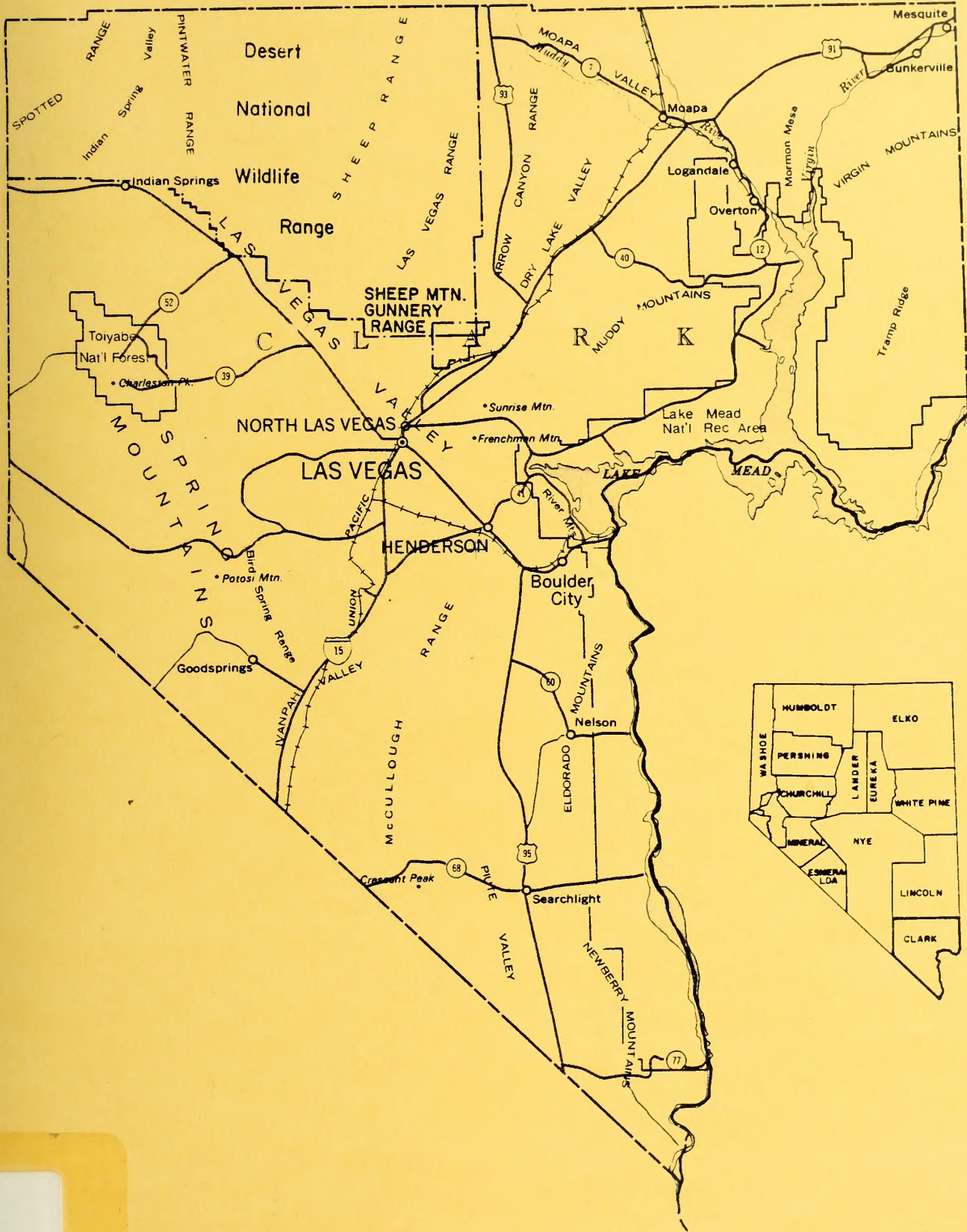




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CLARK COUNTY PLANNING AREA ANALYSIS



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PLANNING AREA ANALYSIS

Clark County, Nevada

U.S. Department of the Interior

Bureau of Land Management

Las Vegas District, Nevada

May, 1981

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.1 INTRODUCTION

Clark County was formed in 1909 from the southern portion of Lincoln County. Its original population base was 3,321 people. The county comprises more than 7,900 square miles of diverse, scenic desert landscape, ranging from the rugged Colorado River gorge to the alpine heights of Mt. Charleston. Early growth was slow and by 1940 it had only 16,000 inhabitants. Since 1940 it has become one of the fastest growing population centers in the United States. The 1980 preliminary county census shows the population at 462,218 people with a growth rate of 69.1 percent since 1970 (U.S. Department of Commerce 1980).

Clark County had a very unstable beginning. Several different groups tried to settle the Virgin and Moapa Valleys, but the harsh elements prevailed and settlers chose to move on. In 1877 a group of Mormon settlers finally established themselves in Bunkerville and became the first inhabitants. Las Vegas, the best known city in the county, was born in 1908 when the Los Angeles, San Pedro, and Salt Lake Railroad auctioned off dozens of sage-sown lots to a land hungry hoard.

In an effort to overcome stagnation, the State of Nevada legalized gambling and the giant that is Las Vegas today was born. Total service sector is the prime economic motivator, and its dominance impacts all other areas in the economy. It directly creates one-half of all the employment in Clark County, followed by the trade, construction, and transportation sectors. All other employment sectors, excluding government, comprise 7.8 percent of the total employment. Agriculture and mining, major factors in the State economy, have a negligible impact upon the county economy.

In the 75 years since its beginning, the city of Las Vegas has grown to encompass 18 square miles. The metropolitan Las Vegas area, comprised of three incorporated towns and seven unincorporated townships, accounts for 96 percent of the total county population. The core of development is located at the junction of Interstate Highway 15 (I-15), U.S. Highway 95 (U.S. 95), and the Union Pacific Railroad.

North Las Vegas is the second largest city in the county and ranks third in the State. With an estimated 52,350 residents (Nevada Development Authority Newsletter, July 1980, Volume 9), the city is primarily a "bedroom community" with the potential of becoming a major center for industry. About 40 percent of its nearly 35 square miles is located within the industrial zone, and only a fraction of that is developed.

Henderson is the largest city in Nevada in land size, with 70 square miles. Located about 13 miles southeast of downtown Las Vegas along U.S. Highway 93/95, the city has 24,000 residents, representing a population gain of 50 percent during the past ten years. Construction permit valuation increased eightfold since 1970 to \$60 million in 1979.

The balance of the urban area, including the Las Vegas Strip with its luxurious resorts and hotels, comprises the largest single entity in Southern Nevada and is unincorporated. Almost 98 percent of Clark County's population resides in the Las Vegas Valley, a compact metropolis of more than 450,000 and a magnet without parallel for visitors to the West (Couzens 1980).

A large amount of privately owned property in Clark County, some 1,125 acres, remains undeveloped. Many choice industrial, commercial, and residential parcels of varying sizes and descriptions are awaiting development. A significant part of the private property is outside the Las Vegas Valley and is classified rural.

About 20 miles southeast from downtown Las Vegas lies the community of Boulder City. Incorporated 20 years ago, after lengthy control by the U.S. Government, Boulder City immediately outlawed gambling, the only city in Nevada to do so. In 1980 the city council voted to control residential expansion.

The Virgin Valley is located in northeastern Clark County. Mesquite is 85 miles northeast of Las Vegas and 45 miles southwest of St. George, Utah, on I-15. The town of Bunkerville lies three miles south of Mesquite. Nevada Highway 12 makes a loop from Mesquite, through Bunkerville, and rejoins I-15 at Riverside, a cultivated area seven miles south of Bunkerville. At the east end of the valley, ten miles from Mesquite, is Littlefield, Arizona. The Virgin River runs the entire length of the valley, furnishing irrigation water to make a productive farming area, and eventually draining into the Overton Arm of Lake Mead, 25 miles southwest of Mesquite. The major business in the area is agriculture, followed closely by tourism. Four large dairies and numerous small part-time alfalfa producers utilize the majority of the privately-held real estate.

The Moapa Valley is located some 50 miles northeast of Las Vegas. This valley is approximately 30 miles in length and 11 miles in width, comprising an estimated 325 square miles. The Muddy River flows through the valley and drains into Lake Mead five miles southeast of Overton. Moapa and Glendale Townships comprise the Upper Muddy Valley. Logandale and Overton Townships comprise the lower Muddy Valley. People seeking rural lifestyles are rapidly changing the profile of the communities by residing in the Moapa Valley and commuting to Las Vegas for employment. Agriculture, primarily alfalfa production, is declining in economic importance, while the construction, service, and trade sectors are rapidly increasing (CCDCP December 1980). The Lake Mead National Recreation Area resorts of Overton Beach, Echo Bay, and Stewarts Point are major water recreation areas. Their economic impact and potential influence upon the Moapa Valley area are increasing.

The Laughlin area is located 95 miles south of Las Vegas. It is bordered on the east by Arizona and on the southwest by California. Rich in early history, Laughlin is now a Nevada border community supported by the inhabitants in nearby Arizona. It now boasts three gambling establishments and a post office. As of September, 1978, only 65 housing units existed (CCDCP January 1980).

Fifty-five miles south of Las Vegas is the community of Searchlight. During the late 1800s and early 1900s this area supported a substantial mining industry, but today, only 25 to 30 people are still actively involved in mining. Searchlight's population has a median age of 49.0 and is best described as a retirement community.

The communities of Jean and Sloan are located south of Las Vegas on I-15, the primary artery for tourists between Los Angeles and Las Vegas. The prime income is from gaming. A minimum-security prison was recently completed at Jean.

Located to the southwest of Las Vegas are the communities of Blue Diamond, Sandy Valley, and Goodsprings. Goodsprings is primarily an old mining community, with some residents still dabbling in exploration and mining activities. Sandy Valley is developing primarily as a "bedroom community" of Las Vegas, whose inhabitants cherish the rural lifestyle (CCDCP December 1980). Most of Blue Diamond's inhabitants are employed at the gypsum manufacturing facilities nearby.

Indian Springs is located 45 miles northwest of Las Vegas on U.S. Highway 95. The community is a mix of federal and civilian workers employed at Indian Springs Air Force Base and the Nevada Test Site. Most of the other inhabitants are engaged in retail or support services of some nature. The local economy is directly affected by its ties to the two nearby military bases and their relative expansion or contraction. In September, 1980, groundbreaking ceremonies for the Desert Correction Center were held. The 600-inmate medium-security facility is scheduled for completion in May, 1982.

A prime recreation area for local inhabitants is in the Mt. Charleston area, west of Las Vegas. It is utilized for recreation during all four seasons and is managed by the U.S. Forest Service, Department of Agriculture. It supports a ski resort and a growing residential population. Its proximity to the Las Vegas urban area and its climate, combined with the rising cost of fuel, are increasing the demands upon Mt. Charleston and its adjoining areas.

A major contributor to the Clark County economy is Nellis Air Force Base. It has an employee population of about 9,000 people. Its annual budget is

approximately 103 million dollars. It directly injects 31.67 million dollars into the local economy. The base occupies 13,960 acres in the northeastern portion of Las Vegas Valley. Most of its properties interface with BLM managed land and its growth or need for additional land can impact directly upon BLM management plans. The Nellis Air Base has been, and will continue to be, a major contributing factor to the growth of the northern portion of Las Vegas Valley (DOD 1975).

.2 SOCIAL-ECONOMIC ANALYSIS AND ECONOMIC DEMAND PROJECTIONS

.21 Lands

A. Land Use Classes

1. Urban-Suburban

Unlike many areas of predominately rural Nevada, urban-suburban land use is of prime importance in Clark County. This is due to the size and intensity of development of the Las Vegas Valley urban area, which is one of the fastest growing cities in the U.S. Although other small communities are found in the county, the Las Vegas Valley is the predominant urban area of Clark County and Southern Nevada (CCDCP December 1980).

The Las Vegas Valley is primarily in non-Federal ownership, although rapid growth coupled with existing scattered small tract ownership has created a severe checkerboard land ownership pattern in the western and southern portions of the Valley. This has created management problems for BLM and in some cases impeded smooth private development.

2. Agriculture

Agriculture plays a minor role in the economy of the county. Essentially all potential or productive farmland is already in non-Federal ownership. Approximately 11,000 acres are devoted to nongrazing agriculture in Clark County, primarily in the Overton-Glendale-Moapa area.

3. Utility Systems

Federal lands accommodate a multitude of utilities in the county, both local and transient.

The heaviest demand for local utilities -- electric, telephone, gas, and other services -- is found in the Las Vegas Valley. The population explosion from 50,000 persons in 1950 to some 462,000 in 1980 has resulted in rapid and extensive expansion of local utilities. In the remaining small-tract fringe areas, where residential and commercial growth is now taking place and private lands are surrounded by Federal parcels, the demand for rapid granting of utility rights-of-way is acute. With nearly 5,000 persons employed by public utilities in the county and approximately 5,000

new dwelling units constructed each year, the impact of local utilities is apparent.

Clark County is located in the path of many of the major utility corridors connecting the Southern California megalopolis with energy-producing areas in the continent's interior. The existence of these systems is vital to the economy of the western United States, and continued growth can be expected. The Intermountain Power Project, Rocky Mountain Pipeline, and Allen-Warner Valley projects are three current examples of this continued growth.

4. Other Land Uses

Other demands for use of Federal lands which significantly impact the economy of Clark County include communication sites, sanitary landfills, construction material pits, airports, parks, and outdoor recreation use. There is a continuing demand for transfer of public lands into private ownership under all existing applicable statutes.

B. Land Use Trends

Clark County is experiencing rapid and continued urban expansion, economically centered around the casino-resort industry. Through the efforts of the Nevada Development Authority, area Chambers of Commerce, and others, economic diversification has begun, with the establishment of warehousing and light manufacturing industries in the county. Since a significant percentage (up to 80%) of undeveloped lands in the fringe areas of the Las Vegas Valley remains in Federal ownership, continuous pressure is exerted by local government for disposal of these lands.

Development in these mixed Federal-private fringe areas is generally intended to be residential or light commercial.

C. Significance of Land Use

Table 1 shows the relative significance of the various land uses to employment, income, and surface occupancy.

TABLE 1
LAND USE IN CLARK COUNTY

Land Use Type	Percent of County Employment* (1978)	Seasonally Adjusted Gross Income In Millions of \$ *	Percent of Land Use (approx.)	Land Use Acreage (approx.)
Casino-Resort	29.6	55.9	.07	1,900
Residential	N/A	N/A	1.3	35,000
Construction/ Manufacturing	10.1	19.2	.16	4,500
Mining	.1	.3	.08	2,000
Trade & Commercial	25.6	48.7	.14	3,600
Transportation, Public Facilities, and Utilities	6.2	11.7	.45	12,000
Misc. Services	15.3	28.8	N/A	N/A
Government	13.0	24.4	88	2,330,000
Agriculture	.1	.3	.4	11,000
Misc. Uses			9.4	250,000
Total	100	189.3	100	2,650,000

* 1978 figures

Sources: UNLV January 1979; CCDCP December 1980.

As can be seen by the data in Table 1, the casino-resort industry is the predominant economic producer in the county. Also of significance are the following points:

1. Though often perceived as an important contributor to the state as a whole, mining makes only a small contribution to the Clark County area.
2. The relative contribution of the resort industry has declined steadily over the past several years, indicating that efforts to diversify the economy of the county are having effect.
3. The economic contribution of agriculture is low (compared to other areas), relative to the acreage committed to agriculture in the Glendale-Overton-Moapa area. This points to the fact that most agricultural enterprises provide a marginal return on the investment of capital, labor, land, etc.
4. Residential acreage denotes only that land in private ownership. In actuality, several thousand acres of Federal lands in the Las Vegas Valley are interspersed among private residential areas. These "checkerboard" Federal lands are a part of the suburban residential area, and will be sought for development by private individuals and firms.
5. A significant portion of the construction/manufacturing industry is directly related to the growth of the area. A slowing of growth would decrease the relative and/or absolute contribution of this sector.

D. Demand Projections

The demand for public lands or use of public lands will continue to intensify. Public land for urban-suburban expansion will continue to be needed along with demand for lands facilities, outdoor recreation, and right-of-way accommodation.

E. Public Attitudes and Values

Southern Nevada, including Clark County, has experienced rapid growth over the past 20 years. Population growth has included immigration from all parts of the United States. As a result, public attitudes and values are diverse and flexible.

Some basic assumptions and observations, however, can be made:

1. The public has been, and probably will continue to be, supportive of sales of public lands in the Las Vegas Valley.
2. Requests for long-term commercial leases, primarily where sales are not anticipated, will continue to be received.
3. Interest in the Desert Land Entry (DLE) program has been high. However, because of constraints imposed by climate, soils, and lack of water, few, if any, DLEs will be granted. This creates a feeling among most DLE applicants that they were not "given a chance."
4. Recreation and Public Purpose Act applications are many. Most of the public seem to perceive local agencies as "having a right" to utilize public lands for local purposes. However, there have been recent instances of residents closely affected by a public development being strongly opposed to such grants. The Desert Correction Center near Indian Springs and the Tara Avenue School are two such examples.
5. Most local residents are fairly intolerant of long delays in granting small local rights-of-way for utilities and roads. Processing time in excess of two to four weeks from application is commonly viewed as excessive. Such cases actually take up to six months for BLM processing.
6. In undeveloped areas, public opinion is often divided among development versus preservationist groups on any given lands action.

.22 Minerals

A. Locatable Minerals

1. BLM Policy and Responsibility

The BLM takes no active role in encouraging exploration or development of locatable mineral resources, but is charged with the responsibility for determining the validity of mining claims, for approving mineral patents, and for prosecuting cases of suspected mineral trespass, involving public lands under its jurisdiction.

It is the responsibility of the BLM to insure that the closing of public lands to all forms of mineral entry occurs only when the best use of the land is for some purpose other than the exploitation of mineral resources.

The Federal Land Policy and Management Act of 1976 charged the BLM with the new responsibility of establishing procedures for mining operations to prevent unnecessary or undue degradation of the public lands, and to manage wilderness study areas in a manner so as not to impair their suitability for preservation as wilderness. Furthermore, the Act required that all mining claims located on public lands be recorded with the BLM by October 21, 1979. In response to this mandate, the BLM published final regulations for management of mining operations in wilderness study areas (43 CFR 3802). Proposed regulations (43 CFR 3809) for Surface Mining of Public Land Under the U.S. Mining Laws were published in the Federal Register on March 3, 1980. Under both the final and proposed regulations the BLM is charged with the responsibility of conducting archaeological and botanical surveys and of preparing the necessary environmental assessments and/or environmental impact statements. New responsibilities placed on mining claimants include developing plans of operations, possible bonding requirements, and reclamation.

2. Resource Evaluation and Market Analysis

The minerals industry was an important element of the county's economy during its early years. Mining of zinc, lead, gold, silver, copper, and manganese has contributed significantly to county income. The total dollar value of these commodities to 1964 exceeds \$94 million. Since 1964, base metal production in the county has been insignificant primarily due to depletion of high grade ores and rising mining costs.

However, since 1980, the trend in base metal prices has been one of generally increasing prices, particularly for gold. Furthermore, improvements in technology are making the extraction of minerals from lower grade and less accessible ore economically feasible. The result has been an upsurge in prospecting and claim staking. The sharp rise in prices, particularly for gold and silver, has given added incentive to prospecting in the county. As of January, 1980, over 5,000 claims had been staked in Clark County, primarily for base metals.

No base metal production has been reported from this renewed activity. Most mining activity is by the small, individual miner or groups of local residents. Old mining districts, such as Searchlight, Nelson, Goodsprings, etc., are receiving the greatest attention at the present. Without a doubt, some miners have discovered mineral deposits but they face two serious problems. One is the lack of

capital to process and refine the ore on their own. The other is the lack of available smelters, in particular smelters which will custom refine small amounts of concentrate.

Gypsum and metallurgical grade limestone are the only locatable minerals being mined in the county which have any impact on the economy. Gypsum is used for making wallboard and plaster while limestone is used for making cement. One company operates both limestone and gypsum mines. Another company mines only gypsum. The market for gypsum products produced in the county is nationwide. Due to its bulk and weight, the limestone produced for cement is marketed only regionally. The proposed MX missile project holds great potential for development of limestone prospects in the near future because of the high demand for cement.

3. Employment and Population Dependence on Public Lands

The Nevada Industrial Commission in its 1979 Directory of Nevada Mine Operations shows that approximately 136 persons in the county are engaged in some aspect of mining and milling of locatable minerals. The Flintkote Company is the largest source of employment in the locatable minerals sector. Employment in 1979 was approximately 105 persons. Pabco Gypsum is the next largest employer. Neither company, at present, is dependent on public lands, since their mining operations are being conducted on patented claims. Both companies may at some time in the future devote attention to public lands as their deposits are depleted and new reserves are sought.

Only five base metal mines, employing 13 persons, are operating in the county despite active exploration activities. Production from these mines is unknown. Just how the renewed activity for base metals will affect the county's economy is difficult to predict, except to say that new deposits will probably be found on public land.

B. Salable Commodities

1. BLM Policy and Responsibility

The Bureau has complete control over disposition of salable mineral materials to individuals, companies, and government agencies. Furthermore, the Bureau controls the methods of material site access and location, and stipulates the method and manner of site rehabilitation upon completion of material removal.

The Bureau has the responsibility to provide for purchase of materials that will serve the public needs. The demand for mineral materials, particularly sand and gravel, in Clark County will continue. Disposal by BLM can be made by authorizing material contracts, free use permits, material site rights-of-way, and designation of community pits. The extraction of any salable mineral (i.e., stone, cinder, pumice, topsoil, clay) can be allowed, within the framework of good land management.

2. Resource Evaluation and Market Analyses

Only sand and gravel will be dealt with under this section as it is the major salable mineral of importance in Clark County.

Demand for sand and gravel originates from the construction industry plus the Nevada Department of Transportation (NDOT). These materials are high-bulk, low-value minerals. Transportation costs can add significantly to overall mining costs, if the product has to be transported any substantial distance. Consequently, sources near population centers are generally sought by local sand/gravel operations. Market proximity is not as critical to the NDOT since deposits must be close to the project at hand.

Generally, sand and gravel demand is related to population growth. In Clark County, the population growth between 1970 and 1980 was 69.1 percent, a rate that is not expected to change substantially during the next decade. This growth rate will sustain an active construction and building industry, and an active demand for sand and gravel.

There are 28 sand and gravel operators in Clark County, the majority of which are located in the Las Vegas area. Their combined production is unknown but it is probably substantial, perhaps over 2 million cubic yards per year, when compared to production from public lands. Aggregate sales from public lands amounted to 169,000 cubic yards during FY80. The NDOT has approximately 180 material site rights-of-way in Clark County. Production from these sites for any one year is unknown.

There are no sand and gravel reserve/resource estimates for the county. They most likely range in the billions of cubic yards. Every intermountain basin in the county is a potential resource/reserve area. Reserves in the Las Vegas Valley are dwindling because of urban expansion and depletion of existing deposits. Both of these factors, plus compliance with more stringent pollution and county zoning

laws will force operators to obtain sand and gravel from sources farther away from the market. The resulting increased transportation costs will raise the retail price of the product.

3. Employment and Population Dependence on Public Land

Statistics compiled by the Nevada Industrial Commission in its 1979 Directory of Nevada Mine Operations indicate the 28 sand and gravel operators in Clark County employ approximately 194 persons. Nearly all are located in the Las Vegas area. Only 3 operators mine sand/gravel from public lands. The remaining 25 use private lands. At present, there is little dependence on public land, although this situation could change during the next decade as existing reserves are depleted and urban expansion makes it necessary to mine new reserves. The NDOT on the other hand, is nearly totally dependent on public lands as a source for sand and gravel since the material is obtained free of charge. Mining is generally done by local contractors since the NDOT accomplishes most of their road projects by awarding contracts. Employment by the private sector in this area is sporadic.

C. Leasable Minerals

1. BLM Policy and Responsibility

The United States, through the Mining and Minerals Policy Act of 1970, has a long-term policy aimed at insuring abundant supplies of minerals at reasonable cost, within the confines of environmental protection and at acceptable levels for national security. It is BLM's responsibility to make public lands available for mineral leasing. In addition to offering lands for mineral leasing, the BLM is responsible for the expeditious processing of prospecting permit applications, lease and right-of-way applications, and plans of operation. It is also the BLM's responsibility to ensure that the closing of public lands to all forms of mineral entry occurs only when the best use of the land is for some purpose other than the exploitation of mineral resources.

2. Resource Evaluation and Market Analysis

Currently, the only leasable minerals of major importance in the county are oil and gas. Much of the county has been classified by the U.S. Geological Survey as prospectively valuable for oil and gas; however, none has been found to

date. The county's geographic location with respect to the newly found Overthrust Belt and its productivity in other states is the primary reason for the petroleum industry's recent exploration activities in the county.

3. Employment and Population Dependence on Public Lands

Minimal employment can be attributed to the petroleum industry at this time. Leasing and geophysical work are the current activities being performed, largely by out-of-state personnel who contribute little to the local economy.

In terms of revenue for the county, oil and gas leasing plays an important part. Fifty percent of the annual rental rate (\$1.00 per acre) collected by the Federal government is returned to the county. By the end of 1979, about 2.1 million acres or 77 percent of the eligible 2.7 million acres in Clark County were leased. This represents an income of slightly over one million dollars.

D. Minerals Sector Income and Employment

Compared to the gaming and tourism industry in Las Vegas, the minerals industry plays a small role in the economy of the county. In 1979, 330 persons were employed by the minerals industry and were engaged primarily in extracting gypsum, limestone, and sand/gravel. Very little mining/production of metals occurred from public lands.

The primary value of public lands in the locatable mineral industry is for prospecting. Prospecting may result in the discovery of new ore deposits, which in turn may become the source of mineral production. Access to public land is a key element in the process leading to production.

Dependency of the salable mineral industry on public land, at present, is low. Practically all operators extract sand/gravel from private pits. Only the NDOT is dependent on public lands for sand/gravel. The NDOT in turn provides sporadic employment to local contractors by awarding construction contracts.

E. Public Attitudes and Social Values

Local residents do not generally attach high social or cultural values to the mining industry except for old mining towns, freight and stage routes, and other aspects of the early mining history of Nevada. Both residents and visitors consider these to be fascinating remnants of the early West.

In Clark County, mining is of minimal economic importance to the community (CCDCP December 1980). In recent times, the principal

mining activity has been prospecting. As this has been of a transient nature, no lasting economic benefits have accrued to the county.

Some people express a distaste for the scarring of the landscape associated with prospecting and, to a greater degree, mining. Revegetation has been recommended as a possible solution to the environmental disturbance caused by mining related activities.

Miners feel that the extraction of minerals is important to the local and national economy, and that environmental laws are placing the stability of mining in jeopardy. Environmental restrictions add additional costs to the mining operation. Many small miners feel they will not be able to absorb the added costs, and will be forced out of business.

.23 Forest Products

A. Introduction

BLM administered lands in Clark County consist of 3,097,131 acres, of which 207,236 acres, or 7 percent, are classified as woodlands.

The majority of these woodlands are located on the Spring Mountain Range. Although there are woodlands on the McCullough Range, Virgin Mountains, Spirit Mountain, and Azure Ridge, these are scattered and unique locations. Some residents feel these areas should be managed in terms of esthetic, recreational, wildlife, and watershed values, and not in terms of producing forest products.

The major woodland type is pinyon-juniper (Pinus monophylla and Juniperus osteosperma). Historically, pinyon-juniper has been used for supplying fence posts, firewood, and pinyon nuts in years of bumper crops. Christmas trees are not allowed to be cut within Clark County.

Other species occurring in the area are ponderosa pine (Pinus ponderosa), bristlecone pine (Pinus aristata), Douglas fir (Pseudotsuga menziesii), White fir (Abies concolor), and quaking aspen (Populus tremuloides). These species are protected. Cutting could only be allowed when necessary for protection, i.e., removal of diseased or insect-infested hosts, or to reduce the fire hazard. It has been recommended that these species be managed for sustaining and regenerating existing stands.

B. History

The forestry program in the Las Vegas District, of which Clark County is a part, has lacked continuity. It is known that there was a forester, R.M. Varney, assigned to the District in the late fifties and early sixties. The total lack of timber in the District has caused the program otherwise to have a low priority.

C. Forest Products Analysis

1. Timber Production

There are no commercial timber-producing sites within Clark County.

2. Other Vegetative Products

Woodlands in Clark County provide firewood, posts, and pinyon nuts. Occasionally permits are requested for obtaining desert vegetation.

"The forestry and vegetative product industry is insignificant to the three county areas that make up the District Statistical Region." That was the opening sentence of the Economic Profile Supplement produced in June, 1974 (UNR 1974). Times change. Although the forest products industry will neither break or make the socioeconomy of the area, it can no longer be considered insignificant.

With increased prices of fossil fuels, more and more individuals are using firewood as a source, or partial source, of heat. The increased demand could have a negative impact on the woodland ecology of the area if not properly managed.

The majority (90%+) of the permits for firewood, Christmas trees, posts, etc. are sold over the counter at the Las Vegas Office. Therefore, it is reasonable to assume the main thrust of demand for woodland products is from the Las Vegas area, though the impact may be felt on the woodland resources of the surrounding areas.

In the Clark County area alone, 2,778 cords of firewood were sold during FY80. At an average stock of 5.38 cords per acre (results of BLM Forest Inventory 1979), 516 acres of firewood were sold. This figure accounts for 53.4% of all firewood sold within the Las Vegas District. In terms of real money this represents an income of \$8,334 for the season.

In the future, if the cutting activities can be channeled to designated areas this could represent a savings to the BLM of capital used for vegetation manipulations.

The demand for firewood in the area is rapidly increasing (see Tables 2 and 3) and as long as oil and gas prices remain high, the demand for firewood will not decrease.

The indirect effects on the economy include increased sales of chainsaws, fireplaces, and other related equipment necessary for harvesting firewood. Unfortunately, no specific figures are available on units sold. All dealers interviewed, with one exception, expected an increase in sales this year.

Although Christmas trees are not allowed to be cut in the county, every year thousands of permits are sold (see Table 2) to residents of Las Vegas who, in turn, migrate north to cut the family tree.

In terms of direct income in FY80, \$11,813 was produced as a result of Christmas tree permit sales. Again, there is no data available concerning the indirect income generated by the consumption of gas, food, etc., necessary to make the outing. As one individual put it, "By the time I drive up there, get my tree, and come back it probably costs me more than if I bought one, but the family enjoys it."

The demand for posts seems to be steady, with no indication of an increase or decrease in demand (see Tables 2 and 3).

D. Regional Trends

Other suppliers of forest products within the Clark County area are private land holders and the U.S. Forest Service. Data concerning forest products harvested from private lands is not available. Firewood harvested from the Toiyabe National Forest is listed in Table 4.

TABLE 2

BLM FOREST PRODUCT SALES - DISTRICT-WIDE

Fiscal Year	Firewood Sales (Cords)	Christmas Tree Sales	Post Sales
1980	5,197	11,813	8,926
1979	2,743	9,877	11,446
1978	2,085	9,230	52 permits*
1977	-	-	-
1976	1,365	6,145	53 permits
1975	595	2,633	35 permits
1974	705	1,938	35 permits
1973	322	3,164	-
1972	357	4,108	31 permits
1971	318	3,437	71 permits

* - Data on actual number of posts sold not available. Only the number of permits. A permit may be good for one post or a thousand.

TABLE 3

BLM FOREST PRODUCT SALES - CLARK COUNTY*

Fiscal Year	Firewood Sales (Cords)	Christmas Tree Sales	Post Sales
1980	2,788	-	1,556
1979	1,249	-	916

* - County-by-county data available only for 1980 and 1979.

TABLE 4

COMPARISON OF USFS TO BLM FIREWOOD SALES*

Year	USFS Firewood (Cords)	BLM Firewood (Cords)	Total Firewood (Cords)
1979	1,468	2,778	4,246
1978	1,111	1,249	2,360
1977	1,714	-	-

* - Comparative data is readily available for the past two years only.

Source: USDI, BLM, Las Vegas District, 1971-1980.

G. Other Indicators of Significance

It is difficult to assess the effects that trespass has on demand figures. It is known that unauthorized cutting does take place, but the quantity and impacts are unknown.

Available data is questionable. If a trespass is found, all that can be done under the present system is to record it and suggest the violator get the required permit. As a result many BLM employees don't bother to check.

H. Other Vegetation

Many individuals find desert vegetation attractive and occasionally request permits to collect specimens. However, BLM policy is inconsistent concerning the collection of other vegetation species. At present, desert vegetation can be collected only in the Stateline-Esmeralda Resource Area. Therefore, demand data is very limited.

Information from phone conversations with various nursery operators in Las Vegas indicates that there is a substantial demand for desert vegetation. These operators are very interested in obtaining a local source of desert vegetation. Presently, legal desert plants have to be shipped in from California and Arizona.

.24 Range Management - Livestock

A. Analysis

Livestock production is a minor industry in Clark County (see Table 6). The county accounts for approximately two percent of the State's total livestock production -- 15,000 cattle and calves and approximately 500 sheep for Clark County, compared to 580,000 cattle and 22,000 sheep in the State (see Table 7) (Nevada Crop and Livestock Reporting Service 1979).

The forage on all of the livestock grazing allotments on federal land in Clark County is classified as ephemeral. Thus, grazing by livestock is only authorized when forage is available. Historically, grazing has been authorized on a year-round basis, on some allotments in the county, and therefore these operators are dependent on Federal lands to support their operations.

The authorization of yearlong livestock grazing on public land classified as ephemeral, without proper inspections to insure that adequate forage is available to support the livestock, is a very poor range management practice. It could, and probably

will, lead to the reduction or elimination of important perennial forage plants. This could contribute to excessive erosion and soil loss. This practice could eventually result in the loss of all grazing capacity on these areas of federal land in Clark County.

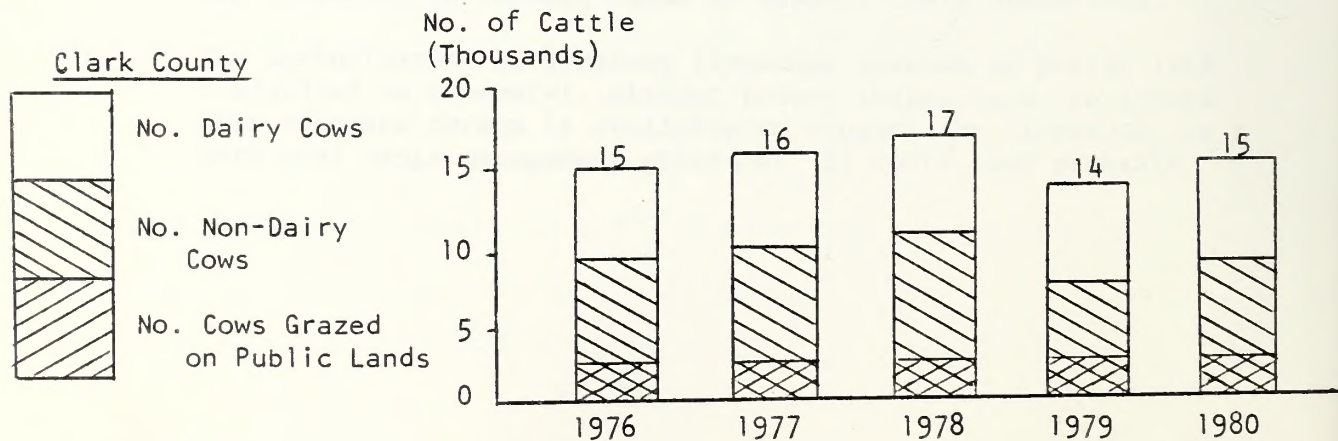
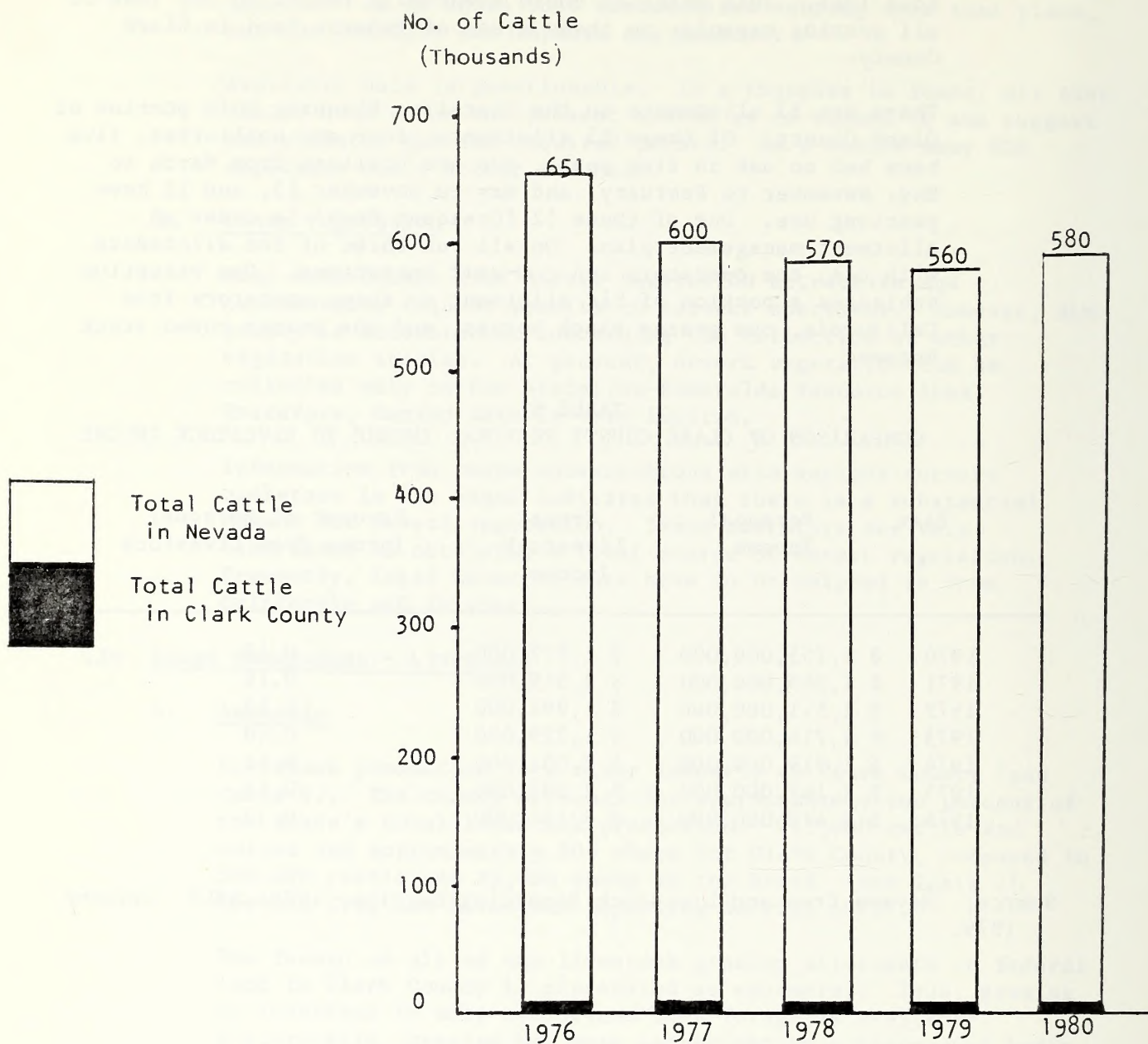
There are 23 allotments in the Stateline Planning Unit portion of Clark County. Of these 23 allotments, four are unallotted, five have had no use in five years, two are utilized from March to May, November to February, and May to November 15, and 12 have yearlong use. One of these 12 (Crescent Peak) is under an allotment management plan. On all but three of the allotments with use, the operators run cow-calf operations. One exception subleases a portion of his allotment to sheep operators from California, one grazes ranch horses, and one grazes rodeo stock horses.

TABLE 6
COMPARISON OF CLARK COUNTY PERSONAL INCOME TO LIVESTOCK INCOME

Year	Personal Income	Gross Livestock Income	Percent of Personal Income from Livestock
1970	\$ 1,255,000,000	\$ 1,977,000	0.16
1971	\$ 1,369,000,000	\$ 2,519,000	0.18
1972	\$ 1,511,000,000	\$ 1,992,000	0.13
1973	\$ 1,716,000 000	\$ 1,729,000	0.10
1974	\$ 1,919,000,000	\$ 2,051,000	0.11
1975	\$ 2,147,000,000	\$ 2,502,000	0.12
1976	\$ 2,410,000,000	\$ 3,161,000	0.13

Source: Nevada Crop and Livestock Reporting Service, 1979; UNLV, January, 1979.

TABLE 7
 NUMBER OF CATTLE AND CALVES ON RANCHES IN NEVADA ON JANUARY 1, 1975 to 1980



The Virgin Valley Planning Unit portion of the county is made up of 25 allotments. The operators on two of these graze livestock yearlong; 17 allotments are grazed from January to April and/or November to December, or when ephemeral forage is available; and operators on six allotments have taken non-use for the past five years. The majority of the operators on these allotments run cow-calf operations, with the exception of five operators who run ewe-lamb operations. Most of these sheep operators use their allotments for lambing during February to May.

Five year average licensed use (1975-1979) on federal land in Clark County was 31,183 AUMs. Annual forage production on ephemeral range can be as little as zero or greater than 2,000 lbs/acre, and is dependent upon precipitation, soil types, and the time of year the precipitation falls.

The forage on all of the allotments in Clark County is classified as ephemeral. Use can fluctuate radically, making it impossible to predict accurately the ranchers' dependency upon BLM lands. Historical use data cannot accurately portray future range and forage conditions, therefore, conventional ranch budget analysis is impractical.

B. Local Significance

Federal land in the Stateline area supports approximately 1,750 livestock annually (21,000 AUMs) (USDI, BLM, Clark County URA, 1980) or approximately 14.6 percent of the 15,000 cattle and calves in Clark County (Nevada Crop and Livestock Reporting Service 1979). The Virgin Valley area supports approximately 839 livestock annually on federal land (USDI, BLM, Clark County URA, 1980) or approximately 5.6 percent of the cattle and calves in Clark County (Nevada Crop and Livestock Reporting Service 1979). It is assumed that lands other than federal support the remaining percentage (82.8 percent).

The range livestock industry in Clark County makes up .0207 percent or approximately \$560,050 of the total income in Clark County (\$2.7 billion) (U.S. Department of Commerce 1978).

C. Public Attitudes and Social Values

Ranchers in Clark County have the same types of attitudes and feelings as ranchers throughout Nevada. They generally resent the nationwide environmental trends that induced the Federal Government to reassess public land policy, which resulted in the passage of the Federal Land Policy and Management Act of 1976 and other "equally restricting legislations." Those concepts are not perceived by the ranchers as possessing sufficient elasticity to permit management adaptations in response to various types of local conditions (USDI, BLM, 1979). Most ranchers feel that they have little influence over BLM planning decisions. They feel the interpretation of the law and the planning decision guidance are provided by the Washington BLM staff without regard to local conditions or input.

In general, ranchers feel that ranch asset values in Clark County are a mix of public grazing rights and private land values, which combine for a total ranch value. Any withdrawal of grazing privileges on public lands from the mix, can have an immediate and serious reduction of assets for both the rancher and the financial institution, which relies heavily upon rancher assets and corresponding net worth. Generally, the amount a rancher can borrow to sustain his lifestyle and operation, is a percent of his total assets. Therefore, when his assets are reduced, his borrowing capacity is likewise deteriorated.

Most ranchers feel that the industry has been severely limited in recent years by a combination of ever-increasing governmental intervention, drought, and tight cost-price ratios in the national cattle market. In the national cattle market, they view themselves as "price takers" rather than "price setters." They feel, with varying degrees of intensity, that the consistent lack of continuity of personnel in the BLM District Office has a deleterious effect on BLM/rancher relations. Long-term planning is perceived as a must and ranchers generally feel that the constant turnover in BLM personnel deprives them of consistency in interpretation and application of various Bureau rules, regulations, and policies.

This, coupled with the ranching community's philosophical opposition to both governmental intervention in the industry and continued federal ownership of "Nevada lands" tends to increase the potential for conflict between the BLM and the ranching community.

A. Analysis

Major competitors for forage on the Gold Butte, Muddy Mountains, Spring Mountains, McCullough Mountains, and Blue Diamond Ranges are wild horses and burros. Prior to the Wild Free Roaming Horse and Burro Act (P.L. 92-195) of 1971, local ranchers and horse dealers rounded up wild horses to utilize as pleasure or work animals or to sell for slaughter. The population of wild horses and burros fluctuated prior to 1971, but periodic roundups kept herd size at a low level. The wild horse annual reproduction rates since 1971 have been 12 to 16 percent.

Burros are native to arid deserts and have adapted very well to existing conditions on the range in Clark County. The annual reproduction rate for burros is estimated at 20 percent. A concise herd size is difficult to determine since herds travel between BLM and National Park Service lands (USDI, BLM, Clark County URA, 1980). Current estimates are listed on Table 8.

B. Public Attitudes and Social Values

Wild burro herds are direct competitors of livestock for the use of available forage in many instances. Burro herds are perceived as a hindrance to livestock grazing and ranchers often pursue the removal of wild horses and burros. Other groups, including the spectrum of local, regional, and national interests, support continued unrestricted use of BLM land by wild horses and burro. Many residents enjoy viewing wild horses and burros, but realize the potential economic loss they may cause. This "middle-of-the-road" group supports continued range use by wild horses and burros, but controlled by using various management techniques.

Wild burro herds seem to adapt more readily to steeper and rougher terrain than livestock, becoming a direct competitor of desert bighorn sheep and mule deer for available water and forage. Most of the range in Clark County is ephemeral and the potential adverse impact from overgrazing by perennial foragers is great. This factor, combined with the difficulty of controlling the numbers of wildlife and wild burros utilizing a specific location, can result in detrimental impact upon the condition of both the range and the range user.

Various wild horse and burro interest groups are highly concerned over the methods utilized to control numbers of animals. In Grand Canyon National Park and the China Lake Naval Weapons Center, wild horse and burro interest groups found the proposed tactics of herd reduction, the shooting of burros by marksmen, a very distasteful method of control. They instigated legal action and forced the Federal agencies involved to utilize other methods of herd size reductions. If herd numbers must be reduced, these groups support the use of conventional round-up methods, and suggest the captured animals be offered for adoption by the

general public. This is a less cost-effective measure, but is accepted by special interest groups as a much more humanitarian method.

TABLE 8

WILD HORSE/BURRO POPULATION STATISTICS IN CLARK COUNTY

Herd Management Area Name	Acres		Horses*			Burros**			
	BLM	Other Fed. Other	Adult	Yearling	Young	Adult	Yearling	Young	
#1 Gold Butte (Incl. portion of Grand Wash Unit in AZ.)	132,000	115,000	700	0	0	0	239	93	22
Arrow Canyon	180,000	800	2,000	0	0	0	0	0	0
#2 Muddy Mtns.	75,000	93,000	200 ₊	9	0	2	42	13	4
#3 Spring Mtn. Range (Incl. Red Rocks Rec. Area & Bird Spring Range)	740,000	87,000	2,000	29	1	3	29	2	2
#4 Eldorado Mtns.	100,000	140,000	600	0	0	0	51	17	0
Total	1,047,000	435,000	8,900	38	1	5	361	125	28

* Horse numbers are actual counts, calculated May 25, 1979. Since no research has been conducted, no estimates were made. According to inventory indices, only 60 percent of the individual animals being inventoried are expected to be counted. Based on this information, the horse population could be as many as 55 animals.

** Burro numbers are inflated by a factor derived from the Lincoln Index, developed from the Gold Butte Area Inventory, April 1979.

Source: USDI, BLM, Clark County URA, 1981.

.25 Watershed

A. Flood and Sediment Damage

With the exception of engineers and land use planners, concern for flood and sediment damage is generally low, except for periods immediately following damage-producing events. Such lack of concern is exemplified by continued encroachment on floodplains and alteration of flow channels.

Flood and sediment damage has been severe in the past, including the loss of life and upwards of \$5,000,000 damage in a single event. As the population of Clark County increases, the frequency and intensity of storm damage will probably also increase.

Reducing the potential damage is possible through the use of retention dams and maintaining the beneficial values of floodplains. Vita (Clark County Flood Control Office, personal communication, 1980) noted that retention dams are still in the conceptual stage. The use of floodplains as greenbelts (parks, golf courses, etc.) within Las Vegas is currently encouraged. Plans for turning part of the Las Vegas Wash into a park have been made, and several golf courses have maintained beneficial floodplain values. The coordination of BLM land disposals with local planning agencies should help.

The Clark County Flood Control Division has indicated that decreased acquisition costs of right-of-way easements to keep flood channels free of debris or to divert flow would help their efforts. The coordinating of BLM land disposals with local flood control planning staff should also help.

B. Water Supply and Demand

1. Supplies

The concern over water supplies is most notable in the rural areas of Clark County. Rural communities are entirely dependent on limited groundwater supplies, where the supply of good, potable water at a low cost is at a premium. Evidence of such concern is in the comments prepared in response to the Indian Springs Prison Site Environmental Assessment. The community of Nelson is proposing a right-of-way to obtain water from a small spring nearby to supplement their own supply of poor quality groundwater.

In Las Vegas the situation is different. Here, water is relatively cheap, and concern over the supply is not great. Overwatering of lawns and other wastes of water are common sights. Some effort has been made by the Las Vegas Water District to encourage the conservation of water.

As the population grows and Las Vegas utilizes its full allotment of water from the Colorado River, the demand for water will meet and eventually exceed supply. To prevent a limit to either population growth or the per capita consumption caused by a water shortage, either the supply must be augmented or per capita demand reduced. Importation of groundwater from other water basins has been discussed, as well as price increases to curtail consumption.

Efforts to reduce consumption may lead to changes in lifestyle, including landscaping tastes. While individuals now feel reluctant to be the only ones with desert landscaping, many indicate willingness to switch when it gains popularity. The Las Vegas BLM District Office now receives occasional calls on the availability of desert vegetation for landscaping. The demand for desert vegetation will certainly increase.

2. Water Quality

Water quality in residential areas is generally controlled by the characteristics of the aquifer tapped. However, numerous springs and waterholes have been contaminated on BLM administered lands.

Generally, those springs in remote areas are used only for stock and wildlife watering. However, hunters or other recreationists are deprived of the use of these waters, because of severe contamination by livestock and/or lack of spring improvements.

The social value of clean water is more pronounced in areas of high recreational use, such as the Red Rock Canyon Recreation Lands. In such areas, the concern over the quality of water is high, with common requests addressing the safety of drinking the water. One caller to BLM noted that he was hospitalized for drinking water in the Red Rocks. Again, as the population grows and use of such areas increases, the concern for water quality should increase.

C. Water Rights

The current Bureau water rights policies present multiple economic and societal problems. The Bureau protests water filings on public lands, except in specific situations, such as mining claims or DLEs. Also, District personnel are compiling lists of federally reserved water, to establish Bureau water rights. These policies have not been well received by many, specifically ranchers.

Ranchers have been filing on a great number of waters throughout the State of Nevada. Given the BLM's policy of protesting these filings, and primacy of water rights, the cost of the water filings could prove to be an expensive way of discovering Bureau policy. Ranchers have expressed anger when miners, following acquisition of rights on a spring for mining or milling, attempt to sell them the water.

Probably the biggest problem for BLM exists in the current Sagebrush Rebellion activity. The State of Nevada is assuming ultimate control of the waters within the State, and until this issue is resolved, full management of this resource cannot be achieved.

D. Air Quality

The attractive climate of southern Nevada probably affects the popularity of Las Vegas as an entertainment center. Visitors from throughout the world enjoy the clear, sunny skies and warm winters. The moderate pollution levels have not yet had a significant negative effect on visitors or residents. However, this could change if the trend in pollution continues.

Generally, the air quality in Clark County is good. In the Las Vegas Valley Nonattainment Area, however, pollution is worsening year by year. One EPA standard not met is that for total suspended particulates (TSP) composed of naturally generated particulate matter (dust) and industrial particulates. This is the only standard affected by BLM lands.

The Las Vegas Valley Air Quality Implementation Plan identified off-road vehicle activity, unpaved roads, and natural areas as contributing to the high TSP levels in the Nonattainment Area. However, Naylor (Clark County Air Pollution Control Division, personal communication, 1980) noted that for a number of reasons control of these sources on BLM lands is not being actively pursued.

Limiting ORV activity on BLM lands in the valley would have a significant economic impact on the hotel/entertainment industry, primarily with regard to the Mint 400 race. The political and societal values of such races makes pursuing such restrictions undesirable.

Similarly, paving BLM roads within the Nonattainment Area is not an alternative being actively pursued. Dust from desert areas is, in Naylor's opinion, natural and uncontrollable.

In general, the Clark County Board of Health recognizes that most of the TSP problem is attributable to fugitive dust from natural areas. Since there is no direct relationship between such naturally occurring dust and health, their control recommendations are limited to localized sources (construction sites and sand and gravel operations) rather than expensive large scale programs.

.26 Wildlife

All material describing harvest numbers or hunter days in the following section is derived from the Nevada Department of Wildlife publications "Trophy Big Game Investigations and Hunting Season Recommendations," "Mule Deer Investigations and Hunting Season Recommendations," and "Upland Game, Migratory Game Birds, Fur Investigations, and Hunting Season Recommendations," and from other NDW files.

Clark County has substantial populations of several species of game animals. Species harvested at rates significantly above statewide averages include quail, dove, and rabbit.

"Quail harvest in Nevada made record highs in 1979, making quail the state's top game bird of the year" (Molini et al. 1980).

Fifty-five percent or 94,738 birds of the total state harvest occurred in Clark County. A total of 5,184 Clark County residents spent 25,520 days hunting quail in Clark County. Forty-eight hunters from other counties or out-of-state spent 291 days hunting quail in Clark County. An additional 1,689 Clark County residents spent 7,419 days hunting quail in other counties (primarily Nye and Lincoln). It is estimated that 95 percent of the quail harvest in Clark County occurs on public land.

Forty percent of the statewide harvest of doves occurred in Clark County in 1979. A total of 50,038 doves were harvested by 3,087 Clark County residents expending 11,135 hunter days. No significant harvest by nonresidents occurred. A total of 1,575 Clark County residents expending 5,093 days harvested 25,971 doves in other counties, primarily Nye and Lincoln. Approximately 90 percent of the harvest of doves occurs on public land.

Forty-five percent of the state harvest of rabbits occurred in Clark County in 1979. According to NDW figures, 61,764 rabbits were

harvested by 3,890 hunters spending 23,191 days. Only 259 rabbits were harvested by nonresident hunters. A total of 1,856 Clark County residents spent 7,299 hunter days harvesting an additional 19,427 rabbits in other counties of Nevada. It is felt that most rabbits are harvested when hunters are in pursuit of other species, primarily quail, and that specific trips to hunt rabbits are uncommon (Leach, NDW, personal communication, 1980). It is estimated that 95 percent of the rabbit harvest occurs on public land.

The following figures reflect the harvest of bighorn sheep only on lands administered by BLM or on Lake Mead National Recreation Area where BLM is responsible for managing grazing. The figures do not include any harvest that occurred on the Desert National Wildlife Range.

Bighorn sheep harvest is regulated by a quota system. Thirty-six percent (21 animals) of the statewide harvest of bighorn sheep occurred in Clark County in 1979. Twenty-four hunters expended 158 days hunting bighorn sheep, for a success ratio of 88 percent. Twenty-one Nevada resident and three nonresident tags were available. According to NDW figures, 241 resident and 131 nonresident applications were received for the available tags. Of the Nevada residents who received tags, 13 were Clark County residents, the other 11 came primarily from the Reno-Carson City area. The three non-Nevada residents came from Oregon, Kansas, and Missouri.

Mule deer is the most popular big game species in the state. Thirty-eight mule deer were harvested in Clark County in 1979. A total of 100 hunters expended 393 days effort. For the 102 tags that were available, 562 applications were received by NDW. Probably all 38 deer were harvested on public land. The demand for deer hunting by Clark County residents is high (5,174 hunted deer in counties outside Clark within the state). The mule deer harvest is also regulated by a quota system.

Less than one percent (902 birds) of the statewide harvest of chukar partridge occurred in Clark County in 1979. However, almost all this harvest probably took place on public land. Some 169 Clark County residents expended 506 days in pursuit of chukar. A total of 1,755 Clark County residents spent 4,702 days hunting chukar in other counties.

Little or no waterfowl or pheasant hunting, or fishing occurs on BLM land in Clark County.

Table 9 summarizes the hunter days by species for Clark County in 1979.

TABLE 9

CLARK COUNTY HUNTING, 1979

Species	Estimation of		Clark Co.	
	% of population Hunting on Public Land	No. of Animals Harvested	Hunter Days	Nonresident Hunter Days
Gambel's Quail	95	94,738	25,520	291
Mourning Dove	90	50,038	11,135	18
Cottontail Rabbit	95	61,764	23,191	135
Bighorn Sheep	100	21	147	11 ^{a/}
Mule Deer	100	38	358	35 ^{a/}
Chukar Partridge	<u>100</u>	<u>902</u>	<u>506</u>	<u>0</u>
Total		207,501	60,857	490

^{a/} - The nonresidents in these two instances are nonresidents of the State of Nevada. The nonresidents in the other instances are nonresidents of Clark County.

TABLE 10

CLARK COUNTY FUR HARVEST 1979-80 SEASON

Species	No. of Animals	Average Price Each	Total Value of Harvest
Muskrat	49	\$ 5.08	248.92
Coyote	863	35.48	30,619.24
Bobcat	534	181.80	97,081.20
Gray Fox	397	41.26	16,380.22
Kit Fox	570	12.71	7,244.70
Badger	62	11.08	686.96
Striped Skunk	12	2.50	30.00
Spotted Skunk	7	4.18	29.26
Ring-tailed Cat	15	6.83	102.45
		Total	\$ 152,422.95

Source: Molini et al. 1980.

The Clark County 1979-80 season of furbearer harvest and value is presented in Table 10. It is estimated that most of the harvest of furbearers occurs on public land.

The present demand for game species in Clark County is significantly less than what can be supplied. An idea of the disparity is reflected in that Clark County residents spent approximately 44,000 days hunting game in other counties of Nevada in 1979 as compared to the approximately 61,000 days they spent hunting in Clark County. The population of Clark County nearly doubled from 1970 to 1980, from approximately 273,000 to 462,000. Such similar increases in population in the future will demand intensive management of wildlife and its habitat.

The amount of nonconsumptive use of nongame in Clark County is unavailable. The value of such use in Clark County is equally undeterminable. However, a program in Colorado gives some idea of the value people place on nongame. In 1977, the State of Colorado started a system to fund its nongame wildlife program by having Colorado income taxpayers check on their return the amount they would contribute from their refund. In the three years since 1977, approximately 1.5 million dollars have been contributed (Wildlife Society 1980). Nongame species of particular concern in Clark County include the Woundfin and the desert tortoise because of their rarity. BLM administers some of the important habitat of these species. The more important habitat is described under the Critical Environmental Area Analysis of this document.

A. Introduction

This section analyzes data from a social and economic perspective to determine the social significance of recreation and its importance at the local and regional levels.

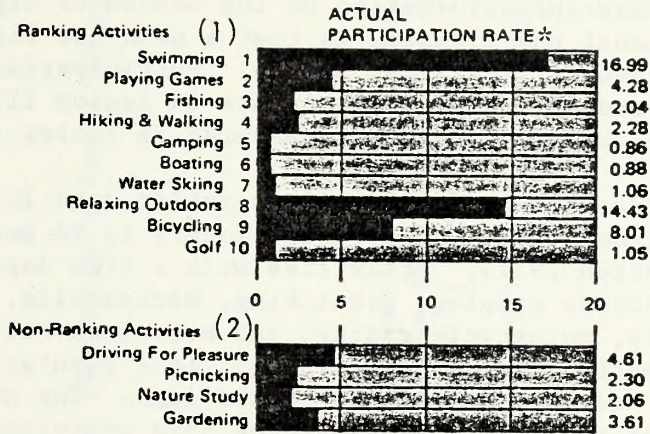
Nevada advertises itself as offering unlimited recreational opportunities. Recreation is an extremely important activity for Clark County, as the county contains nearly 60 percent of the population of Nevada and its primary industry is tourism. The Governor's Commission on the Future of Nevada Survey of March, 1980, indicates that most Nevadans feel recreation is one of the economic activities that they'd like to see expanded. A quote from the survey illustrates the importance the BLM's recreational attitude plays in this state-- "For most Nevadans, our state is defined by its vast open spaces and the recreational opportunities that go with them."

The importance of recreation and recreational opportunities to the social and psychological well-being of an individual and the community cannot be overemphasized. Lifestyles and personal habits have changed dramatically over the past few decades. An individual's "free time" is a prime consideration and motivational factor rather than merely a fortunate occurrence. Not too far in the past, it was common for workweeks to include a half-day on Saturday; today that is uncommon. Twenty years ago the term "compressed workweek" (four 10-hour days, for example) was merely an idea. Today it's a reality in many business sectors and it is gaining popularity. Americans today are freeing themselves from work so they might more fully enjoy the fruits of their labor. When adequate "free time" is available people will spend a great deal of it participating in those activities they enjoy most.

The Toiyabe National Forest in the Spring Mountains, the Lake Mead National Recreation Area, and the Valley of Fire State Park are experiencing an increasing load on their recreational facilities, resulting in an overflow onto BLM administered lands. This creates demand for more available and accessible recreation areas.

Popular recreation activities in Clark County include swimming, fishing, hiking, camping, boating, and relaxing outdoors. Table 11 presents participation rates for these activities in Clark County. Figures for all activities other than hunting or fishing are based on participation rates derived by the Nevada State Park System in their Statewide Comprehensive Outdoor Recreation Plan (SCORP).

TABLE 11
CLARK COUNTY POPULAR RECREATION PARTICIPATION RATES



Source: Nevada State Parks System 1977, p. 5-8.

- (1) Ranking activities are the ten most favorite outdoor recreation activities in the state, drawn from the 1975 Nevada Recreation Survey.
- (2) Non-ranking activities are other activities that did not rate within the top ten favorite activities, but which generated significant participation rates.

* Participation rates indicate average frequency of participation per capita in a recreation activity during one season of highest use.

The participation rates refer to the "average frequency of participation per capita in an outdoor recreation activity during one season" (Nevada State Park System 1977). Each participation rate reflects the season of highest use rather than average annual participation, consequently the totals presented in the table underestimate free recreation participation. The rationale for presenting information on the season of highest use rather than annual use figures, is that a peak use figure is more indicative of facilities needed. Participation rates by age groups and origin of participants in Region III (Clark County) recreation activities are presented in Tables 12 and 13.

The percentage of dependence on public land for outdoor recreational activities in the county is 98 percent (Nevada State Park System 1977). Activities with a high dependence on public land include camping, picnicking, backpacking, off-road vehicle activity, motorcycle riding, and horseback riding. Collecting, both vegetation and rock/mineral, is a popular activity in the county and is dependent on public land. The SCORP did not estimate participation rates for this activity but indicated that collecting is usually associated with other activities such as sightseeing, camping, backpacking, and off-road vehicle use.

Demand in the future for recreational opportunities is expected to increase dramatically as the county's population continues to grow rapidly. This increase in demand will be further compounded by the ever increasing population in southern California, which provides southern Nevada with the majority of its nonresident tourists.

One problem in evaluating recreation is establishing a value for leisure activities. They are socially oriented and involve intrinsic and subjective values, making them very difficult to quantify. An approximate measure for leisure time is to compare it with alternative uses of time. An accepted comparison is the Economic Equivalency Index (EEI) (Wilder 1977). The EEI is based upon the concept that an alternative to recreation is employment. Therefore, when an individual chooses a recreational experience he is foregoing the opportunity to gain income. He has, in effect, placed a value on recreation equivalent to an employment opportunity. The formula to calculate this value for an event is as follows:

A. (Participant Hours) X (No. of Participants) X $\frac{\text{(Minimum Wage)}}{\text{(Age Factor)}}$ = EEI

B. (PH) X (NP) X $\frac{\text{(MW)}}{\text{(AF)}}$ = EEI

The age factor is used to accommodate the difference in income producing ability as a factor of age. Normally, children and youths do not command the same wage as an adult.

Age Factor

- Adults 1
- Youth (13-17) 2
- Children (12 and under) 3

Example: A motorcycle race involving 125 participants (NP) and 250 pit crew/spectators (NP) spend one day at an event, which is eight hours long (PH). All of the participants are over 18, 80% of the spectators are adults and 20% are youth. The EEI value of the event is as follows:

A. $(8) X \frac{(\$3.35)}{(1)} + (8) X (80\%) (250) X \frac{(\$3.35)}{(1)} + (8) X (20\%) (250) X \frac{(\$3.35)}{(2)} = EEI$

B. $(8) (125) (\$3.35) + (8) (200) (\$3.35) + (8) (50) (\$1.675) = EEI$

C. $(\$3,350.00) + (\$5,360.00) + (\$670.00) = EEI$
 $(\$9,380.00) = EEI$

The economic value of the activity is expressed as a monetary value, equivalent to the same number of hours of employment at a minimum wage rate. The EEI value is not an estimate of the total economic value of that event, since it does not address costs of transportation, food, lodging, equipment, etc. It does serve as an estimate of one of the values that combine for an aggregate total value (see Table 14).

B. Developed Recreation Sites

Cold Creek and Willow Creek are the only two perennial streams that occur on BLM administered lands in Clark County. Both are located in the northeastern portion of the Spring Mountains and are important recreation areas. It is estimated that these areas accommodate 25,000 recreationists annually, with the peak use season being during the summer months.

Development in these areas has been minimal and is confined to two small campgrounds and a grassy area. The high popularity of these areas is due to many interdependent factors. The Spring Mountains are close to the Las Vegas Valley and offer the local residents an opportunity to escape the confines of the city and the heat of summer, and the Forest Service campgrounds are experiencing overcrowding, resulting in an overflow into the Cold Creek/Willow Creek area.

TABLE 12

RECREATION PARTICIPATION RATES*- CLARK COUNTY

Activity	Age Group ^{1/}				
	1	2	3	4	5
Pleasure Drive	5.14	3.21	5.21	4.67	3.00
Swimming	24.12	19.97	18.75	9.60	0.00
Waterskiing	.79	1.54	1.57	.31	0.00
Skin Diving	0.00	.46	.21	0.00	0.00
Fishing	2.70	2.24	1.75	2.39	.44
Motorboating	1.47	1.54	1.94	.95	0.00
Nonmotorboat	.28	.74	.18	.11	0.00
Big game Hunt	0.00	.78	.26	.13	0.00
Small Game	0.00	.26	.13	.52	0.00
Picnicking	2.75	1.88	2.67	1.55	3.11
Tent Camping	1.44	.41	.94	.19	.11
Vehicle Camp	.37	1.30	.85	1.76	0.00
Bicycling	14.87	12.75	5.51	4.04	0.00
Horse Back Riding	.19	.84	.41	.31	0.00
Hiking	1.96	1.49	1.62	3.68	6.77
Backpacking	.02	.16	.22	.04	0.00
Mountain Climbing	0.00	0.00	1.00	.50	0.00
Relax Outdoors	17.40	9.69	16.53	13.00	15.55
Nature Study	2.98	2.21	2.37	1.14	0.00
Golf	.05	.59	1.81	1.50	0.00
Play Games	2.51	8.74	5.33	1.47	.22
View Sports	.98	1.77	2.07	1.18	0.00
Drama	.09	.41	.23	.10	0.00
Motorcycle Riding	0.00	3.84	2.57	.65	0.00
Racing	0.00	.52	.13	0.00	0.00
Historical Sites	.52	.39	.13	.13	0.00
Off-Road Vehicles	.13	0.00	.26	0.00	0.00
Animal Event	.26	.26	.26	.39	0.00
Gardening	.78	1.95	4.55	6.11	4.68
Snowski	.89	.71	.95	.26	0.00
Ice Skating	0.00	0.00	0.00	0.00	0.00
Snow Play	1.17	.78	.91	.20	0.00
Tennis	.13	.65	.91	.26	0.00
Baseball	1.04	1.95	.91	.26	0.00

* Units represent days of participation in a season.

^{1/} Age Group: 1=10 and under; 2=11-19; 3=20-44; 4=45-64; 5=65+

Source: Nevada State Park System 1977, Appendix C-2.

Table 13 (continued)
 RECREATION PARTICIPATION BY CLARK COUNTY RESIDENTS BY LOCATION OF PARTICIPATION

Activity	Region I %	Region II %	Region III %	Region IV %	Region V %	Region VI %	Lake Tahoe %	Idaho %	Calif %	Utah %	Arizona %	Oregon %	All Other States %
Drama and Concerts			51.8							5.5			42.6
Motorcycle Riding			100										
Racing			100										
Gardening**									100				
Visit Historical Sites													
Other			100										

* Undeveloped ski areas.

** Information incomplete at this time.

Region I - Washoe, Carson City, Storey, Lyon, Douglas, and Churchill Counties.

Region II - Mineral, Esmeralda, and Nye Counties.

Region III - Clark County.

Region IV - White Pine, Eureka, and Lincoln Counties.

Region V - Elko County.

Region VI - Pershing, Lander, and Humboldt Counties.

Source: Nevada State Park System 1977, Appendix K.

TABLE 14
CAPITALIZED VALUE OF RECREATIONAL ACTIVITIES IN CLARK COUNTY FOR 1980

Activity	Visitor Use Days	Expenditures		EEI	EEI Value Per Visitor Use Day	Capitalized Value*	
		Per Day	Total			Total Per Day	Total
Pleasure Driving	381,951	\$ 9.00 <u>1/</u>	\$3,437,559 <u>1/</u>	\$12,054,945	\$31.56	40.56	\$15,492,504
Big Game Hunting	2,353	35.00	82,355	69,097	29.37	64.37	151,452
Small Game Hunting	3,872	35.00	135,520	136,796	35.33	70.33	272,316
Picnicking	121,834	9.00	1,096,506	3,761,169	30.87	39.87	4,857,675
Tent Camping	256,508	12.00	3,078,096	7,142,995	27.85	39.85	10,221,091
Vehicle Camping	288,880	12.00	3,466,560	9,582,858	33.17	45.00	13,049,418
Horseback Riding	40,102	9.00 <u>1/</u>	360,918 <u>1/</u>	1,202,948	30.00	39.00	1,563,866
Hiking	247,496	9.00 <u>1/</u>	2,227,464 <u>1/</u>	8,227,330	33.24	42.24	10,454,794
Backpacking	93,079	12.00	1,116,948	3,213,432	34.52	46.52	4,330,380
Relaxing Outdoors	1,933,067	9.00 <u>1/</u>	17,397,603 <u>1/</u>	60,569,743	31.33	40.00	77,967,346
Nature Study	138,618	9.00 <u>1/</u>	1,247,562 <u>1/</u>	3,968,651	28.63	37.63	5,216,213
Motorcycle Riding	234,972	9.00 <u>1/</u>	2,114,748 <u>1/</u>	7,587,053	32.29	41.29	9,701,801
Racing	34,119	13.00	443,547	917,100	26.88	39.88	1,360,647
Off-Road Vehicles	10,363	9.00 <u>1/</u>	93,267 <u>1/</u>	356,644	34.42	45.42	449,911
	3,787,034						\$155,089,414

1/ Specific values were unavailable, it was assumed that these activities would have an equivalent or higher value to picnicking.

* For highest season of use only.

Recreational use of this area will increase each year as the population of Clark County grows and the facilities at Mount Charleston become even more crowded.

C. Dispersed Recreation

1. Off-Road Vehicles

Over 60 percent of the use of the nation's 10.3 million off-road vehicles (ORVs) is concentrated in southern California, southern Nevada, southwestern Arizona, and central Utah (USDI, HCRS, 1978). This is significant for southern Nevada since over 65 percent of Las Vegas' 10 million annual tourists arrive from southern California by automobile (Las Vegas Convention/Visitors Authority 1981).

There are several organized ORV clubs in Clark County representing over 750 members. The Motorcycle Racing Association of Nevada (MRAN) is organized primarily to promote motorcycle desert racing, and the Southern Nevada Off-Road Enthusiasts (SNORE) are organized primarily to promote off-road 4-wheel racing. Other organized ORV clubs are the Las Vegas Jeep Club, Southern Nevada Landcruisers, Las Vegas Bronco Club, Vegas Valley 4-Wheelers, etc. They are organized to promote "family get-togethers" oriented around the ORV (USDI, BLM, Clark County URA, 1981).

"Off-roading" is an extremely popular activity in Clark County. Not only is a vehicle used by most individuals to arrive at a "recreational point," it is an integral part of the recreational experience. MRAN holds 15 to 18 competitive motorcycle events each year, involving approximately 1,600 participants and over 4,000 spectators and pit crew personnel. SNORE holds about seven races annually, involving over 270 participants and over 3,000 spectators. The MINT 400 race, billed as the largest off-road vehicle race in the world, attracts nearly 500 entrants and over 50,000 spectators. The entrants for this race come from all over the world and the monies generated from the various aspects of the event are estimated to be in the millions of dollars.

Individual and family unorganized and noncompetitive "off-roading" is far more popular than the organized events. The data concerning the estimated number of vehicles used primarily for off-roading is contained in Section .47A, Recreation, of the Clark County URA.

In making decisions concerning ORV management, the intensity of use of this recreational opportunity in Clark County,

coupled with the importance of a vehicle in this region of the country, should be considered.

Off-road vehicle use is expected to increase in the future, although the increase in competitive events is expected to be much lower than that expected for ORV use in general.

2. Horseback Riding

Equestrian activity in Clark County is generally concentrated in and around towns and in a few popular outlying areas such as in the Spring Mountain Range. Some 40,000 horses in the county are ridden by individuals or members of the numerous equestrian clubs (reported to be upwards of 40). Individual use is normally in proximity to stables. Clubs, whose membership averages 30 to 40 riders each, usually sponsor monthly group rides in the outlying areas identified in the URA. Two annual marathon horse races are held in the Red Rock area. Concerns of horse enthusiasts, in addition to the need for trails, staging areas, and facilities, include safety at paved road crossings, conflicts with other land users (ORVs, shooters), and access to riding areas.

3. Hiking

Hiking is centered in a few areas possessing interesting natural resource features and/or developed trails (Spring Mountains, Muddy Mountains, McCullough Range). Activity elsewhere is dispersed and often occurs in conjunction with another form of recreation such as zoological sightseeing. Organized groups, e.g., Sierra Club and Audubon Society, conduct regular hikes. Hiking use figures are not available. Hikers generally seek solitude and may be harassed by shooters, ORVs, encroachment by developments, and mining operations. Availability of access is an important consideration.

4. Sightseeing - Geological

There are numerous sites in Clark County that have been identified as having geological sightseeing values.

Viewing the geological wonders of nature is a very popular recreational activity enjoyed by the vast majority of outdoor recreationists. It offers pleasure to the off-roader, the camper, the hiker, the rock-collector, and others. Geological sightseeing is one of the important recreational activities occurring in Clark County. The sparse nature of the desert vegetation allows for high

visibility of geological formations. Vehicle accessibility to areas or sites greatly determines the extent and intensity of use.

Geology classes from the local educational institutions visit many areas in Clark County to study unique and classic geological formations. Some of the more important and intensively used areas are Weiser Bowl, Sunrise/Frenchman Mountain area, Arrow Canyon, and Rainbow Gardens. Because of the ease of viewing these geological formations, many areas are also popular with out-of-state and foreign educational institutions.

In considering geological sightseeing areas, vehicular access to the area is as important as recognizing the need for leaving a unique geological wonder undisturbed.

5. Sightseeing - Botanical

Nearly 20 areas in Clark County have been identified as having botanical sightseeing values. Four of these botanical areas have been set aside as natural areas.

Study groups from the local educational institutions use the desert environment year-round for botanical study. The popularity of botanical sightseeing is high with the few groups and individuals in Clark County whose primary concern is botanical study. The general populace would view botanical sightseeing as most enjoyable during the spring months when the desert comes into bloom.

In general, botanical sightseeing is accomplished during other recreational activities. The manager needs to consider both the botanical value of an area and the potential for the area to support other recreational activities, which botanical sightseeing would enhance. The possible botanical area would have opportunities for users to camp nearby and also be able to support hiking or horseback riding.

6. Sightseeing - Zoological

Ten areas in Clark County have been identified as having zoological sightseeing values. A wide variety of resident and migratory animals and birds occur throughout Clark County. The desert bighorn sheep is indigenous to the region, while the bald eagle is a transient winter species.

Zoological sightseeing is a very popular activity among Audubon Society members. Popularity among other

recreational users varies according to the species viewed. Most individuals enjoy observing various animals or birds as an addendum to another activity. The zoological sightseeing experience enhances the individual's primary recreational activity.

The location of Las Vegas Wash and the Red Rock Canyon Recreation Lands, with their relative abundance and variety of wildlife, make these areas very popular with zoological sightseers and groups from the educational institutions.

Concern should be directed toward ensuring that the prime habitat areas are left undisturbed and that access to these areas is available.

7. Sightseeing - Historical and Archaeological

An abundance of historical and archaeological sites are located in Clark County. Many old mining towns are recognized as historical sites and are currently occupied by small populations.

Historical and archaeological sightseeing are popular activities in Clark County, both for residents and tourists. Most sightseeing occurs during the fall and spring months, although the majority of sites are accessible year-round.

The sensitivity of cultural sites makes them vulnerable to loss of integrity through disturbance. Another prime concern is vehicular access to a site. Trespass by sightseers in occupied historic mining towns may present conflicts.

8. Sightseeing - Other Cultural

BLM has several projects that generate significant public interest and that are worthy of interpretation. Formal interpretation of rehabilitative road closures, seeding of wildfire areas, oil and gas leasing operations, and other management actions could result in a clearer public understanding of the multiple use management concept. BLM should use interpretive signs, the media, and staff specialists to convey this information.

9. Hunting and Fishing

Fishing on BLM administered lands in Clark County is virtually nonexistent. Hunting is a popular activity in

Clark County. Desert bighorn sheep tags are applied for from all over the country and the sheep are highly prized as a "trophy game". Information concerning hunting user days, success ratios, areas hunted, etc., can be found in Section .26, Wildlife, of the PAA.

Demand to hunt certain species has always been high and is projected to increase in the future.

10. Rock and Mineral Collecting

Clark County, like other southwestern desert areas, is well known for its impressive variety of rocks and minerals. Several rare collectibles attract enthusiasts from all over the world. Examples include feldspar crystals (Goodsprings area) and Christmas agate (West End Wash).

Twelve collecting areas have been identified in Clark County. Gem clubs sponsor regular group field trips. No estimate of use by individuals is available. A primary factor affecting use is availability of vehicular access to collecting areas.

11. Vegetation Collecting

Pinyon nut collecting in the Spring Mountain Range was the only vegetation collecting deemed worthy of consideration in the URA. The annual harvestable crop fluctuates considerably based on environmental factors. At present, collecting is limited to an undetermined number of individuals gathering nuts for their personal use. Retaining access into collecting areas is a management concern.

12. Water Sports

Water sports on BLM administered lands in the county are extremely limited because there are no large bodies of water.

13. Hang Gliding

Most hang gliding in Clark County is associated with the Southern Nevada Hang Gliding Association, which sponsors an annual regional meet. Attendance at the event, as well as activity throughout the year, is limited mainly to county residents. Developing and providing facilities at Clark County sites would probably increase use and attract regional hang gliding enthusiasts.

14. Rock Climbing

Three rock climbing areas have been identified and are used by individuals, groups, and approximately five commercial instructors/guides and their clients. Red Rock Canyon is generally considered the best climbing area in Nevada. After an anticipated guidebook identifying the hundreds of routes is published, Red Rock Canyon could become the United States' premier winter climbing location. The intense climbing activity would create considerable demand for access, search and rescue, and use supervision.

15. Winter Sports

The unpredictable snow conditions and the limited winter season cause opportunities for ski touring and snow play to fluctuate considerably year to year. These unpredictable conditions limit use to local residents. The Cold Creek area is the primary BLM administered snow play site in Clark County. At least two commercial enterprises instruct ski-touring courses there and as many as 50 individuals might use the area on a peak day. Developing facilities such as restrooms at the Cold Creek Guard Station would enhance winter sports. Skitouring can be expected to increase in Clark County.

16. Bicycling/Jogging

One bike path currently provides access from Las Vegas to Red Rock Canyon. Others, planned for Red Rock Canyon and Las Vegas Wash, would significantly increase opportunities and use. Bicyclists in groups of 25 frequently traverse the Red Rock Canyon Scenic Loop. A mini-marathon involving 46 runners and 50 spectators was also held there. Conflicts with motorists are potentially serious and warrant consideration in planning for the area.

D. Demand Projections

Projections for future recreation activity in Clark County are presented in Tables 15 and 16. These figures are based on growth projections derived from the 1977 SCORP. It should be noted that the percent increase figures apply to Nevada as a whole, and should be used only as a relative indication. For example, fishing opportunities on BLM administered lands in Clark County are extremely limited and therefore the projected 51 percent increase is unlikely to occur. On the other hand, because of increased recognition and activity, rock climbing in Clark County will very likely far exceed the projected 60 percent increase statewide. The projected population growth for Clark County far exceeds that of all other Nevada counties and recreation demand can be assumed to increase at a significantly faster rate than the statewide average.

TABLE 15

CLARK COUNTY RECREATION DEMAND PROJECTION

<u>Recreation Activity</u>	<u>Percent Increase (1975-1990)</u>
Fishing	51
Snow Play	57
Ski Touring	Figures not available
Big Game Hunting	7
Small Game Hunting	37
Bicycling	19
Driving for Pleasure	60
Off-Road Vehicles	51
Mountain Climbing	60
Nature Study	61
Picnicking	37
Camping	58
Hiking	33

Source: Nevada State Park System 1977.

TABLE 16

PROJECTED RECREATION NEEDS AND VALUES

Activity	1980 <u>1/</u> Visitor Days (1,000s)	1980 <u>1/</u> Annual Value (\$Million)	1990 <u>2/</u> Visitor Days (1,000s)	1990 <u>2/</u> Annual Value (\$Million)	2000 <u>3/</u> Visitor Days (1,000s)	2000 <u>3/</u> Annual Value (\$Million)
Pleasure Driving	382.0	15.5	576.0	23.3	772.0	31.3
Big Game Hunting	2.4	0.2	3.6	0.2	4.8	0.3
Small Game Hunting	3.9	0.3	5.8	0.4	7.8	0.5
Picnicking	121.8	4.9	183.6	7.3	246.1	9.8
Tent Camping	256.5	10.2	386.6	15.4	518.2	20.6
Vehicle Camping	288.9	13.0	435.3	19.7	583.5	26.4
Horseback Riding	40.1	1.6	60.4	2.4	81.0	3.2
Backpacking	93.1	4.3	140.3	6.5	188.0	8.7
Relaxing Outdoors	1,933.1	78.0	2,913.1	117.5	3,904.8	157.5
Nature Study	138.6	5.2	209.0	7.9	280.0	10.5
Motorcycle Riding	234.1	9.7	352.8	14.6	472.9	19.6
ORV Racing	34.1	1.4	51.4	2.1	68.9	2.7
ORV Pleasure	10.4	0.5	15.6	0.7	20.9	0.9
Hiking	247.5	10.5	373.0	15.8	500.9	21.1
TOTAL	3,786.4	155.1	5,706.0	233.8	7,649.4	313.3

Source: Nevada State Park System 1977; U.S. Department of Commerce 1980; Nevada State Planning Coordinator's Office 1980.

1/ The 1980 base figures were taken from Table 1 in U.S. Department of Commerce 1980.

2/ The 1990 projected population (664,000) was used to estimate the growth factor.

3/ The 2000 projected population (891,000) was used to estimate the growth factor.

E. Cultural Resources

1. Public Attitudes and Social Values

Many of the residents of Clark County, as well as other people within and outside of Nevada, believe that the casual gathering of arrowheads, pottery fragments, historic bottles and other prehistoric and historic artifacts is a legitimate activity that can be pursued on public lands. It is seen as treasure hunting, a legitimate form of recreation for the esthetic value of the artifacts collected. These individuals do not comprehend that artifacts and cultural resources have scientific value in terms of reconstructing past lifeways of the aboriginal inhabitants of Clark County.

Another group of residents believe that certain cultural resources, such as rockshelters, petroglyphs and pictographs, and historic sites, should be protected and preserved. There is a definite historical interest in the community, particularly concerning the Anglo-American occupation of the county. The Las Vegas Sun has published articles on the early American occupation of the region, and on the effects that certain historical personages or institutions, such as Las Vegas High School, have had on the history and development of Clark County in general and Las Vegas in particular. Amateur groups, such as Archaeo-Nevada and the Preservation Association of Clark County, stimulate interest in the archaeological and historic resources of Clark County.

The Archaeological Research Center at the University of Nevada-Las Vegas has worked very closely with the Bureau of Land Management in conducting surveys, test excavations, and other archaeological research within the area. The Center has also aided in the training of District Archaeological Technicians for the BLM and given talks to BLM employees about cultural and ethnic groups within the area.

2. Problems and Issues

- a. District Cultural Resource Specialists feel that the casual collection of artifacts or actual "potting" of sites in search of artifacts is a serious problem in Clark County. Such activity destroys the scientific potential of cultural resources. Public education efforts that explain the scientific value of cultural resources might help reduce the problem within Clark County.

- b. As a subsidiary problem, the protection of these resources and mitigation of impacts is costly. As an example, the need to protect cultural resources in the Red Rock Canyon Recreation Lands or the Hidden Valley region of the Muddy Mountains may add significantly to the cost of developing oil and gas resources in the county.
- c. There is a keen interest on the part of many area residents in the historic and prehistoric information contained in BLM studies and reports. However, if detailed site locations were made public knowledge, the impact to sites from collectors and vandals could be expected to increase. Care must be taken in releasing such information.

3. Economic Impact

The Las Vegas District of BLM spent \$42,200 in FY80 for protection, testing, and investigation of cultural resources within the District. The majority of this money was spent within Clark County. Additional funds were expended by geophysical companies and other firms because of legal requirements to inventory, identify, and test for cultural resources that may possibly be impacted by the activities of these firms. No exact dollar figure can be placed on these non-BLM cultural resource activities.

F. Wilderness

1. Analysis

The BLM was required to inventory and manage wilderness by the Federal Land Policy and Management Act of 1976. This law instructed the Bureau to conduct a wilderness inventory on the 450 million acres of public land under its administration and to have it completed by 1991. Congress will make the final decision regarding designation of Wilderness Study Areas as wilderness or not.

Nineteen areas have been designated as Wilderness Study Areas in Clark County. These areas will be required to have mineral surveys conducted by both the United States Geological Survey and the Bureau of Mines. Information gathered on the WSAs will be considered in the Bureau's Land Use Planning System.

To date the Bureau has not developed procedures for socio-economic analysis of its wilderness programs in its

planning system. District Resources staff feel that a few general comments, however, can be made. Generally, designation of an area as wilderness results in an increase in the number of visitor days to the area. This increase is partly due to the mere existence of a wilderness area in a specific locale. Many visitors are drawn to wilderness areas because they feel that the label "wilderness" indicates there is something worth visiting. Without regard to the motive for visitation, it is known that visitor use generally increases. The increase in visitation can be expected to have some impact on the service sector (motels, restaurants, stores, and service stations) of the local economies.

The areas identified as Wilderness Study Areas in Clark County can be found throughout the entire area and one or more can be reached by heading in any direction from the major metropolitan area of Las Vegas. All of the smaller communities in Clark County could expect an increase in visitor use due to the number of WSAs identified in the area. The WSAs in the county have little or no potable water. This factor will limit the time frame when peak visitation might take place and will probably reduce the demand for wilderness experiences. Consequently, any impact on local economies would probably be quite small.

2. Public Attitudes and Social Values

Disapproval of the wilderness philosophy is almost universal in Clark County. The majority of people interviewed while attending the Las Vegas District wilderness public meetings and open houses are extremely uneasy with the total concept of wilderness. A ratio of 10 to 1 against was estimated by District Staff in attendance.

A total of ten meetings, from March of 1978 to July of 1980, were held throughout the county and attended by varied user groups. The interests represented included mining, ORV, grazing, hunting and trapping, recreation, and wilderness advocates. The largest percentage of the people were from ORV groups, then mining, ranching, general recreationist, hunting and trapping, and wilderness advocates last. Some people expressed considerable concern that the Federal government was going to make everything wilderness and force everyone out of business.

Many also felt that once an area was identified as a WSA, it would remain wilderness.

A primary concern voiced by the vast majority of people was the amount of public land already set aside by the U.S. Forest Service, the National Park Service, and the U.S. Fish and Wildlife Service for wilderness study or designation. In addition, the Nevada Test Site and the Bombing and Gunnery Range are restricted from public use. The general feeling is that the federal government is putting a big squeeze on the lands within Clark County.

Another concern is energy exploration. Much of Clark County has been leased or is currently under application for lease for oil and gas rights, and will be impacted by WSA management policies.

In general, residents of Clark County prefer the multiple use concept, rather than the usually limited use of preservation for cultural, scenic, or recreational resources.

The ORV groups, hunters, and sportsmen felt they should have the right to use existing roads and ways and to go cross-country to reach their destination. Objections focus on the conflict of motor vehicles in a wilderness area. The people interviewed wanted to drive to their destination, not walk, whether the trip was for hunting, fishing, sightseeing, prospecting, or any other purpose. Many of the local people have a close feeling for the land and want to save the very same qualities the environmentalists do, but they prefer a more multiple use concept of land management.

Prospecting is popular in Clark County and the prospectors are vehemently opposed to any withdrawal of land. Many people said wilderness should not interfere with mining, and others stated that it was wrong to lock up lands with minerals or mineral potential. Those who oppose wilderness areas use the nation's need for minerals as a reason for keeping all the land in the multiple use category. The miners feel that the BLM is trying to place restraints on the Mining Law of 1872. They feel it is their right to prospect and explore for minerals on all public land, and that wilderness could lock up some of our nation's most valuable mineral resources. Prospectors deplore the idea of having to request permission before they can make a road or do any surface disturbance. The mining industry felt many of the areas recommended for wilderness study obviously lacked wilderness characteristics. This question of what is obvious and what is not, has caused serious problems and confusion throughout the general public and the Bureau.

The wilderness advocates felt that all areas that met the fundamental criteria of the Wilderness Act should be placed in wilderness study. They felt that it was extremely important to weigh each area as an individual unit and not as a part of the total. The feeling was that each area is unique, and that, once released into multiple use management, the natural values of that particular area would be lost to the preservation system forever.

.28 Fire Management

A. Fire Program

The fire program in Clark County will be defined as the total District Program. This will be done because regardless of location of the fire, all fire program resources will shift to the priority fire or emergency incident on the District.

The fire program can be divided into the three areas of fire support and equipment, fire facilities, and cooperative agreements.

1. Fire Support and Equipment

There are seven wildland fire protection agencies and seven structural fire protection agencies within Clark County. They are listed as follows:

Wildland Fire Protection

U.S. Bureau of Land Management
U.S. Forest Service
U.S. Fish and Wildlife Service
National Park Service
Bureau of Indian Affairs
Nevada Division of Forestry
Nevada Division of State Parks

Structural Fire Protection

Clark County Fire Department
Las Vegas Fire Department
Henderson Fire Department
Boulder City Fire Department
U.S. Air Force Fire Department
17 Volunteer Fire Departments, all under control of Clark County Fire Department

It should be noted that many of these agencies combat both structural and wildland fires. They are, however, grouped by their predominant role. Within Clark County, the BLM is the largest wildland fire organization.

The Las Vegas District has a Fire Management organization that consists of 52 seasonal fire fighters and five permanent fire employees. Equipment consists of three initial attack fire boss trucks, six fire engines, three pumpers, one hose truck, and one water tender tanker. During the fire season a helicopter and helitack crew are also employed. The seasonal fire personnel are classified into eight categories as follows:

Firefighter	Lookout
Dispatcher	Logistic Support Specialist
Fire Prevention Specialist	Fire Apparatus Engineer
Helitack Foreman	Fire Captain

Specialized equipment, such as air tankers and helicopters, is available from other BLM Districts within the State.

The fire control forces available locally and through cooperative agreements are capable of controlling all expected fires occurring during a normal fire year. Additional forces, if the need arises, are available through the Nevada State Office of BLM.

B. Fire Control Organization Support

1. U.S. Forest Service

The U.S. Forest Service, Toiyabe National Forest, Las Vegas Ranger District, located on Mt. Charleston, has a fire organization consisting of one pumper, two patrol units, and eight firefighters. However, most employees are trained and available for fire activities.

2. Nevada Division of Forestry

The Nevada Division of Forestry, Southern Area, located throughout the Spring Mountain Range, is responsible for state and private lands located in Kyle and Lee Canyons. The NDF's fire organization consists of three engines, a pumper, and six firefighters. The Division also maintains an inmate Honor Camp located in Pioche, Nevada. These crews are available for fire activity in Clark County if the need arises.

3. Nevada Division of State Parks

The Nevada Division of State Parks provides fire protection for the general area in and around Spring Mountain Ranch

State Park and Red Rock Canyon. The NDSP fire organization consists of one fire engine and approximately three firefighters.

4. National Park Service

The National Park Service, Lake Mead National Recreation Area, maintains a fire organization whose primary role involves structural and boat fires. The fire organization also is available for wildland fire suppression in Clark County.

5. U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service, Desert National Wildlife Range, does not maintain a standard fire organization. However, they contribute manpower and equipment when requested.

6. Las Vegas Fire Department

The Las Vegas Fire Department provides fire protection within the city limits of Las Vegas. The city limits sometimes border or adjoin BLM lands. Through a cooperative agreement, the LVFD can provide structure protection in the urban-wildland interface areas. The LVFD is a paid professional department.

7. Clark County Fire Department

The Clark County Fire Department provides fire protection to communities in Southern Nevada that are outside the city limits of Las Vegas proper. The Clark County Fire Department also maintains jurisdiction in the smaller rural communities of Clark County through their volunteer fire department network. Through a cooperative agreement, the Bureau of Land Management and Clark County Fire Department maintain a mutual fire support program. The Clark County Fire Department is a paid professional fire department with a volunteer organization consisting of 12 volunteer fire departments (see Table 17).

8. Clark County Volunteer Fire Departments

For a comprehensive list of specific location, equipment status, and manpower levels of each volunteer fire department consult the Clark County Pre-Attack Fire Plan.

CLARK COUNTY VOLUNTEER FIRE DEPARTMENTS

- 1) Blue Diamond Volunteer Fire Department
- 2) Bunkerville Volunteer Fire Department
- 3) Goodsprings Volunteer Fire Department
- 4) Laughlin volunteer Fire Department
- 5) Logandale Volunteer Fire Department
- 6) Mesquite Volunteer Fire Department
- 7) Moapa Volunteer Fire Department
- 8) Mountain Springs Volunteer Fire Department
- 9) Mt. Charleston Volunteer Fire Department
- 10) Overton Volunteer Fire Department
- 11) Sandy Valley Volunteer Fire Department
- 12) Searchlight Volunteer Fire Department

9. U.S. Air Force

The U.S. Air Force Fire Department provides fire protection for all Air Force facilities. The Air Force also maintains a wildland fire protection force for grass, brush, and timber fires on the Bombing Range. A cooperative agreement between the Bureau of Land Management and the U.S. Air Force provides for mutual fire protection. A shared facility is the Indian Springs Air Tanker Reload Base located on the Air Force Base at Indian Springs, Nevada.

Besides wildland fire suppression, fire personnel perform work that is either natural resource related or is directly beneficial to District operations. Examples are the installation and maintenance of water projects, fence construction and maintenance, fire rehabilitation, and campground maintenance work.

C. Fire Facilities

Currently the Las Vegas District has four fire facilities that are located throughout the District and three shared stations. The following is a list of fire facilities in the District:

1. The Las Vegas Fire Station is located at the District Office and houses the fire station, fire warehouse, and the District dispatch office. There is a fire station manager in charge of the facility. The facility is a nonresidential station and is open year-round.
2. The Caliente Fire Station is located in the town of Caliente at the Caliente Resource Area Office. The fire station consists of the fire warehouse, fire dispatch, and a residential fire barracks. The fire facility is managed by a fire station manager, and also detailed to the station is

a fire engine operator for the Unimog Fire Engine. The Caliente station is open year-round.

3. The Ella Mountain Lookout facility is open on a seasonal basis. The facility is manned seven days a week from May through November. The facility provides an early detection method for fires in Lincoln County. It is a residential facility.
4. The Indian Springs Air Tanker Reload Base is a cooperative facility between the U.S. Air Force and the Bureau of Land Management. The facility is located on the Indian Springs Air Force Base at Indian Springs, Nevada. Currently the facility is set up on a portable basis, however, plans are under design for a more permanent facility.
5. The Mountain Springs Fire Station is cooperatively manned by BLM and the Clark County Fire Department, through the Mountain Springs Volunteer Fire Department. This station has a fire engine operator who is responsible for the station. The facility is manned from mid-April through approximately the first week in November.
6. The Mesquite Fire Station is in the development stage. It is located in Mesquite and will be a shared facility between BLM and the Mesquite Volunteer Fire Department.

D. Cooperative Agreements

The agreements that affect Clark County are:

<u>Agreement Name</u>	<u>Parties</u>	<u>Date</u>
Bakersfield, Riverside Las Vegas, Inyo National Forest	U.S. Forest Service, Inyo National Forest; and Bureau of Land Management, Riverside District, Bakersfield District, and Las Vegas District	1978
NDF, USFS, BLM	Nevada Division of Forestry, Southern Area; U.S. Forest Service, Region Four, Toiyabe National Forest; Bureau of Land Management Las Vegas District	1964
USAF and BLM	Nellis Air Force Base,	1978

Indian Springs Air Force Base,
Las Vegas District, BLM

Southern Nevada Fire
Cooperative Agreement

U.S. Forest Service, 1981
Toiyabe National Forest,
Las Vegas Ranger District;
U.S. Fish and Wildlife Service,
Desert National Wildlife Range;
National Park Service, Lake
Mead National Recreation Area;
Bureau of Land Management,
Las Vegas District;
U.S. Air Force, Nellis Air
Force Base;
Nevada Division of Forestry,
Southern Area;
Nevada Department of Wildlife,
Region 6; Nevada Division of
State Parks; Nevada Department
of Transportation; Clark County
Fire Department; Las Vegas Fire
Department; Henderson Fire
Department; Boulder City Fire
Department; North Las Vegas Fire
Department.

Colorado River Cooperative

Bureau of Land Management, 1981
Las Vegas District, Arizona
Strip District, Phoenix
District, Kingman Resource
Area, Yuma District, Riverside
District; Bureau of Indian
Affairs; California Department of
Forestry, San Bernardino Range
Unit.

BLM, Cedar City, Las Vegas

Bureau of Land Management, 1980
Cedar City District and Las
Vegas District.

Ely, Las Vegas

Bureau of Land Management, 1978
Ely District and Las Vegas
District

* * * * *

Nevada State Office of
BLM with:

Phoenix Area 1966
Office, Bureau of Indian
Affairs

Bureau of Land Management, 1967
Idaho State Office, Utah
State Office; and U.S. Forest
Service, Region 4, Ogden,
Utah

U.S. Forest Service Region 4, 1970
Ogden, Utah, and Nevada
Division of Forestry

Bureau of Land Management, 1978
California State Office; and
U.S. Forest Service, Region 5

E. Importance of BLM's Fire Program to Clark County

The Las Vegas District BLM fire program provides wildland fire protection to the natural resources in Clark County. The fire organization provides protection to the following activities within the District.

<u>Activity</u>	<u>Protection Purpose</u>
Recreation	Campgrounds, Red Rock Canyon Recreation Lands, asthetic resource values, historic landmarks, structural improvements.
Forest Products	Pinyon pine, ponderosa pine stands, desert shrub zone species.
Range Management	Grazing allotments, cattle, structural improvements.
Lands	Communication sites, structural improvements.
Wildlife	Habitat, structural improvements.
Cultural Resources	Archaeological and historic sites (vegetation cover and artifacts).
Watershed	Watershed, soil stabilization.
Minerals	Rights-of-way, structural improvements.
Wild Horses & Burros	Habitat, structural improvements.

Although the fire organization provides protection for the natural resources of the District, the program also provides protection for public and private structural improvements such as private homes, historic amusement parks, and public facilities. This protection can be referred to as the urban-wildland interface protection zone.

The urban sprawl from greater Las Vegas into the desert and timbered mountain areas is occurring at a rapid rate. These areas of urban-wildland interface growth consist of Cold Creek Estates, Trout Canyon, Mountain Springs, Lower Kyle Canyon, Lovell Canyon (potential for casino-park development), Laughlin, and Searchlight. The Las Vegas District fire program provides fire prevention, prescribed fire for range and wildlife habitat improvement, natural fire management, hazard reduction, and fuels management.

Although the concept of fire as a management tool to improve range and wildlife habitat is proven, the fire program has just initiated the use of this tool. Two prescribed burns have occurred in the Caliente range area. The future use of this tool for resource management and fire prevention is anticipated.

F. Economic Profile

Following the primary concerns of loss of life or personal injury, there are two types of economic impacts from fire. They are the economic effects that fire management operations have on the communities in Clark County and the relative potential values of the resources (values at risk) being protected.

1. Economic Effect

The total economic profile of fire management is divided into two sections, employment and service.

- a. Employment - The fire management program employs approximately 52 people on a six-month basis from mid-April to November 1, and approximately five people on a year-round basis. Some 23 of the 25 people employed at the Las Vegas Fire Station are local residents, since the station is nonresidential.
- b. Services-The fire management program probably has its largest economic effect as a purchaser of services required to manage the fire suppression program. Examples of services purchased in Clark County are:

food services
gasoline and other equipment services
lodging
transportation services
mechanical services for 14 vehicles

portable showers and toilet facilities
special equipment (rental-tractors, water trucks)
miscellaneous products, (stationery, paint, wood,
etc.)

Although it would be exhaustive to calculate dollars spent in each category shown above during the fire season, one area can be calculated for a relative example. The approximate cost of food services during the 1980 fire season was approximately \$197,000.

2. Values at Risk

The relative value at risk of resources is difficult to calculate. Values for merchantable timber or wood products can be calculated by using the market value of the products times the volume. However, such values as wildlife, grazing potential, or recreational aesthetic values are more complex to evaluate. Therefore, values at risk for resource uses can only be calculated in the cause and effect area.

If a fire burns the vegetation severely, erosion may occur causing damage to private property, and cost is incurred.

After loss of life, the single largest potential escalation of loss from a fire is from personal property damage, for example, a home being burned. Clark County has a very high potential loss category, attributable to the rapid development of private property adjacent to public lands. Urban-wildland interface is a serious matter and is becoming a potential problem for fire management to consider and protect.

G. Critical Concerns

1. Increased Urban Sprawl

The increase in urban sprawl and business development into previous wildland areas is definitely increasing in Clark County. The problems presented by this type of development are as follows:

- a. Narrow roads hinder the movement of manpower and equipment.
- b. Inadequate water supply for fire protection.
- c. Increased population in the area increases fire hazard potential.
- d. An increased need to advise the local residents on the potential hazard of vegetation growth near residential properties.

2. Clark County Pre-Attack System

To determine the manpower and equipment needed to respond to a specific area, certain elements need to be known. These elements include the following:

- a. Values at risk
- b. Location of roads
- c. Location of water supply
- d. Special structures, i.e., nursing homes, farms, etc.
- e. Electrical hazards, gas, power, etc.
- f. Location of specific structures, homes, etc.
- g. Location of campgrounds, improved and casual
- h. Fuel types
- i. Political considerations
- j. Wilderness study areas
- k. Special environmental concerns

When completed, the pre-attack system will address all of the above areas and more. The District Fire Manager feels this system is very important, for it allows both the Resource Manager and the Fire Manager to evaluate value at risk when determining the level of fire protection required.

3. Public Relations

The need exists to develop a fire management presentation to address the concerns that the local population has with fire management in Clark County.

.3 SOCIAL VALUES ANALYSIS

A. Clark County Demographic and Ethnic Characteristics

Of the 273,288 inhabitants residing in Clark County in the 1970 census, the City of Las Vegas housed 125,787 and had a population density of 4,972 persons per square mile (CCDCP December 1980). This is well above the mean for central cities of a Standard Metropolitan Statistical Area (SMSA) of 200,000 or more inhabitants. Las Vegas is the central city of the Las Vegas SMSA, which is the entire Las Vegas Valley. Since 1970, however, growth has been predominantly outside of the city limits.

Areas in Clark County, their 1960, 1970, and 1980 census populations, and their percentage population increases over the decade are displayed in Table 18. The incorporated cities and unincorporated towns of Las Vegas Valley experienced a greater percentage population increase from 1960 to 1970 than the county as a whole. This trend toward increased population concentration in Las Vegas Valley has continued into the 1970s. In 1972, an estimated 98.6 percent of the county's population resided in the Valley, compared with 92.9 percent in 1960 and 95.6 percent in 1970 (UNLV, January 1979). The current population figures are presented in Tables 19 and 20.

Clark is the fastest growing county in Nevada, with an estimated 4.2 percent annual growth rate between 1970 and 1980. This increase is primarily the result of migration into Las Vegas Valley, which accounts for nearly half of the county's present population. This high growth rate of 5.11 percent annually is expected to continue until 1985, then decline slowly to 4.6 percent from 1985 to 1990. The county's population of 462,218 is projected to reach 659,700 by 1990 (U.S. Department of Commerce 1980)

The long-term carrying capacity of Las Vegas Valley is nearly 1,000,000 persons (CCDCP December 1980). Presently the population is estimated to be near 462,218 with development for an additional 100,000 currently in various stages of planning and development (U.S. Department of Commerce 1980).

The majority of people in Nevada reside in the Las Vegas metropolitan area. In 1975, Clark County had a population of 374,015, roughly 63 percent of the total Nevada population. From 1970 to 1977, the average annual growth rate in Clark County was 4 percent, well above the Nevada mean. Clark County's population

TABLE 18

Las Vegas SMSA Population
By Area and Entity, 1960-1979

County and Citities

	1960	1970	% Change	1980	% Change
Las Vegas SMSA	127,016	273,288	115.2	462,218	69.1
Las Vegas	64,405	125,787	95.3	162,960	30.0
North Las Vegas	18,422	46,067	150.1	42,757	-7.2
Henderson	12,525	16,395	30.9	24,438	49.1
Boulder City	4,059	5,223	28.7	9,627	84.3
Urban Unincorporated	6,600	74,678	1,031.5	215,386	188.1
Rural Unincorporated	21,005	14,989	-28.6	7,050	-53.0

Source: Clark County Department of Comprehensive Planning
1980 Preliminary Census, U.S. Department of Commerce

TABLE 19

Estimated Population of Unincorporated Clark County, 1979

<u>Unincorporated Places</u>	<u>Population</u>
Las Vegas Valley	
East Las Vegas	4,940
Enterprise	2,909
Grandview	3,013
Paradise	103,064
Spring Valley	16,096
Sunrise Manor	41,015
Winchester	27,371
Remainder	8,219
Moapa Valley	
Paiute Reservation	155
Logandale	1,263
Overton	1,420
Remainder	550
Virgin Valley	
Mesquite	830
Bunkerville	420
Remainder	90
Indian Springs	930
Toiyabe National Forest	
Kyle Canyon	425
Lee Canyon	50
Red Rock	
Blue Diamond	250
Remainder	70
Goodsprings	230
Sandy	130
Jean	90
Sloan	10
Nelson	50
Searchlight	450
Laughlin	95
Lake Mead National Recreation Area	1,575

Source: Clark County Department of Comprehensive Planning

density is 45.7 per square mile, as compared to the Nevada mean of 5.8. Housing data indicate the lowest percentage of owner-occupied dwelling units and the highest median home values are in Clark County. This percentage of owner-occupied units indicates the transient nature of the current population. Las Vegas is a major gaming and service center, providing employment opportunities for a large number of younger, highly mobile persons. Crowded living conditions are uncommon in the majority of urban communities in Las Vegas Valley, with the exception of the City of Las Vegas (DOD 1980).

The median age of Las Vegans declined by 1.7 years over the 1960-1970 decade, from 28.6 in 1960 to 26.9 in 1970. This exceeded the 1.5 year decline in U.S. median age over the same period (CCDCP December 1980). High migration rates contributed to the relative reduction in Las Vegas median age.

The Las Vegas 1970 population was comprised of a disproportionately large number of persons in the 20 to 44 year old age bracket, considered to be persons of prime working age (with a relatively large number of women of child-bearing age). There was a disproportionately large number of children under ten years of age.

The disproportionately small number of persons over 55 years of age in Las Vegas' 1970 population is attributed to the area's rapid growth, the low birthrate prior to 1915, and the immigration rate prior to 1960. Not all of the migrants remained in Las Vegas, nor had many reached age 55 by 1970. Since 1960, immigration to Las Vegas of persons 55 years and older is fairly intense. The aging of the present population and the increasing immigration of retirees will combine to increase the percentage of 55-year olds and older in Las Vegas' future population (CCDCP 1980).

The racial composition of Clark County's 1970 population was 89.5 percent white, 9.1 percent black, and 1.4 percent other nonwhite (See Table 20). This is in close conformity with the national percentage distribution of the 1970 census, of 87.5 percent white, 11.1 percent black, and 1.4 percent other nonwhite (CCDCP December 1980).

TABLE 20

CLARK COUNTY 1970 POPULATION BY AGE, RACE, AND SEX

Age	All Races			White		Black	
	Total	Male	Female	Male	Female	Male	Female
All Ages	273,288	138,892	134,396	124,628	119,910	12,302	12,458
% of Total	100.0%	50.8%	49.2%	45.6%	43.9%	4.5%	4.6%
Under 5 yrs.	26,017	13,320	12,697	11,281	10,734	1,818	1,728
5-9 yrs.	29,765	15,123	14,642	13,165	12,624	1,783	1,840
10-14 yrs.	28,199	14,331	13,868	12,652	12,119	1,507	1,579
15-19 yrs.	21,571	10,808	10,763	9,513	9,537	1,137	1,087
20-24 yrs.	22,627	11,346	11,281	10,040	9,897	1,087	1,173
25-29 yrs.	22,293	10,914	11,379	9,707	10,100	1,056	1,079
30-34 yrs.	20,465	10,467	9,998	9,457	8,932	831	858
35-39 yrs.	18,521	9,529	8,992	8,722	8,034	668	744
40-44 yrs.	17,403	9,054	8,349	8,325	7,585	611	611
45-54 yrs.	31,384	16,065	15,319	15,000	14,279	904	856
55-64 yrs.	21,053	11,006	10,047	10,290	9,449	573	527
Over 65 yrs.	13,990	6,929	7,061	6,476	6,617	330	376
Median Age, Las Vegas	26.9	27.1	26.7	27.9	27.5	19.6	20.0
Median Age, U.S.	28.1	26.8	29.3	26.5	28.8	21.0	23.7

Source: UNLV, January 1979, Table 54, Page 117.

TABLE 21

NATIVITY PARENTAGE, AND COUNTRY OF ORIGIN:
LAS VEGAS SMSA AND U.S. POPULATIONS, 1970

	Las Vegas 1970	Percent Distribution	
		Las Vegas 1970	U.S. 1970
All Persons	273,288		
Native of Native Parentage	236,418	86.5	84.6
Native of Foreign Parentage	26,223	9.6	11.7
Foreign Born	10,647	3.9	4.7
<hr/>			
Foreign Stock	36,870		
United Kingdom	3,788	10.3 ^a	7.3 ^a
Germany	3,652	9.9	10.7
Poland	1,207	3.3	7.1
U.S.S.R	1,592	4.3	5.8
Italy	3,656	9.9	12.6
Canada	3,925	10.6	9.0
Mexico	3,618	9.8	7.0
Cuba	1,241	3.4	1.7
Other or Not Reported	14,191	38.5	38.7
<hr/>			
Persons of Spanish Heritage	15,147	5.5 ^b	1.8 ^b

^aPercentage of foreign stock population.

^bPercentage of total population.

Sources: UNLV, January 1979, Table 56, Page 119.

Nativity, parentage, and country of origin of Clark County's 1970 population is displayed in Table 21. The percentage of residents of native-born parents, 86.5 percent, was above the corresponding percentage for the United States of 84.6 percent. The United Kingdom, Germany, Italy, Canada, and Mexico each accounted for roughly ten percent of the county foreign stock population.

The United Kingdom, Canada, Mexico, and Cuba, accounted for larger percentages of the county's foreign stock population than for the United States as a whole. Germany, Poland, USSR, and Italy accounted for smaller percentages in Clark County than the United States as a whole. The percentage of residents of Spanish heritage, 5.5 percent, was three times the corresponding percentage nationwide (UNLV January 1979).

Dr. James Frey, Chairperson of the Sociology Department at UNLV, in a paper entitled, "An Evaluation of the HEW Assisted Programs to the Hispanic Population of Clark County, Nevada" (June 1978), estimated the number of Hispanics in Clark County to be at least 24,000. Michael A. Passi, in an article entitled "The Hispanic Minority and Social Services in Nevada" (Nevada Public Affairs Review, 1980), estimates a realistic minimum figure for the size of the Hispanic population in Nevada to be 50,000. Passi points out that "it is important to keep in mind that 'Hispanic' is an umbrella term beneath which are grouped peoples of quite diverse cultural, racial, and even linguistic background. As in most Western States, the majority of Hispanics in Nevada are persons of Mexican heritage. However, Cubans represent approximately 20 percent of the Hispanic population in Clark County; in Washoe County, a mixed group of South and Central Americans comprise an estimated 10 percent of the total Hispanic population. The needs and characteristics of these non-Mexican Hispanics are often substantially different from those of Mexican heritage."

Passi states: "like most recent immigrant populations, Hispanics in Nevada are more likely than the population generally to be unattached males from 18 to 35 years of age. The relative number of school-aged children, women, and persons over the age of 55 is, consequently, smaller among Hispanics than among the total population of the state. Although the number of 'birds of passage' (transient migrant workers) remains high, the Hispanic population is moving towards more stable and permanent patterns.

First, it would appear that Hispanics in Nevada have created a series of major migrant chains through which the kin and friends of already established 'pioneers' are being drawn to the state and older families are being rapidly reconstructed. Second, young Hispanics are increasingly marrying and beginning new families." Despite a high rate of employment, poverty is pervasive among Hispanics because of their concentration in low-skill/low-pay jobs as laborers and service workers.

There are no European or oriental ethnic neighborhoods in the Las Vegas Valley. Ethnic diversity is evidenced, however, by Spanish, German, French, Greek and Polish language Sunday broadcasts of the CBS radio affiliate, and by German Fasching, Greek Festival, and Bastile Day celebrations in which Las Vegas of all ethnic backgrounds participate.

In 1970, 26 percent of Las Vegas of Spanish heritage resided in North Las Vegas, accounting for 11 percent of the entity's census population. Las Vegas' black population was heavily concentrated in five census tracts with more than 85 percent black residents. At that time, 83 percent of black Las Vegas lived in the westside community within Las Vegas city boundaries and in adjacent neighborhoods in North Las Vegas (UNLV January 1979).

Community profile data compiled by the Nevada Development Authority with cooperation from the City of North Las Vegas estimated the 1980 population for North Las Vegas at 52,000 (a 44 percent increase over 1970), of which 63 percent is white, 24 percent is black, 12 percent is Hispanic, and other was 1 percent. Between the ages of 18 and 54, males numbered 8,522, and females numbered 8,862 (Nevada Development Authority, June, 1980).

Community profile data compiled by the Nevada Development Authority with cooperation from the City of Henderson estimated the 1980 population for Henderson at 14,500 (an increase of 41 percent from 1970 figures), of which 95.8 percent is white, 3.5 percent is black, 0.2 percent is Hispanic, and 0.5 percent is other. Between the ages of 18 and 54, males numbered 3,679 and females numbered 3,846 (Nevada Development Authority, July 1980).

The 1980 Preliminary Census (U.S. Department of Commerce 1980) shows the Moapa Valley supporting a full-time resident population of 3,535 persons. This figure is exclusive of part-time or winter-only residents. Overton, which supports a current full-time population of 1,754 persons, has grown an estimated 28.4 percent since the 1970 census. This constitutes an average annual growth rate of about 3.2 percent during that period (UNLV January 1979).

In 1979, the unincorporated town of Logandale supported a population of 1,271 persons. In 1970, Logandale had 426 inhabitants. The overall increase has been 198 percent, with an average annual growth rate of 22 percent. Logandale is the fastest growing town within Moapa Valley. The town of Moapa, in the northern portion of the Valley, has a current population of 762 persons. This figure includes the unincorporated town of Moapa, the Moapa Indian Reservation, and the Warm Springs area. This area has experienced a 116 percent increase over the 1970 census, for an annual increase of about 12.0 percent. This growth rate compares very closely with the county-wide growth in unincorporated areas (UNLV January 1979).

The Clark County Commission in January, 1981, formed a new township by combining the communities of Overton and Logandale into the town of Moapa Valley. The residents of the two towns voted in November to consolidate because they share similar problems and issues (Nevada Employment Security Department 1981).

In aggregate, the Moapa Valley area has grown from a population of 2,115 persons in 1970 to the current population of 3,535 (CCDCP December 1980). This represents a 91 percent growth rate since 1970, with an average annual growth rate of 10.1 percent.

The average family in the Moapa Valley has resided in the area for a mean length of time of just over 20 years. The present population, although growing, is relatively stationary. Further, there does not appear to be a tendency to emigrate. Individuals may leave the area for employment or other purposes, but the remainder of the family will stay in the area. Individuals most likely to emigrate are in the 17 to 25-year-old age group (UNLV December 1979).

A majority of the current residents immigrated from Utah, California, Arizona, or other Nevada communities. The principal reason for moving to the Moapa Valley seems to be a strong desire to live in a quiet, uncrowded, rural community.

The Moapa Indian Reservation is located seven miles north of the Glendale Junction on U.S. Interstate 15. Public Law 96-491 was signed by President Carter on December 2, 1980, and enlarged the Moapa Indian Reservation by 70,562 acres to 71,692 acres. There are presently about 250 member-residents of the reservation (UNLV December 1979).

The Laughlin area currently supports a full-time resident population of 93 persons. In addition there are roughly 51

part-time or vacation-only Laughlin residents who own local property. They are almost exclusively confined to the Sundance Shores condominium development, where they own an estimated 24 of the existing 32 units.

The present population is relatively stable, with an average length of residence of 46 months. A majority of the current residents relocated to Laughlin from Southern California, northwestern, Arizona, or other Nevada communities. The principal reason for immigration to Laughlin seems to be a strong desire to live in a quiet, uncrowded community during retirement years. Ages for males in Laughlin range from 18 to 71, with the median age being 54.66. Ages for females in Laughlin range from 18 to 70, with a median age of 48.50 (UNR October 1979).

The Virgin Valley area, primarily the communities of Mesquite and Bunkerville, supports a full-time resident population of 1,310 persons. According to a 1976 Cooperative Extension Service census, Beaver Dam Wash had a population of 22 persons, and Riverside had a population of 26. Based on 1979 population figures, 49 percent are from 6 to 18 years of age; 29 percent are from 19 to 44 years of age; and approximately 22 percent are 45 years of age and older. The fact that only 6.3 percent of the total population is in the 19 to 24 age group reflects a loss of youth of the Valley. Approximately 10 percent of the Valley population is 65 years of age or older (UNR September 1977; CCDCP July 1979).

B. Clark County Social Values and Concerns

In contrast with the rural areas of Clark County, Las Vegas and the Las Vegas Strip are cosmopolitan areas, characterized by a great heterogeneity of values and behavior patterns. The community supports 25 different music groups, 8 dance companies, 11 libraries, 33 art galleries, 11 theatre groups and 15 historical organizations. In addition, hundreds of enrichment classes are offered by the various departments of recreation and educational facilities (Couzens 1980).

Outside the sphere of humanities lies another world attuned to the needs of the community. The scouting organizations have almost 10,000 participants. Pop Warner football, soccer, Little League, and numerous other sporting opportunities are provided for youngsters interested in competitive athletic activities. The University of Nevada, Las Vegas, participates in various NCAA interscholastic sports that give local spectators a rallying point around the community. More than 85,000 students are enrolled in 74 elementary schools, 17 junior high schools, 15 high schools, and 4 special schools of the Clark County School District. Clark County Community College offers hundreds of vocational and work experience classes. Several majors are offered which earn a student an associate degree or a certificate (Couzens 1980). The activities reflect the cultural diversity that exists in the greater Las Vegas area.

Nevada citizens as a whole define their values as open space, climate, and relaxed lifestyles. Residents of Las Vegas differ only in emphasis. Respondents from Las Vegas rate climate highest, with open space of secondary importance. When questioned about acceptable changes that could occur in lifestyle, 80 percent of those Clark County residents interviewed in regard to the MX Missile Project, stated that they would be willing to utilize more public transit, while 55 percent would accept increased population growth. Deterioration in air quality, water availability, reduced public services, increased traffic congestion, increased federal regulation, and reduced access to out-of-doors were deemed not acceptable by the majority of those surveyed. Respondents surveyed indicated the three most important problems in their area are transportation (facility and circulation) problems, crime and police problems, and environmental issues.

Quality of life indicators for public safety show that Clark County has a ratio of 2.4 police officers per 1,000 population, a level below the State mean of 2.8. The crime rate of Las Vegas is over twice the rate observed nationally. Public safety is affected by the level of social disorganization in a community.

In Clark County, the divorce rate of 18.6 per 1,000 is slightly above the State mean of 17.9 and over three times the national mean of 5.5. The suicide rate was 23.3 per 100,000, nearly twice the national rate, but below the State mean of 26.7. The alcoholism rate was 46.0 per 1,000, a level slightly above the national rate but below the State mean of 67.7.

The Governor's Futures Commission Survey inventoried attitudes toward future economic growth in Clark County. Three-fourths of the respondents from Clark County felt it was of major importance to develop employment in areas other than gaming. However, about half did not feel past population growth had been beneficial to the community or would be in the future. Respondents indicated that recreation, agriculture, and light manufacturing should be expanded in the next few years.

Regarding politics, residents of Clark County felt their interest and ideas are not being represented by government officials. They wanted to see more State regulation in the next 20 years concerning conservation of agricultural lands, energy conservation, environmental protection, public utility regulations, and wildlife management.

People in Clark County felt more money should go to police protection, transportation, land use planning, health services, services to senior citizens, parks and recreation, and colleges and universities.

In the draft report of the Governor's Commission on the Future of Nevada, the ten ranking problems for Clark County are: (1) transportation; (2) crime; (3) MX Missile; (4) too rapid growth; (5) energy costs; (6) need for planning; (7) environmental degradation; (8) education; (9) unemployment, and (10) housing (DOD 1980).

The rural residents of the county felt the relaxed lifestyle and open spaces more than offset the lack of social amenities. The Clark County Manager's Office and the Department of Comprehensive Planning for Clark County recently held meetings in eight rural communities within Clark County in an attempt to improve the quality of life through the wise investment of capital improvement funds and application of growth management techniques. Results of those meetings held during November of 1979, indicate that residents feel that their individual communities are a desirable place to live, to raise a family, and to retire. They also desire to get involved and are concerned about what happens to their community. Anti-city sentiment is prevalent and is most often expressed by juxtaposing the positive advantages of rural living with the disadvantages of the metropolitan area. These rural residents place a high value on a

healthy climate, clean air and water, the unspoiled view of the open spaces, the accessibility to a variety of recreational opportunities, and the friendliness and sociability associated with the rural lifestyle. In these meetings, concern was expressed about the ability to grow as a community while preserving the rural environment and rural lifestyle. Communities that depend on agriculture as an economic base have become increasingly alarmed that their economic support and agricultural lifestyle are being and will continue to be eroded by the demand for residential homesites and resulting conversion of prime agricultural lands to residential purposes. They feel that the only means of alleviating this potential problem is to obtain surrounding non agricultural lands currently held by the United States and managed by the Bureau of Land Management (UNR September 1977).

Rural Clark County areas conform much more closely with the paradigm of a primary society with emphasis on family, kin, religion, close personal ties with others, etc. These rural communities are characterized by their residents as friendly and family-oriented. Clark County provides a variety of lifestyles, from the young, more mobile and liberal population who reside predominantly in the greater Las Vegas area, to the older, more conservative, rural-oriented residents who reside in the outlying areas of the county (USDI, BLM, 1980).

The previous data presented was drawn from a review of secondary data sources, including informal discussions held with representatives of the Clark County Manager's Office; Clark County Department of Comprehensive Planning; Henderson Planning Department; Boulder City Department of Community Development; the Nevada State Environmental Commission; the League of Women Voters; the City of Las Vegas Planning Department; the Las Vegas Convention Authority; and the Center for Business and Economic Research at UNLV.

.4 INFRASTRUCTURE AND BLM RELATIONSHIPS

A Community Services

Local government entities in Clark County consist of the county itself and the incorporated cities of Las Vegas, North Las Vegas, Henderson, and Boulder City. The county has responsibility for all of the unincorporated area and shares responsibilities within the incorporated communities. Clark County provides both urban and rural services. Within the incorporated cities, services are provided either jointly by city and county, or independently by the city. Recent efforts to replace "dual government" with a single entity have met with heavy and heated opposition. Some unity efforts have resulted in legal battles within the courts where, in many cases, the courts have ruled against the creation of joint bodies.

Boulder City, Henderson, and North Las Vegas have their own police, fire, and water departments. Las Vegas has its own water and fire departments. Las Vegas City and Clark County jointly fund the Metropolitan Police Department, which services both metropolitan and rural areas. Boulder City and Henderson City have their own library systems, with the county servicing the rest of the county. Most rural communities have formed nonprofit or quasi-municipal entities to provide water, television, electrical power, and other community services. The incorporated cities of Las Vegas and North Las Vegas are responsible for their own wastewater collection and treatment facilities, while Clark County Sanitation Service is responsible for the balance of the county. In unsewered areas, Clark County Health Department regulates the installation and use of septic tank disposal systems. Silver State Disposal Company provides solid waste collection facilities for Las Vegas Valley, while Blue Diamond, Overton-Logandale, Laughlin, Mesquite, and Bunkerville are serviced by local franchises. The balance of the rural areas have county-maintained dump sites.

Health services are provided by the Clark County Health Department. Clark County Parks and Recreation Department provides the maintenance and construction of public parks and playgrounds.

The Clark County School District, with an elected board of trustees, provides kindergarten through twelfth grade school services. They have a total of 110 schools and an enrollment of 89,848 students. In addition, 35 private schools with an enrollment of 3,922 are licensed to operate within the county. The University of Nevada, Las Vegas, and the Clark County Community College provide higher education to the area (CCDCP December 1980).

Within the Las Vegas Valley there are 247,000 acres in private ownership. Unless an excessive amount of BLM land is released at one

time, BLM land sales and releases will be absorbed without any adverse effect. Future demand for BLM land will be for community uses, i.e., schools, parks, roads, green belts, rights-of-way, public facilities, etc. These acquisitions have positive effects upon the local economy and upon public relations between local and federal government entities. An extensive land use plan is being completed by the Clark County Planning and Zoning Department, and will prove invaluable to BLM management in identifying needs, uses, and conflicts for land disposition within the Las Vegas Valley.

The communities of Henderson, Boulder City, and the perimeter of the Las Vegas urban area could be impacted significantly by BLM policies and procedures. Although their economies are heavily intertwined with the urban community, the large amount of neighboring BLM land creates the potential for impact. The smaller the population base, the larger the impact BLM programs have upon the citizens in a given area.

The unincorporated areas within the county elect townboards who advise the seven-member Board of County Commissioners as to the disposition of matters within their local area. The decisions of the townboards are not binding upon the Board of County Commissioners, but serve as indicators of the communities' needs. The rural communities utilize the urban center extensively for purchasing goods and services not available locally. Because of the economics of taxation all rural areas are political subdivisions of the county and therefore they "share the wealth" of the Las Vegas Strip.

The potential for impact by the BLM is greatest in the rural areas where BLM managed lands are vast and population is small. The social, political, and economic structures within small communities are very vulnerable to the impacts of BLM decisions. Land ownership changes can allow communities to grow without destroying the agricultural land; but the potential to destroy the equity held by private landowners is present.

If too much public land is transferred to private ownership, local land prices will plummet. BLM must mediate its land policies to maximize benefit to the community, while minimizing loss to the individual. Most grazing permittees live in these outlying communities. BLM decisions concerning grazing will impact the economics and social values of small communities. Most outdoor recreation and ORV use in these communities are upon BLM managed land. Decisions affecting access and utilization of public domain directly impact the lifestyles of people in the community. Some management decisions will benefit one sector and adversely impact another sector within small communities. Regional and national needs for land uses have the potential of forcing drastic changes upon small communities. Power corridors, defense projects (e.g., Nellis Air Force Base, MX, and the Nevada Test Site), wildlife preserves, etc., are beneficial to the nation, but they carry enormous impacts to the local economy and lifestyle. These types of issues seem to fuel local antagonistic groups, who support local control over federal lands.

Table 22 is a synopsis of the governmental services provided by the county for each of the areas.

TABLE 22

CLARK COUNTY SERVICES TO UNINCORPORATED AREAS

BUNKERVILLE

Population*: 420
Area: 136 Sq. Miles

FIRE 1 quick-response fire truck (shares fire protection with Mesquite).
POLICE 2 resident deputies (shares with Mesquite).
PARKS & RECREATION 6-acre park. Full summer recreation programs (share pool with Mesquite).
PUBLIC WORKS 1 resident PW maintenance worker, general maintenance, cemetery maintenance.
OTHER Shares health clinic and library with Mesquite.

MESQUITE

Population*: 830
Area: 239 Sq. Miles

FIRE Fire station, 2 pumpers and ambulance
POLICE 2 resident deputies, substation, holding cell
PARKS & RECREATION 13-acre park, pool, full summer recreation programming.
PUBLIC WORKS Resident maintenance worker, general maintenance, cemetery maintenance.
OTHER Health clinic, library, Justice Court.

LOGANDALE

Population*: 1,263
Area: 36 Sq. Miles

FIRE 3 fire tanker/pumpers, 1 quick-response vehicle.
POLICE Shares 3 resident deputies with Overton.
PARKS & RECREATION 6-acre park, pool, full summer recreation programming.
PUBLIC WORKS Resident maintenance worker, general maintenance, cemetery maintenance.
OTHER Share health center and library with Overton.

GLENDALE

Population*: 35
Area: 5 acres

FIRE	1 fire pumper/tanker, 1 ambulance (Moapa station).
POLICE	Shares 3 resident deputies with Logandale and Overton.
PARKS & RECREATION	Shares Parks and Recreation programming with Logandale and Overton.
OTHER	Shares health center and library with Logandale and Overton.

INDIAN SPRINGS

Population*: 930
 Area: 18 Sq. Miles

FIRE	Fire and ambulance service provided by Air Force Base (mutual aid agreement).
POLICE	2 resident deputies, substation.
PARKS & RECREATION	12-acre park, pool, full summer recreation programming.
PUBLIC WORKS	General maintenance.
OTHER	Library.

MT. CHARLESTON

Population*: Kyle Canyon - 425
 Lee Canyon - 50
 Area: 72 Sq. Miles

FIRE	1 fire pumper/tanker, 2 ambulances (1 each canyon), full-time NDF firefighters.
POLICE	1 resident deputy, substation.
PARKS & RECREATION	Lee Canyon Youth Camp. Summer recreation programming.
PUBLIC WORKS	General maintenance, snow removal.
OTHER	Library.

SEARCHLIGHT

Population*: 450
 Area: 508 Sq. Miles

FIRE	2 fire pumper/tankers, 1 ambulance.
POLICE	1 resident deputy, substation, holding cell.
PARKS & RECREATION	1.3-acre park.
PUBLIC WORKS	General maintenance.
OTHER	Health clinic, library.

LAUGHLIN

Population*: 95
Area: 103 Sq. Miles

FIRE	1 fire pumper/tanker, quick response vehicle, ambulance, 4 resident fire and ambulance personnel.
POLICE	2 resident deputies, substation.
PARKS & RECREATION	26-acre park, resident caretaker.
PUBLIC WORKS	General maintenance.
OTHER	Health clinic.

*Population figures taken from CCDCP December 1980.

Source: Spaulding, Clark County Manager, personal communication, 1981.

B. Tax Base and Public Finance Capabilities

The tax base for Clark County is the assessed valuation of the real property within the boundaries of the taxing unit. The local government unit rate is the mill levy on a dollar of real property or the amount of tax in cents to be paid on a hundred dollars of property. The Nevada State property tax is .25 mills. The total combined tax rate is limited by the State constitution to 5.00 mills. For 1979-1980 the Nevada State legislature placed a new limit on the combined tax rate of 3.64 mills, and the possibility of a "proposition 13"-type vote does exist for the future. The combined unit rate is computed by adding state and local taxes together. The State government also collects a gasoline tax, cigarette tax, sales tax, and a gaming tax on gambling. Most of the revenue goes to the State government general fund, of which part is divided and returned to the counties as distributive school funds. This method is used because some of Nevada's counties lack the ability to administer these taxes.

Bonding capacities are set by both State constitution and State statute. The county's general obligation debt is limited to 10 percent of the assessed valuation. The 1979-80 debt limit is \$348,103,655, with an outstanding debt of \$120,439,336 as of September 1, 1980. Table 23 represents the six year history of the county's general obligation with respect to its capacity.

TABLE 23

CLARK COUNTY BONDING CAPACITY

Year	Assessed Value (\$)	Debt Limit (\$)	Outstanding Debt (\$)	Additional Capacity (\$)	Percent
1975	1,665,510,283	166,510,283	41,580,694	124,929,589	75
1976	1,802,285,995	180,228,599	37,957,096	142,271,503	78.9
1977	1,981,645,919	198,164,591	33,220,899	164,943,692	83
1978	2,463,414,881	246,341,488	38,667,319	207,674,169	84
1979	2,889,911,431	288,991,143	41,262,398	247,728,745	85.7
1980	3,481,036,655	348,103,655	120,439,336	227,664,319	65

Source: CCDCP December 1980.

C. Transportation and Communication Systems

Transportation systems include powerlines, pipelines, and other energy transportation systems, as well as roads, buslines, railroads, and airlines.

Utility corridors have been identified for the primary purpose of transporting energy generated in other areas of the Southwest to Southern California metropolitan areas. High voltage powerlines from southern Utah and Hoover Dam converge in Eldorado Valley, south of Boulder City, and continue across the McCullough Mountains into California. A smaller utility corridor has been identified coming from Lincoln County, parallel to U.S. Highway 93, into Las Vegas. Only one powerline is in this corridor. Within the corridors, primitive roads have been constructed to build and maintain the powerlines. The ability of the existing corridors to withstand the pressures of additional powerlines and natural gas pipelines are under study at this time.

1. Highways and Roads

Las Vegas and Clark County are served by three major highways: Interstate Highway 15 and U.S. Highways 93 and 95. The interstate transportation network connects Clark County to the metropolitan areas of the West. The intrastate network of eleven State highways connect the rural areas of Clark County to the Las Vegas metropolitan area. The annual average daily traffic (DDT) counts for the State maintained roads are shown in Figure 1 taken from the 1979 Annual Traffic Report for Nevada.

The County and BLM collectively maintain approximately 796 miles of primitive, graded, and drained dirt roads and paved roads within lands administered by the BLM according to a 1972 agreement. Clark County maintains 346 miles, including 71 miles of bituminous concrete, on a regular maintenance schedule. With the exception of the Red Rocks Scenic Drive (the only paved road in the BLM inventory), BLM maintains their roads on an "as-needed" basis.

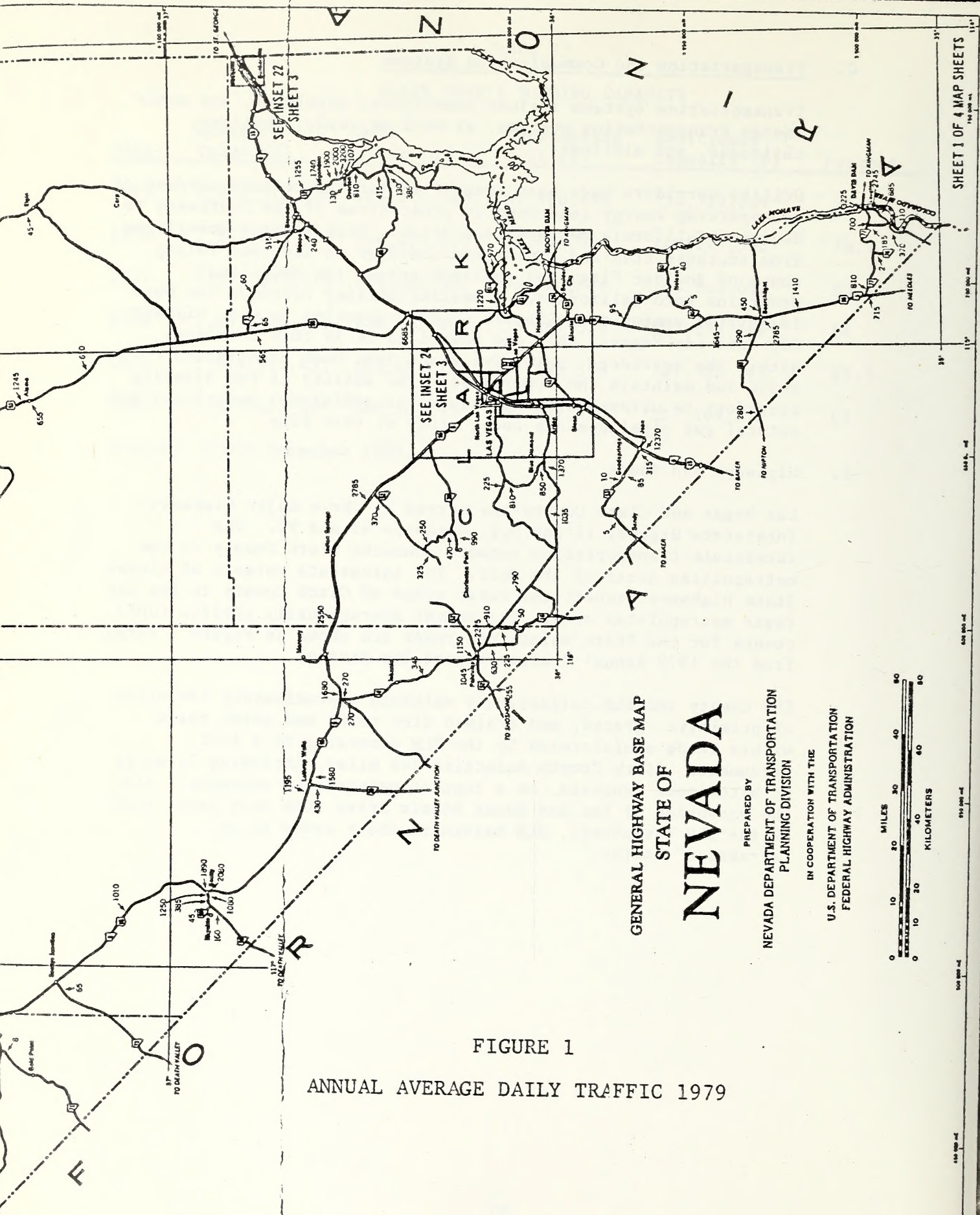
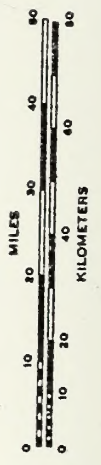


FIGURE 1
ANNUAL AVERAGE DAILY TRAFFIC 1979

GENERAL HIGHWAY BASE MAP
STATE OF
NEVADA

PREPARED BY
NEVADA DEPARTMENT OF TRANSPORTATION
PLANNING DIVISION
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



The County and BLM roads are maintained for fire control, grazing management, recreation, and minerals management. Many miles of primitive, dirt roads are maintained under the authority of the 1872 mining law, for mineral exploration purposes, by the operators.

Funds for construction and maintenance of the Interstate System and Federal Aid Systems are obtained from matching Federal and State money. Non-Federal Aid Systems money comes from State, County, or City funds or a combination thereof. Maintenance and construction funds for BLM roads are part of the annual operating budget and must be spread over the nearly 1,407 miles of roads the Las Vegas District maintains in four counties. Almost all of the Las Vegas District road maintenance funds are expended in the Caliente Resource Area in Lincoln County.

On July 31, 1980, procedures for the management of all rights-of-way on public lands except pipelines for oil, natural gas, and petroleum products; Federal Aid Highways; cost-share roads; and access to mining claims, were finalized for Title V of the Federal Land Policy and Management Act of 1976. To facilitate proper management of the public lands, the Las Vegas District will work with State and local governments to identify public highways constructed under the authority of R.S. 2477 (43 U.S.C. 932, repealed October 21, 1976) and reserve the rights-of-way to these entities under permit. This is slated to be accomplished within 3 years.

2. Airports

Clark County is served by six publicly owned airports, five privately owned airports, and two military airports. McCarran International airport provides air carrier service to Clark County. See Tables .39-11 and .39-12 in Section .39B, Access and Transportation, of the URA for detailed information on airports in the county.

3. Railroads

Las Vegas is situated on the main Union Pacific Railroad line and is a principal terminal for east-west cargo shipment (CCDCP December 1980). In 1978 the UP terminal received 21,547 carloads of freight and forwarded 15,276. Figures for 1979 show a 12 percent rise in freight received and a corresponding drop in freight forwarded, indicating county growth. Although Amtrak passenger service is available only at Las Vegas, freight service stops include Jean, Henderson, and Moapa.

4. Bus Lines

Transit service in the Las Vegas metropolitan area is provided by Las Vegas Transit System Inc. (LVTS), a subsidiary of First Gray Line West Corporation of Los Angeles, which also operates Gray Line Tours of Southern Nevada. Route 6, the Strip, generates sufficient revenues to carry the other 8 routes, which are either marginal or financial deficits. The rapid growth of Las Vegas has created a need that in many cases remains void of adequate mass transit service. Intercity bus service is provided by Greyhound, Continental Trailways, Las Vegas-Tonopah-Reno (LTR) Stage Lines, and Sun Valley. More than eight percent of all tourists visiting Las Vegas utilized the bus lines.

5. Communications

Five mountain peaks surrounding the Las Vegas Valley have been developed as communication sites and are occupied by a variety of users. Users include four local television stations, the FAA, the Highway Patrol and other law enforcement agencies, BLM, Department of Energy, and many other private and public users. See Table 24 for information on these sites.

TABLE 24
COMMUNICATION SITES IN CLARK COUNTY

Apex Peak	Located north of Las Vegas and west of I-15, this site serves nine known users, including the U.S. Air Force. The site is accessible via a narrow steep road maintained by one of the users. Additional space is limited.
Black Mountain	Located south of Henderson, this site is occupied by ten users including three of the television stations in Las Vegas. Access is from Lake Mead Drive via several miles of dirt road. Access is restricted to the users by means of a locked gate.
Potosi	This communication site is southwest of Las Vegas. Twenty users occupy the site. Additional space is limited at this site. Access is restricted.
Frenchman Peak	Four users occupy this site west of Las Vegas, including the U.S. Air Force and Nevada Power Company. Access is controlled by a locked gate.
Angel Peak	Eighteen users have been granted permits to occupy Angel Peak. There are many other users on the peak at this time who have not filed applications. The site is on the north side of the Spring Mountains.

Note: Other communication sites occur throughout Clark County and are limited to one or two users. The need for additional communication sites will continue to grow as Las Vegas continues to grow.

D. Formal and Informal Cooperative Agreements Between BLM and Other Agencies

FORMAL AND INFORMAL COOPERATIVE AGREEMENTS
BETWEEN THE BLM AND FEDERAL, STATE AND LOCAL AGENCIES

NAME OF AGENCY	TITLE OF AGREEMENT	RESOURCES	ROLE OF BLM	ROLE OF OTHER AGENCIES
Bureau of Indian Affairs	Fire Control Cooperative Agreement; subject to yearly review.	Fire	Suppression of fires on BIA lands and BLM lands.	Same as BLM
Bureau of Land Management, Riverside District, CA.	Jean Lake Grazing Cooperative Agreement	Grazing	<ol style="list-style-type: none"> 1. Issue leases and billings. 2. Maintain grazing files in Range Management Automated System. 3. Provide management for existing and new range improvements. 4. Take lead role in all planning and implementation procedures and processes for range improvement. 	<ol style="list-style-type: none"> 1. Assign administrative authority for leases, billings, trespasses, etc., of all live-stock to Las Vegas District, BLM. 2. Forward grazing files and information to Las Vegas District.
Bureau of Reclamation	Memorandum of Agreement	Lands	<ol style="list-style-type: none"> 1. Coordinate and inform when projects, studies and investigations may impact the Bureau of Reclamation. 2. Authorizes supplemental agreement to be made by field officials. 	Same as BLM

Department of Energy	Fire Control Cooperative Agreement; subject to yearly review.	Fire	Suppression of fires on DOE lands and BLM lands.	Same as BLM.
Cooperative Agreement Highland Peak Radio site, #DACA09-4-80-76, and Amendment #1.	Land	Land	<ol style="list-style-type: none"> 1. Grant necessary rights and privileges to DOE to operate and maintain weather tower within the boundaries of Nellis Air Force Range. 2. Use will be without cost to BLM. 3. Upon termination all equipment will be removed. 4. Access will be confined to existing road. No new roads will be constructed. 5. Existing archaeological and historical sites will be preserved. 	<ol style="list-style-type: none"> 1. To operate, maintain, and keep in good condition all premises used. 2. Use will be without cost to BLM. 3. Upon termination all equipment will be removed. 4. Access will be confined to existing road. No new roads will be constructed. 5. Existing archaeological and historical sites will be preserved.
Desert Research Institute	Cooperative Agreement-Archaeology Sites.	Archaeological and Historical Sites.	<ol style="list-style-type: none"> 1. Recommend priority investigation of areas. 2. Advise DRI of plans involving sites. 3. Notify DRI of discovery of new sites. 4. Provide maps. 	<ol style="list-style-type: none"> 1. Furnish BLM with information and analyses of sites studied. 2. Notify BLM of work intended. 3. Report to BLM all prospective sites. 4. Provide estimates of proposed study costs. 5. Protect and care for all archaeological finds and materials.
National Guard	Fire Control Cooperative Agreement; subject to yearly review.	Fire	Suppression of fires on NC lands and BLM lands.	Same as BLM.

National Park Service	Joint Administration of Livestock Grazing.	Grazing	<ol style="list-style-type: none"> 1. Supervise all grazing of domestic livestock on recreation areas. 2. Aid in determining areas to be grazed. 3. Review plans annually with BLM. 4. Collect and account all grazing fees and permits. 5. Aid in determining area to be grazed. 6. Assist permittee in grazing improvements. 7. Review plans annually with National Park Service.
Nevada Department of Agriculture	Disposition of wild horses and burros gathered from public ranges within the State of Nevada (March 24, 1978).	Wild Horses and Burros	<p>Responsible for identification, management, and protection of "wild free-roaming horses and burros" as defined in 16 U.S.C. 1331, et seq. #58.</p>
Nevada Department of Transportation	Cooperative Agreement (February 25, 1969).	Material Sites	<ol style="list-style-type: none"> 1. Determine if unauthorized dumping is occurring. 2. Review need for particular sites. 3. Will consider requests for new material sites. 4. Make technical exam of site and write stipulations.
Joint Memorandum (August 14, 1972).	Highways and Roads	<ol style="list-style-type: none"> 1. Hold annual meeting. 2. Define BIM organizational lines and coordinate work. 3. Minimize duplication between the two agencies. 	

Memorandum of Understanding (May 5, 1965).
Safety and Traffic Control, Access, and Other Matters

1. Install signs at road and trail junctions and other points of interest.
2. Accompany engineer on reconnaissance study.
3. Provide comments on resource impacts.
4. Acknowledge receipt of notice of public hearing.
1. Install all necessary traffic control and warning signs, and directional signs on State Highways to towns and communities.
2. Notify BIM of any planned route location work.
3. Request comments regarding resource impacts.
4. Notify BIM of location and time of public hearings.
5. Give BIM a full description of route selected.
6. Advise BIM when route selected is approved.

Joint Memorandum (February 15, 1978).
Material Sites

1. Issue exploration permits.
2. Assign Las Vegas District, BIM, serial numbers to permit applications.
3. Issue free use permits for material needed for highway construction and any special stipulations needed.
4. Issue material site grants.
5. Do environmental analyses.
1. Reconnaissance of new material sites.
2. County, planning and zoning needs.
3. Bonding of contractors.
4. Submit mining plan.

Nevada Department of Wildlife
Memorandum of Understanding (December 30, 1970) yearly review, Supplements 1-6.

1. To make available to NDW such facilities, equipment, and assistance as can be utilized in wildlife work.
2. To give full consideration to wildlife in resource management.
3. To permit structures as needed to facilitate wildlife management.
4. To assist in the enforcement of wildlife laws.
5. To assist in wildlife population surveys.
6. To consult NDW when changing water courses or making range improvements.
7. To provide NDW advance notice of proposed classification of lands for disposal, withdrawal, or exchange.
8. To cooperate with NDW in the development or construction of wildlife habitat improvements or access to hunting and fishing areas.
9. To provide NDW with reports and correspondence pertinent to wildlife management on public lands.
1. To make available to BLM such facilities, equipment, and assistance as can be utilized in wildlife work.
2. To manage wildlife so that public land habitat will be maintained in a good state of productivity.
3. To advise BLM of plans to introduce or translocate new, rare, or endangered wildlife on public lands.
4. To create no permanent wildlife preserves, refuges, or sanctuaries on public lands without notifying BLM.
5. To erect no structures and perform no construction on public lands without the consent of BLM.
6. To enter into agreement relative to the disposition of grazing privileges attached to base properties which the NDW intends to purchase prior to transfer of title of the property to NDW.
7. To provide BLM with reports and correspondence.

Nevada Division of Forestry and U.S. Forest Service.	Nevada Interagency Air Operations Plan (April 30, 1970), yearly review.	Fire	Coordinate aerial support and provide effective air support facilities.	Same as BLM.
Nevada Division State Parks	Red Rocks Agreement and 1973 Supplement.	Land	<ol style="list-style-type: none"> 1. To coordinate all planning, development and visitor management activities. 2. To provide fire protection for natural resources. 3. To provide training of NDSP personnel in appropriate firefighting techniques. 4. Provide fire radio service. 	<ol style="list-style-type: none"> 1. Same as BLM. 2. NDSP will fight all structural fires to Division property
Nevada State Museum	Memorandum of Understanding (February 4, 1965).	Antiquities	<ol style="list-style-type: none"> 1. Furnish land status upon request. 2. Advise Museum of planned projects and developments that would disturb land surfaces. 3. Advise Museum of dispositions of lands. 4. Recommend priorities for investigation areas. 5. Act in an advisory capacity to the Museum. 6. Include prospective sites in recreation inventory. 	<ol style="list-style-type: none"> 1. Furnish maps of areas known to have archaeological values. 2. Notify BLM when antiquities permits are obtained. 3. Notify BLM of intensive exploration or excavation. 4. Report prospective archaeological sites. 5. Promptly report on any tracts inventoried. 6. Furnish cost estimates for systematic investigations. 7. Report results of excavations. 8. Assist in preparation of interpretive materials and displays.

Nevada Wildlife Commission	Memorandum of Understanding and Agreement, (December 2, 1948).	Water Developments	Grant the State permission to develop, install and maintain water developments for small game in furtherance of the State's game restoration program.	Notify BLM of the location and nature of each proposed unit 15 days prior to commencement of development or installation.
Soil Conservation Service	Fire Control Cooperative Agreement; subject to yearly review.	Fire	Suppression of fires on SCS lands and BLM lands.	Same as BLM.
State of Nevada	Fire Control Cooperative Agreement (September 30, 1970); subject to yearly review.	Fire	Suppression of fires on SCS lands and BLM lands. <i>State</i>	Same as BLM.
State of Nevada Planning Coordinator	Memorandum of Understanding (January, 1981).	Planning	Consult with the State Clearinghouse to assure that BLM plans, programs, and projects are consistent or compatible with local, regional, and State development plans.	Coordinate the process of review and consultation with State and local officials and planning agencies. Notify the BLM of State or other plans and programs which might impact lands administered by the BLM.
U.S. Air Force	Fire Control Cooperative Agreement; subject to yearly review.	Fire	Suppression of fires on USAF lands and BLM lands.	Same as BLM.
U.S. Air Force, U.S. Fish and Wildlife Service, and Nevada Department of Wildlife.	Desert Game Range Cooperative Agreement	Wildlife	Coordinate the management of wildlife within the Nellis Air Force Base Range Annex and on Base Disposal Plant.	Same as BLM.

U.S. Fish and Wildlife Service	Fire Control Cooperative Agreement; subject to yearly review.	Fire	Suppression of fires on USFWS lands and BLM lands	Same as BLM.
U.S. Forest Service	Fire Control Cooperative Agreement; subject to yearly review.	Fire	Suppression of fires on USFS lands and BLM lands.	Same as BLM.
U.S. Geological Survey	Cooperative Procedures Pertaining to Protection of Cultural Resources Related to Upland Oil and Gas Operations.	Oil & Gas	1. BLM will include standard cultural resource stipulations in all oil and gas leases. 2. Review and coordinate reports with USGA. 3. Notify USGS of cultural clearance.	1. To notify lessees of instructions and procedures involving oil and gas exploration and preservation of cultural resources. 2. Insure BLM's clearance is complete before allowing lessee to proceed. 3. Notify USGS of cultural clearance.

.5 CRITICAL ENVIRONMENTAL AREA ANALYSIS

Certain areas within Clark County are designated to be Critical Environmental Areas because of their resource or social significance, uniqueness, or degree of criticality (e.g., habitats for threatened/endangered species; important archaeological sites). District Resources Staff feel the areas presented in the following discussion are worthy of enhancement or protection. This management objective will be integrated into activity plans, such as Habitat Management Plans and Allotment Management Plans, that are developed and implemented as a result of the Management Framework Plan. The Critical Environmental Area Analysis will relate the significance of each specific area to institutions and physical factors within and outside Clark County, resulting in an interpretation of an area's environmental and/or social significance.

A. Arrow Canyon

- Location: T.14S., R.65E.
- Concerned Groups: Sierra Club, Audubon Society, archaeologists, anthropologists, botanists, hikers, equestrians, ORV users (cyclists), geologists.

Geological Value: This deep, narrow canyon presents clear views of various rock layers and is of great interest to geologists studying the Basin and Range Province. The area has been heavily vandalized by a few users who have spray-painted terminology and identifying marks on the canyon walls.

Cultural Resources: Arrow Canyon contains a concentration of petroglyphs/pictographs, rock shelters, and rock rings. There is a large "warshield" petroglyph, a variety of anthropomorphic, zoomorphic, and geometric designs, and one that may be an early Spanish inscription. Aboriginal hunters, traders, travelers, and warriors probably traversed the canyon. Numerous locals utilize the area to view the outstanding petroglyphs/pictographs. The canyon is of regional, and possibly national, archaeological significance.

Recreation: ORV groups, particularly motorcyclists, utilize the Canyon. The "Moapa-to-Vegas" race has traversed it several times. This is one of the most controversial areas in the Las Vegas District. Conflicts exist among competitive ORV users, cyclists, sightseers, and other dispersed recreationists.

B. Hidden Valley/Colorock Quarry

- Location: T.18 & 19S., R.65E.

- Size: approximately 7,000 acres
- Concerned Groups: Sierra Club, Nevada Department of Wildlife, UNLV, gem clubs, naturalists, geologists, artists, archaeologists, anthropologists, photographers, recreationists.

Archaeological Values: This remote, pristine valley in the South Muddy Mountains contains numerous isolated artifacts, rock shelters, petroglyphs/pictographs, agave roasting pits, and a historic/prehistoric site. The area may be eligible for nomination to the National Register of Historic Places, probably as an archaeological district.

Puebloan, Paiute, and probably archaic peoples used the area for the exploitation of mountain fauna and flora, such as agave and Indian rice grass. The cultural resources left behind could explain Puebloan subsistence/hunting and gathering systems.

Recreation/Wilderness Values: The area is critical to recreationists for dispersed or small group recreation. Some people want to take 4-wheel-drive vehicles on at least some of the roads/trails/ways. The area is part of the Muddy Mountains Wilderness Study Area (NV-050-0229). The Sierra Club would prefer that the valley floor be closed to ORV travel and is in favor of rehabilitating the area to meet full wilderness requirements.

Natural History Values: The area exhibits a wide range of natural history values.

1. Extraordinary example of a geological "window," by virtue of the differentiation of younger, vividly-colored rocks as seen through the "window" in older grayish rocks (which have been thrust over the younger).
2. Important bighorn lambing ground of long historical significance, as attested to by sheep images in Indian petroglyphs.
3. Relatively undisturbed flora with excellent diversity of flora in microclimate niches. Some vegetation damage is occurring and is accelerating because of ORV use.

Geological Values: There is some controversy among concerned groups as to how much, if any, development is desirable. A potential impact to the area is oil and gas development. Chevron Oil Company is planning to drill a test well in Colorock Quarry. The pristine values described should be protected to the maximum extent possible, and oil and gas developers should be placed under strict stipulations while working in the valley.

Scenic Values: The scenery is outstanding. Buff-red sandstones rise like icebergs from the vegetation and gray-green alluvium, with a background of cliffs and peaks.

Significance: The area has national, regional, and local significance.

C. Buffington Pockets

- Location: T.18S., R.65E.
- Size: approximately 3,000 acres
- Concerned Groups: Archaeologists, recreationists, oil companies, naturalists.

Archaeological Values: Buffington Pockets, situated in the South Muddy Mountains northeast of the Colorock Quarry/Hidden Valley area, is rich in cultural expressions. There are numerous petroglyph/pictograph panels, several lithic scatters, two quarry workshops, rock rings, at least six rock shelters, and numerous isolated artifacts. A cursory ceramic analysis indicates Virgin River Group Anasazi peoples from the Lost City/Overton region utilized Buffington Pockets. Puebloan and Paiute peoples exploited the area for faunal, floral, and lithic resources.

Recreation Values: Buffington Pockets is utilized by recreationists for dispersed or small group recreation, such as camping, hiking, and sightseeing. Opening of the area to oil exploration should not close it to this dispersed recreation use.

Geological Values: Chevron Oil Company is planning to drill a test well in Buffington Pockets in conjunction with an overall interest in potential oil reserves associated with the Overthrust Belt.

D. Teddybear Cholla Stands

- Location: NW1/4 Sec. 4, NE1/4 Sec. 5, T.25S., R.62E.
- Size: 320 acres
- Concerned Groups: Sierra Club

Botanical Value: There are extensive stands of teddybear cholla (*Opuntia bigelovii*) along the base of the east escarpment of the North McCullough Mountains. These stands mark the northernmost extension of the species. Teddybear cholla is a low desert species that is rare in Nevada. Since it is well adapted to harsh sites, the species is not threatened in Nevada, despite its rarity. However, this far north outpost of the species has scientific significance.

Plant communities at the geographical limits of a species range are very responsive to climatic factors. Since teddybear cholla is a hot desert species, if its far north outpost is thriving and expanding it is an indication that the climate is becoming warmer and drier, or that land use is creating desertification. If the stand is the last enclave of a retreating species, then the change is towards a colder climate. If these stands are being invaded by more mesophitic species, then the area is getting wetter. These stands should be preserved from disturbance for their scientific value.

E. High Density Desert Tortoise Habitat

- Location: Greater than 50 tortoises per square mile)
- Size: approximately 488,345 acres (14% of the desert tortoise habitat in Clark County)
- Refer to the Desert Tortoise Distribution Overlays in URA 3/4.
- Concerned Groups: Desert Tortoise Council

Wildlife: The areas of concern are of high density desert tortoise populations. A population of this species on the Beaver Dam Slope of Utah is already designated as "threatened" by the U.S. Fish and Wildlife Service. The USFWS is presently reviewing the status of the tortoise in the remainder of its habitat in the southwest U.S.; a recommendation on whether or not to place it on the threatened/endangered species list should be forthcoming in the near future. Positive steps need to be taken to manage high density tortoise habitat in Las Vegas District. The significance of this concern is at least regional and may be national.

F. Weiser Bowl

- Location: T.15 & 16S., R.66E.
- Size: approximately 4,000 acres
- Concerned Groups: Sierra Club, UNLV Geological Sciences Department.

Geological Value: The Weiser Bowl is a geological area of probable national significance, having been discussed in geological publications. Weiser Bowl is a recumbent fold with the top fold eroded away, leaving that strata in a reverse sequence (upside down). Thrust faulting occurred after the folding. These features can clearly be seen because of the nudity of the landscape and illustrate the same geological processes that formed the Alps. Weiser Bowl was recommended for evaluation as a National Natural Landmark and is still being evaluated by the Heritage Conservation and Recreation Service.

G. Las Vegas Dunes Off-Road Vehicle Play Area

- Size: approximately 9,000 acres
- Concerned Groups: ORV users, both 4-wheel and motorcycle; Mint Hotel ("Mint 400" sponsors)
- Value held for about 10 years

Recreation/Soils: This area was designated as a special recreation area in 1970. It was found to have a critical soil surface factor (pre-1975 water resources inventory), and the 1975 MFP decisions were to close, or extremely limit, ORV use. However, the area is now heavily used. The "Mint 400" course cuts through the dunes. In 1980, a motocross program was set up involving an average of 250 participants, with events held every two weeks. If this area were to be closed or restricted from ORV use based on watershed or soils data, the impact on recreational ORV use would be quite high. Hence, the area is proposed as a Critical Environmental Area because of the recreation watershed conflicts which need special management attention.

H. Gale Hills

- Location: North of Lake Mead National Recreation Area and west of the Muddy Mountains
- Concerned Groups: Sierra Club, Audubon Society, geologists, rock hounds, hikers, picnickers, artists, photographers, botanists, and equestrians.

Geological/Scenic: This area of local and regional significance is a geological and scenic area comprised of bold volcanic ridges, red sand in occasional dunes, brightly colored (red) outcrops, and hidden pockets along the ridges. It is a splendid area for family exploration and scenic drives in a primitive environment.

I. Keyhole Canyon Rock Art Site

- Location: T.25S., R.63E.
- Concerned Groups: archaeologists

Archaeological Values: This site, south of Boulder City, is a petroglyph/pictograph site with hundreds of petroglyphs packed into the canyon walls. There are anthropomorphic, zoomorphic, and geometric petroglyphs of all sizes and shapes, as well as perhaps some small "warshield" figures. Accompanying these petroglyphs are some

slanting rocks containing bedrock mortars. The petroglyphs are at the mouth of the canyon and were presumably associated with a now-extinct water source. The site is of at least regional (Great Basin) significance.

J. Lone Grapevine Spring

- Location T.22S., R.58E.

- Concerned Groups: archaeologists

Archaeological Values: This area contains two rich rock shelters, Lone Grapevine Spring and Lone Oak Shelter, and a large number and variety of associated petroglyphs. The shelters were most likely base camps used by Pueblo, Paiute, and archaic groups for the exploitation of mountain sheep, pinyon-juniper resources, oak nuts, and other resources. This may have been an area of culture contact between different cultures, since Puebloan, Paiute, and Lower Colorado ceramics, turquoise, sea shell, and salt have been found at these sites. The remains are indicative of either wide-ranging trading routes or occupation at various times by different cultural traditions. Recent research has been done in an attempt to tie the petroglyphs associated with the rock shelters into a comprehensive study of these sites, their locations, and the environmental factors that may have influenced their utilization by aboriginal peoples. This site is at least of regional, and perhaps national, archaeological significance.

K. Black Dog Mesa

- Location: T.15S., R.66E.

- Concerned Groups: archaeologists

Archaeological Values: Black Dog Mesa overlooks the Muddy River Valley west of Glendale. There is a complex of rock shelters, pit houses, granaries, campsites, and other associated features. The area has been occupied from approximately 300 B.C.-500 A.D. through early historic times by Puebloan and Paiute peoples. A number of caves have been excavated, including Black Dog Cave, Granary Cave, Orphan Cave, and other small sites. A small pit house village has been partially excavated. The reported remains in the Black Dog Mesa area have been summarized as three caves, two shelters, six pit house sites, three multi-room pueblo surface structures, and a Paiute campsite.

The University of Nevada, Las Vegas, conducted excavations at a pit house site on the mesa, and the area is in the process of being nominated to the National Register of Historic Places. The amount of Basketmaker and early Pueblo material on the mesa makes the area a valuable source of data to study the origins and development of this branch of Puebloan culture.

L. Whitney Pockets

- Location: T.16S., R.70E.
- Concerned Groups: archaeologists

Archaeological Values: Whitney Pockets is a concentration of sandstone overhangs, campsites with middens, petroglyph/pictograph sites, and agave roasting pits located in the Virgin Mountains. The area has been exploited by several different aboriginal groups - Pueblo, Paiute, and archaic peoples - for several thousand years. Mountain sheep, deer, agave, and other floral and faunal resources not found in the river valleys or the desert were exploited in this area. In terms of Great Basin archaeology, Whitney Pockets is of at least regional significance.

M. McCullough Spring

- Location: SE1/4 SW1/4 Sec. 26, T.26S., R.61E.
- Size: one acre
- Concerned Groups: Sierra Club, Nevada Native Plant Society, UNLV Biological Sciences Department
- Value held for about 10 years

Wildlife/Vegetation: McCullough Spring is the only natural spring in the McCullough Mountains. It is the source of water on the lambing grounds of a desert bighorn herd. Butterflies also utilize this water source.

The spring is the habitat for a species of columbine, Aquilega chrysantha, which is a rare relic species in Nevada. McCullough Spring is one of only two known occurrences of the species in Nevada. It once flourished in this location and dominated the seepage slope above the spring. A few years ago, all but one plant were destroyed when the spring was improved.

N. Virgin River

- Size: 12.55 miles of river traversing public land
- Concerned Groups: BLM, Nevada Department of Wildlife, U.S. Fish and Wildlife Service, Woundfin Recovery Team, Desert Fishes Council, UNLV

Aquatic Habitat/Riparian Habitat: The Virgin River, from the Nevada-Arizona border to Lake Mead, has been recommended as critical habitat for the Woundfin (Plagopterus)

argentissimus). The Woundfin was federally listed as an endangered species in 1970, through publication in the Federal Register, Vol. 35, page 16047, October 13, 1970. The Woundfin is also classified as a "sensitive" species by BLM. In addition, the Virgin River is habitat for the Virgin River Roundtail Chub (Gila robusta seminuda) which has been classified endangered by the American Fisheries Society Endangered Species Committee. The river also provides habitat for several other species of native fish.

The Virgin River provides valuable riparian habitat for various species of wildlife in a desert environment. It also provides resting habitat for migrating waterfowl.

O. Virgin and Muddy River Valleys

- Concerned Groups: archaeologists

Archaeological Values: Although much of these two river valleys lies in private holdings, a number of significant cultural resources sites exist on BLM parcels of land within the valleys. This region was the locale of an intensive Puebloan occupation, dating from 2,000 B.P. (before present) to about 800 B.P. Sites range from rock shelters to open campsites to large surface pueblos and pit houses. The majority of the work conducted in the region was done in the 1920s and 1930s and little has been done since. Many new questions have arisen concerning northern Anasazi settlement/subsistence patterns, social organization, inter-societal relations and other facets of northern Anasazi culture. The sites in these river valleys, including those on BLM parcels, represent a valuable data base that can be used to answer some of the cultural questions. Therefore, the river valleys are of local, regional, and national archaeological significance.

P. Bootleg Spring/Rainbow Spring Archaeological Area

- Location: Red Rock Canyon Recreation Lands

- Concerned Groups: archaeologists

Archaeological Values: This area is a concentration of 24 cultural resources sites located near two springs - Bootleg Spring and Rainbow Spring - and washes associated with these hydrologic features. The sites contain 16 agave roasting pits, 4 rock shelters, 8 open camps/lithic sherd scatters, and one area of features called "water tanks." There are artifacts associated with Puebloan, Paiute, and archaic groups, representing long occupation and use of the region. This data base can be used to answer questions concerning subsistence/settlement patterns and changes through time, intergroup relationships, and other questions concerning the aboriginal

occupation of Southern Nevada. This area is at least of regional (Great Basin) archaeological significance.

Q. North McCullough Mountains

- Concerned Groups: archaeologists

Archaeological Values: This archaeological district is another poorly known region, but available data indicates the area is rich in archaeological resources, including rock shelters, overhangs, lithic/ceramic scatters, agave roasting pits, and petroglyph/pictograph sites. The long occupation of the area (previously used to exploit mountain flora and fauna) make it a valuable data base for testing hypotheses concerning different cultural systems, changes in subsistence/settlement patterns, paleoenvironmental reconstruction, and other Great Basin archaeological problems. The North McCullough Mountains are of at least regional archaeological significance.

R. Relic Black Grama Stand

- Location: South McCullough Mountains
- Size: several thousand acres
- Concerned Groups: Sierra Club, Nevada Native Plant Society, Range Society

Botanical Value: Evidence from relic areas indicates that black grama was once a widely distributed and important forage grass, but in the past 100 years it has disappeared from most of its former range. The South McCullough Mountains harbor the only known stand of black grama in Nevada. It occurs in the blackbrush zone associated with sideoats grama in areas that have never been grazed due to lack of water. Examples of pristine range are rare in Nevada and should be preserved for their scientific value.

S. Lower Carpenter Canyon

- Location T.20S., R.55, 56E.
- Size: 2,500 acres
- Concerned Groups: Sierra Club, UNLV Biological Sciences Department, Nevada Native Plant Society

Botanical Value: The Spring Mountains are a haven for relic and endemic plant species. Carpenter Canyon has remained in near pristine condition because it is remote and inaccessible. Therefore, the canyon may be expected to have several rare plant species.

T. Lovell Canyon/Trout Canyon

- Concerned Groups: recreation groups, hikers, hunters, church groups, Scout groups, employee organizations

Recreation Values: These two canyons receive extremely high use by a variety of groups and interests. Lovell Canyon was heavily damaged by forest and brush fires during the summer of 1980, nearly all of which were started by recreationists. Firewood cutting is popular in the fall. There are numerous dispersed recreation sites. The area (particularly Lovell Canyon) is a valuable buffer to Red Rock Canyon Recreation Lands and is also part of a Wilderness Study Area.

There is a tract of private land at the end of the Lovell Canyon road which may soon undergo intense development (condominiums), including paving of the road. Provisions should be made for viable development projects, but the area should be carefully managed to preserve the natural values as much as possible.

U. Wheeler Pass Charcoal Kilns

- Location: T.18S., R.55E.
- Size: 60 acres
- Concerned Groups: archaeologists

Archaeological Values: The Wheeler Pass Charcoal Kilns are beehive-shaped kilns with associated outbuildings, constructed of undressed limestone cobbles and boulders put together with very little mortar. The kilns were constructed in the 1870s to manufacture charcoal to fire the smelters at Tecopa, California. The site is located in a pinyon-juniper forest along Wheeler Pass road on the western flanks of the Spring Mountain Range. They were built here because this area had the only sufficient supply of pinyon, juniper, and ponderosa pine to be found in the region. Such wood is scarce in the deserts of southern Nevada and California, which made the kilns vital to the mining of gold, silver, and lead in the region from 1870 to 1900.

This site is an important link with the early settlement of Nevada and is, therefore, a site of national significance. The BLM will shortly begin the process of nominating the site to the National Register of Historic Places.

V. Cold Creek/Willow Creek/Wheeler Wash Area

- Size: approximately 42,000 acres

- Concerned Groups: recreationists, hunters, employee organizations, Scout and church groups

- Value has been held for about 20 years

Recreational Values: This area is currently receiving intense recreation use, as evidenced by the trampled vegetation and ground surface, trash, broken bottles, and other signs of heavy human activity. Within 10 to 20 years the area may be so trampled and burned that it would be of no value to recreationists. Private tracts would be developed, and trash dumping, burning, and target shooting could be the major forms of use.

The environmental values found in the area are linked to its social values. At the 6,000 foot elevation, the climate and vegetation are significantly different than in the Las Vegas Valley. The area is especially popular in the spring, summer, and fall. As many as four organized groups have been seen using the area on a given weekend. Cross-country skiers utilize the area in the winter, and the area has been utilized (under permit) for commercial skiing purposes (lessons). Historical sightseeing (e.g., the Wheeler Charcoal kilns) is also popular. Use is not as intense in the area of Wheeler Pass because a 4-wheel-drive vehicle is needed, but the eastern and western slopes of this area receive heavy visitor use.

Water Resources Values: Two perennial creeks flow through the two major camping areas: Cold Creek and Willow Creek. These spring-fed creeks have excellent water quality and support populations of trout. These stream areas receive significant use from campers, picnickers, and sightseers. Development of the area around Cold Creek endangers the flow, quality, and accessibility of the stream area. Such stream flow, supporting trout, is an important local resource.

W. Virgin Mountains

- Size: approximately 25,000 acres

- Concerned Groups: pro-wilderness and solitude seekers (especially Sierra Club), botanists, wildlife proponents (especially Bighorn Sheep groups)

Natural Values: During the Clark County wilderness inventory, great concern was shown for preserving the Virgin Mountains in their present state. This concern was spurred by the interest in oil and gas in the Overthrust Belt. The preservationists accepted the fact that the area lacks wilderness character because of the numerous roads.

The natural features are of regional, and may be of national, significance because they represent the confluence of three desert zones--the Great Basin, Mohave, and Sonoran deserts. Current opinions should be sought on the significance of the area and whether or not the natural area boundaries take in enough land. Refer to the Virgin Mountain Natural Area discussion (the natural area comprises a small portion of the Virgin Mountains).

X. Virgin Mountain Natural Area

- Size: 6,560 acres
- Concerned Groups: botanists, wildlife managers, rock hounds, hikers, Sierra Club, Audubon Society, Wilderness Society, anthropologists

Botanical Values: The Virgin Mountain Natural Area, designated in 1970, harbors unusual occurrences for southern Nevada of the Arizona cypress and Douglas fir.

Geological Values: Mineral specimens which exhibit metamorphism are of interest to visitors and rock hounds.

Cultural Resources Values: Agave roasting pits are situated in the pinyon-juniper stands along the road approach northward from Quail Point.

Scenic Values: There is a striking fluted north face of great relief containing white fir and Douglas fir in steep canyons of suitable microclimate conditions. The summit provides an imposing view into three states. From western approaches, this is the most imposing portion of the Virgin Mountains.

Significance: The area has regional and local significance.

Y. Sunrise Mountain Natural Area/Frenchman Mountain/Rainbow Gardens

- Size: approximately 40,000 acres
- Concerned Groups: Sierra Club, Las Vegas Wash Development Committee, UNLV geology staff, recreationists

This area has been proposed as a National Natural Landmark by the Heritage Conservation and Recreation Service. If the BLM agrees, the Secretary of Interior will so designate the area. The Sunrise Mountain Natural Area, so designated in 1970, has been badly damaged by human activity and should be undesignated, but this comprises only a portion of the area. Social problems are numerous in this locale, with the area considered somewhat unsafe as a result of target shooters, etc. The natural area, with some development and

management, could complement the developments under consideration for the proposed wetlands park further south.

Geological Values: The area is an outstanding geological area. Frenchman Mountain is a hogback, a rare landform in the Great Basin area. Also present is the Las Vegas Shear Zone (a major plate boundary), half of a pluton (the other half is at Gold Butte, which establishes the magnitude of the lateral movement along the plate boundary), and all of the formations of the Grand Canyon are exposed (plus five more). All periods, from Precambrian to Quaternary, are represented. There is a large intrusive mass, Lava Butte, with radiating dikes. There are several examples of Tertiary lava flows and numerous faults. The southwest portion of the area contains trilobite beds. Gypsum Cave, in the northern portion of the area, is significant for two reasons: 1) this is the first place where ancient climates and vegetation were interpreted from analysis of ground sloth dung, and 2) it is a solution cavern in gypsum, whereas most such caves are in limestone.

Botanical Values: Even though the area is a true desert, the vegetation is varied, and several rare species thrive: the desert holly, California bearpoppy, and the large flowered sunray.

Educational Values: The scientific features of the area suggest educational opportunities. The area is adjacent to a population center, and the natural values are plainly visible because of the nudity of the landscape.

Recreational Values: The sand dunes in the northern portion of the area provide an opportunity for ORV recreation. Gypsum Cave provides a safe caving experience. The mined-out gypsum quarries are popular for target shooting. The rock formations are of vivid hues and varied landforms. The many natural values provide good photographic opportunities.

2.

Red Rock Canyon Recreation Lands

- Size: 61,881 acres

- Concerned Groups: geologists, botanists, wildlife managers, anthropologists, artists, archaeologists, hikers, rock climbers, equestrians, photographers, Sierra Club, Wilderness Society, Audubon Society, Nevada State Parks, UNLV, Nevada Department of Wildlife, Las Vegas area departments of recreation (both county and city)

Recreational Values: The area is already a designated recreation area, but many problems and threats to its natural integrity still exist: oil and gas leasing, development of adjacent private lands and the associated encroachment of the city, the steadily climbing visitation and resulting increase in wild fires and vandalism, and efforts to reopen the area to grazing.

It will be difficult to preserve Red Rocks' so-called core area without also preserving a protective buffer zone represented by the current area boundaries. The buffer zone contains some of the finest natural features, stands of desert vegetation and archaeological resources that exist in the Mohave Desert. The area also provides opportunities for unconfined recreation and solitude critical to Nevadans.

The area is being managed under a Master Plan prepared in 1976. A 13-mile paved road has been completed, and a visitor center will open in the summer of 1981. Other aspects of the plan will be phased in as budgeting permits.

Archaeological Values: The area represents a cultural resource of local, regional, and national significance. Long-term exploitation of this area by aboriginal groups is evidenced by over 300 archaeological sites, including rock shelters, agave roasting pits, artifact scatters, open campsites, petroglyphs/pictographs, and historic sites. Since at least 1500 B.C., four different aboriginal groups exploited this region--Virgin/Muddy River Valley Pueblo groups, Lower Colorado groups, Paiutes, and pre-ceramic archaic peoples. Early Anglo settlers also used the area.

There are small concentrations of cultural resources: 1) Brownstone Canyon, with two rock shelters, two petroglyph panels, and 13 agave roasting pits; 2) Sandstone Quarry, with eight roasting pits, one rock shelter, one open site, and one historic site; 3) Red Springs, an open midden site associated with many petroglyphs; 4) Willow Springs, with several roasting pits, rock shelters, and petroglyph sites; and 5) La Madre Canyon, with the same style of site association.

This concentration of cultural resources is a valuable data base that can help answer questions concerning the history of southern Nevada, aboriginal subsistence/settlement patterns and changes through time, intergroup relationships, the reconstruction of paleoenvironments, and actual length of occupation of the region.

Natural History Values: The area exhibits a wide range of natural history values.

1. The Keystone Thrust is a nationally acclaimed example of thrust faulting, visible because of great color contrasts between the thrust plates.

2. There is a great diversity of vegetation, partially resulting from diverse habitats and microclimates. Some plant species may be remnants from ice age periods.
3. There are inverted life zones in which Ponderosa is found on desert floors far lower than its normal elevation range.
4. There are healthy populations of bighorn sheep in the canyons and on the ridge tops. The bighorn are quite often visible to climbers and hikers.
5. Other wildlife species are bountiful. Mule deer herds on the desert floor east of the bluffs are visible at times from Blue Diamond hills to the canyon mouths. There are also coyotes, bobcats, nesting eagles, quail, cactus wrens, and canyon wrens. The rare gila monster has been sighted. Riparian species are found near perennial and seasonal water sources in the canyons.

Educational Values: The educational values are exceptionally great because of the visual clarity of the resources and the proximity of the area to Las Vegas.

Significance: The area is of local, regional, and national significance.

.6 PROBLEMS AND ISSUES

A General - The Sagebrush Rebellion

The so-called Sagebrush Rebellion is the latest manifestation of a 200-year-old philosophical argument between the "Eastern" states of the Union and the "Western" ones over who rightfully owns the public domain: the state within whose boundaries it lies, or the Federal government. In Nevada, the opening shot in the current skirmish was a 1978 State Law asserting state ownership and authority over the public domain within the state.

Within Clark County, reaction to the Sagebrush Rebellion is mixed. One large daily newspaper strongly supports it, another opposes it. A number of elected officials actively support it; some are tepidly or reservedly in favor of it; others are judiciously silent about it. Consumptive users of public lands tend to favor it; numerous recreational groups either oppose it or have second thoughts about its wisdom. Given gaming as the economic mainstay of the county, many gaming industry workers would view the rebellion as a proper expansion of their resentment of another Federal agency, the Internal Revenue Service.

For all that philosophical antagonism, the Las Vegas District generally enjoys a constructive and effective working relationship with the many different client groups it serves. Differences over specific issues remain, to be sure. Overall, however, the dialogue is positive. In some forums, in fact, there is an excellent three-cornered discussion ongoing among conservation/preservation interests, consumptive users, and the BLM.

The essential local problem that leads to the Sagebrush Rebellion is sometimes ineffective communications between the Las Vegas District and its client groups. Improved communications with and better responsiveness to client needs, within the bounds of law and policy, will go far to dampen the fires of the "rebellion."

It is important that this improved communication and better responsiveness not be viewed as a hyped up PR effort, but a management effort within Clark County that makes more efficient use of BLM human and material resources to provide efficient responses to the lands and resource demands made on us.

B. Lands

1. Rapid growth within the urban Las Vegas Valley is increasing the demand for release of BLM managed lands for private ownership. There exists the need for both commercial and residential properties. A large number of individuals have applied under both the Carey Act and the Desert Land Entry Act, since they were

recently reactivated. Public demand for release of BLM managed land is evidenced by the Santini-Burton bill which calls for the first sale of land within the Las Vegas Valley by December 22, 1981. Local governmental entities have been very active in applying for lands under the R&PP programs. This local utilization allows for low acquisition costs while leaving higher priced private ground available for other uses including its ability to provide tax revenues. Local governmental leaders voice satisfaction with this program.

2. A major problem with the growth in Las Vegas has been the checkerboard pattern of development. Large sections of vacant land are dispersed among the developed sections, as developers chose locations on the perimeters. Urban sprawl increases the costs to governmental services and utilities who must build improvements for great distances past vacant tracts to provide necessary services. This pattern increases property values for the owners of vacant property, but generates little to the tax base. This method is very cost ineffective. BLM land disposals along the perimeter of the urban development will add to these problems and to the costs to government entities and the utility providers. Individuals will likely criticize this denial reasoning, since acquisition costs on the perimeter are much lower than purchasing properties nearer the center of the community. This is an example where benefits to the community may adversely impact an individual.
3. Vacant lands managed by BLM within the urban area are frequently abused and trespassed. They become unsightly and a public nuisance because they are often used as dumpsites for trash, dirt, and other material. Neighbors of such areas complain and expect BLM to take actions to correct these problems. Under present BLM management criteria, neither the funding nor the expertise is available to properly manage these areas.
4. Many individuals perceive a sizeable cost difference between lands released from BLM and similar private tracts. This concept tends to evidence itself in the demand for release of public domain to allow community growth. However, 30% of all land within the Las Vegas urban area is privately owned and undeveloped. A BLM study in 1979 indicates existing undeveloped private property could satisfy all land requirements for anticipated growth through the year 2000.
5. Preservationists suggest that rather than accepting monetary compensation from land sales, BLM controlled parcels of property could be better utilized in the public interest, if they were traded for private parcels in other areas. Exchanges of property can provide ground for local expansion while eliminating small

parcels of private ground surrounded by government managed areas. This action leaves the public land base relatively unchanged. The Desert Land Entry Program decreases the public land base, while monetary compensation is relatively nominal. The Carey Act provides the state government the ability to receive a more economically based price. The state may receive just compensation, plus additional future tax revenues, but no compensation is given to the federal government, nor its constituents in the other states. This is another example of conflicts between local interests versus national or regional interests.

6. Federal land policies, designations, and utilizations are the basis of major regional versus local disputes, with BLM managed lands in the center. The location of Nellis Air Force Bombing Range, Nevada Test Site, Desert National Wildlife Range, Nellis Air Force Base, Nellis Air Force Gunnery Range, Lake Mead National Recreation Area, and the Valley of Fire State Park, create a relatively small area of ground available for use as utility corridors. The Los Angeles Basin has identified utility facilities, (i.e., power plants, refineries, etc.) as major contributors to the air pollution problem affecting the health of the area. The growing need for additional utilities saddled with air pollution constraints indicate new facilities should be located closer to the source of raw materials in Wyoming and Utah, with major new transmission lines crossing Clark County. There exist three possible corridors, each with major problems and social issues.

The existing corridor proceeds between Sunrise Mountain and urban Las Vegas. Traversing Rainbow Gardens and Las Vegas Wash, it proceeds east of Henderson and exits at Railroad Pass. Rainbow Gardens and Las Vegas Wash have been identified as potential recreation areas. Las Vegas Wash is very important as a flood channel, with greenbelt potential as a buffer zone. The growth patterns for Las Vegas and especially Henderson appear to utilize this area. The local perception of conflict is growing, in fact the Intermountain Power Project transmission line was rejected by the City of Henderson.

The second alternative would be to proceed west along the north side of Las Vegas Valley, then south along the western perimeter, then east along the southern perimeter. This round-about corridor will still impact the community of Henderson since it must join the existing Boulder Dam-Los Angeles transmission lines. It could adversely affect the Mt. Charleston and Red Rock Canyon recreation areas. Recent expansion trends have been heavy in the western portions of the Valley and potential conflicts with urban expansion exist. This route would subject a much larger cost of construction and maintenance upon future projects.

The third alternative is to build transmission lines along the I-15 and Union Pacific railroad corridor. Acquisition costs would be enormous for this proposal since much of this area is extensively developed. The adverse impacts of a utility corridor upon the existing developments could be very great. The need to expand either the transportation corridor or the utility corridor could be costly, if not impossible. Such a corridor may be unsuitable for gas transmission pipelines.

It will be a very difficult task to evaluate the costs to the utility companies and ultimately the consumer in Los Angeles, compared to the social and economic costs to the people in the Las Vegas Valley. This issue is compounded by the social needs of both metropolitan areas.

7. A major social problem exists with the need for additional prison facilities. Present facilities include a minimum security prison at Jean, a medium security prison being constructed at Indian Springs, and three facilities at Carson City. A majority of offenders needing imprisonment come from urban Las Vegas. The two new facilities will alleviate some of the overcrowding of incarceration facilities, but the growing population trend indicates additional facilities will be needed. Transportation and incarceration costs indicate the facility should be located near the populace that requires such facilities. There is however, a strong resentment by local residents toward allowing any additional elements of crime in the area, including prisons. Professional corrections people indicate that successful criminal rehabilitation needs the support of family and friends. These factors are only readily available if the incarceration facilities are in the vicinity of the residence of the offender. Indications are that such a facility will probably be on BLM lands and therefore our decision may become a heated local problem.

C. Minerals

1. Recent metal prices created an enormous interest in the mining industry. Many new claims have been filed and old mines are being evaluated for possible reactivation. A new mining operation in the rural communities can dramatically affect the lifestyle and attitudes of a community. If, for example, mining became prominent in the Searchlight area, the community could change from a peaceful retirement community to a youthful boomtown. The new inhabitants would probably heavily impact the existing lifestyles of the inhabitants and the existing infrastructure would be inadequate. Schools, water supplies, sewer systems, roads, and recreation facilities are all inadequate to handle the influx of young families. Prices of

goods and services would reflect the increased demand and prices would be increased. Disputes between the old and new inhabitants and their lifestyles could be drastic. If the metal prices moved back to lower levels, the community could find a rapidly declining population, with an expensive expansion program to be retired. This overextension of expenditure could be shifted upon the remaining residents.

2. Rising fuel prices have created an enormous interest in new exploration and alternative fuel sources. Identification of the "Overthrust Belt" traversing Clark County, has led to increased exploration. Gas and oil development are highly speculative at present. Much of the private and public lands in Clark County have been leased for oil and gas rights. Increased seismic and drilling activity is present in several locations. The development of an oil field would be a major impact. Sites for drilling, refining, ingress and egress rights-of-way, and population increases would be expected. These could adversely impact air and water quality, wildlife, wilderness values, recreation areas, and lifestyles within Clark County.
3. The mineral rights of most of the previous land releases were retained by the Federal government. Under present mining policies, the possibility exists that mineral or oil development could take place within the developed areas of Las Vegas Valley. BLM may be trying to mitigate conflicts between owners of the surface rights, and mining or oil companies attempting to recover the subsurface minerals. Corresponding impacts upon lifestyles and economic wellbeing also exist.
4. Population growth creates increased demand for aggregates used by the construction trade. Many BLM managed lands have been identified as sources of this material. Air quality standards are directly impacted by the aggregate operations on BLM lands. Distance from developed areas and adequate controls will help mitigate air pollution. These measures will directly impact the cost of aggregate, which results in higher prices for construction. These measures are inflationary and ultimately cost the consumer.
5. The 3809 regulations are currently being implemented within the county. Opposition from mining groups has been unanimous. The impacts, costs, and success of this attempt to regulate the mining industry are very uncertain. A major problem facing BLM will be the possible need for additional professional management to implement and police the operation. Under present restraints, such personnel demands could only be achieved by reducing other services, with significant impacts to other programs.

C. Forestry

1. The moderate climate in the county plus the rising costs of fossil fuels could result in increased demand for wood fuels. Present resources seem very limited and population growth combined with increased demand will require increased policing to prevent trespass and deterioration of the resource. BLM's ability to satisfy local demand has been a major positive public relations factor. Increased demand and additional policing could result in a negative shift in public attitude and in increased operating costs to BLM.
2. The rapidly rising price of Christmas trees combined with population growth is expected to increase the demand for permits for Christmas trees. The resource supplies will become scarce, and result in identical problems associated with firewood.
3. Low maintenance and water requirements have increased the popularity of use of cacti and yucca in landscaping and interior designs. National and regional demands combined with local pressures are rapidly increasing. Increased applications and trespasses will continue to plague BLM management and could drastically affect the desert vegetation resource. Additional management and policing requirements will impact BLM cost and personnel allocation.

D. Range Management

1. Many ranchers in the county resent present BLM management activities, e.g., grazing studies, wilderness study areas, etc., and view such activities as reducing their rights to utilize public lands. Many ephemeral ranges were used as perennial ranges, and current efforts to eliminate year-round grazing are viewed as repressive. Many urban dwellers are apathetic toward the rancher, who symbolizes that free uncontrolled lifestyle associated with the heritage of Nevada and the West. Grazing upon public domain presents negligible impact to the economy of the county, but the social significance is considerable. Anti-Federal factions view the rancher as the prime symbol of their cause to resist unnecessary control. The implementation of many federally mandated programs could have adverse social impacts, although they are economically justifiable.
2. Most ranchers view the excessive BLM employee turnover as a major detrimental factor contributing to the lack of continuity in range management programs. Some perceive this to be the major cause of declining numbers of AUMs allotted. Ranchers feel forage availability is a subjective measure and therefore

personnel changes are a major factor in range evaluation practices.

3. Wild burro herds in the Gold Butte and Searchlight areas will have a negative impact upon range management. The nature of wild burro herds are such that there is year-round grazing on ephemeral lands. Such misuse of available forage could have devastating impacts to the capacities of these ranges. Recent efforts to improve bighorn sheep herds by wildlife management could conflict with the increasing burro herd in some areas. Limited forage could create competition between burros and bighorn sheep. BLM management programs to mitigate the burro problem will be closely scrutinized and evaluated by national groups. Conflicts similar to those encountered in the Grand Canyon burro management program are anticipated.

E. Watershed

1. The current BLM practice of filing for ownership of waters on public lands is designed to facilitate management of public lands for federally mandated purposes. The economic impact of this process is difficult to determine. If the water is privately controlled, state law requires that it be put to beneficial use. Except for domestic purposes, this would imply that at least some economic benefits are being derived from private diversions. BLM water rights applications, in contrast, are generally for the purpose of maintaining fish and wildlife populations, ensuring that sufficient water is available for livestock grazed on public land, and for other uses of public lands that require water. Definite economic benefits result from the purposes for which the BLM is reserving water. These purposes are generally not those for which private appropriators would reserve water and it is unclear whether the benefits from private appropriation would exceed the decrease in benefits from BLM filings if the water on public land were entirely under private control.
2. Uncertainty exists over the extent to which Federal agencies can control water on public lands. The scarcity of water amplifies the problems associated with its allocation and use. Growing population and limited water supplies are proceeding on a collision course. Increased concern and conflict between competing interest groups are already a reality and will certainly persist. Agriculture, wildlife, ranching, urban, and other special interest groups are opposed to BLM water filing and efforts to supply water resources to activities that might adversely affect their interests.
3. Clark County agencies have identified most of the floodplains and washes that are vital to the health and safety of residents.

Except during flood periods, encroachment upon the plains and flow channels persists. This disregard will increase the frequency and intensity of storm-related damage. Conflicts between proposed uses and their location within the floodplain on BLM leased land and land sales will intensify. Local governmental agencies would like critical parcels designated as greenbelts and other buffer uses to minimize adverse impacts. The ability of local government to finance and manage the expense and problems associated with such a massive program is questionable. However, if BLM retains the properties, it is also uncertain whether BLM can provide adequate management and funds to provide satisfactory flood protection.

4. Census figures for 1980 indicate major demographic shifts from the northeastern to the southwestern area. Las Vegas Valley has been a major recipient of this trend. A major limiting factor to growth will be water availability. Present allocations indicate supplies, assuming recent growth patterns, are adequate through the year 2000. Additional water sources become very costly. A suggested source has been the mining of deep water aquifers. Another alternative could be importation of water from other areas. The alternatives could have major impacts upon BLM lands. Rights-of-way, corridors, permits, and allocation from other sources will be required.

An additional factor will be the addition of population beyond expected levels. A major change, such as the massive MX project, and its adverse effect upon water supplies could reduce the timespan before additional sources are needed.

5. Most rural communities are dependent upon underground water sources such as springs and wells. Activities on neighboring BLM land can greatly impact the quantity and quality of water. Alterations in the allocation of resources from one use, (e.g., ephemeral grazing, wilderness, etc.) to another use (ORVs, mining, oil and gas production, etc.) can drastically affect the water supply. Underground water flow configuration is often different from surface flow. Management practices in seemingly unrelated areas could have important impacts upon the water sources for other communities.

F. Air Quality

Air quality in Clark County fails to meet the standards set by the Environmental Protection Agency for total suspended particulates. Studies indicate surrounding BLM lands are a major cause of the problem. Many mitigation measures are economically impractical because they require major capital expenditures. A possible solution would be limiting ORV use and traffic on unpaved roads. This would

impact the recreational sector of the economy and would meet very stiff criticism from individuals who cherish those forms of recreation. Sand and gravel sites with affiliated processing are another source of pollution originating on BLM properties. Solutions include moving sites farther from urban areas and/or requiring extensive procedures to prevent dust. Both solutions would result in additional costs, which the consumer ultimately must bear.

G. Recreation

1. Population growth and lifestyle changes are resulting in an increasing demand for BLM to commit additional resources to ORV use. It is a major recreational activity in southern Nevada and is usually on BLM managed lands. Many local people view the use of public lands as a "right" given to all. Most local sentiment favors the use of public domain by ORVs. It is a major economic and social factor within the community. Its consumptive aspect directly conflicts with other consumptive uses, such as mining, grazing, and wildlife. Many groups view its negative impact with varying degrees of significance. BLM continues to receive pressure from both sides of the issue and must mediate compromise solutions.
2. Wilderness study areas are also a controversial subject in Clark County. A large segment of the populace view wilderness as inappropriate and unwanted. They expect such action to strangle and eliminate all consumptive uses now associated with multiple use. At public meetings both sides of the spectrum are represented. Feelings and tempers run high and much controversy is generated. The inventory phase, by its nature of considering all possible sites, has led to considerable frustration to the non-wilderness group. Only during the study phase can the decision process actually evaluate many of the objections voiced.

H. Wildlife

1. Two major wildlife activities are hunting and viewing. BLM is responsible for the management and allocation of range resources for wildlife, while state and federal agencies manage the game animals through hunts, etc. Cooperation between agencies is imperative to program success. The small amount of suitable habitat and its aridity are limiting factors for program improvement. The disparity between supply and demand for the consumptive use of hunting will increase. An increasing number of people suggest local wildlife resources could best be utilized for nonconsumptive activities. This concept could increase wildlife availability, but impacts would be felt by other activities, such as grazing and ORVs, which are usually not compatible with wildlife.

2. The creation of reserves to ensure the survival of the desert tortoise will have major impacts upon other users. Restriction of ORV use will adversely impact the local economy, and can create major dissatisfaction among local recreationists. Reduction of grazing in these areas would also create conflicts, since it impacts both ranching and wild burro interest groups. Supporters for reserves for the desert tortoise feel this is the only suitable means of perpetuating the species, which is already on the State list of rare species. In Amargosa, efforts to save the dune beetle were rejected and public sentiment concerning the desert tortoise seems similar.

Fire Management

There are basically three critical concerns for fire management in Clark County.

1. Increasing development in the urban-wildland interface zone.
2. The need to complete the Clark County fire pre-attack system.
3. Public relations concerning prescribed and natural fire.

A major problem is becoming more acute as urban areas develop in wildland and normal firefighting alternatives are eliminated by the need to protect human lives and property. The Mountain Springs community is a prime example of urban infringement upon critical areas. A major cause of fires during the Fourth of July period occurs from the misuse of fireworks purchased in Pahrump and used on BLM lands. Enforcement costs and actual firefighting costs will increase due to such activities.

J. Cultural Resources

1. Collection of artifacts from archaeological sites seriously impacts the data potential of these sites. However, many area residents consider arrowhead collecting to be a legitimate use of the public lands and value it as a recreational activity. Part of the problem appears to be that the public does not fully understand the significance of prehistoric artifacts. More public educational efforts might lessen the present high rate of archaeological site vandalism.
2. In addition to anthropologists and archaeologists, several native American groups express considerable concern about the disruption and disappearance of their ancestral heritage. Many artifacts are significant to present religious beliefs and ceremonies.

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