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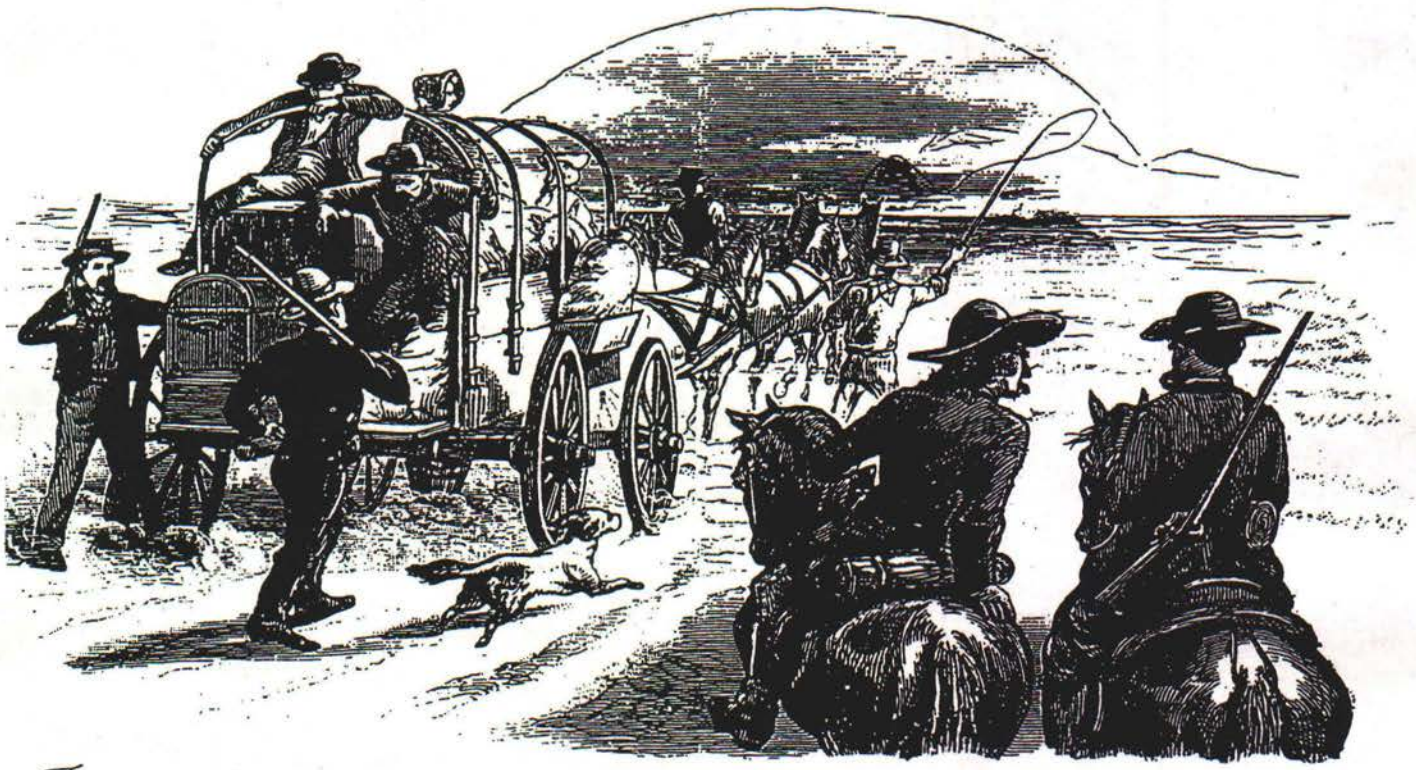
U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Winnemucca Field Office
5100 East Winnemucca Blvd.
Winnemucca, Nevada 89445

September 1998

Sonoma-Gerlach and Paradise-Denio
Management Framework Plan Amendment and Draft Environmental Impact Statement



Just as the sun was sinking, we resumed our journey and after descending a little hill we entered a country more forbidding and repulsive than even that I have described. There we occasionally saw a stray and solitary bush of artemisia. It was a country which had nothing of a redeeming character. Nothing presented itself to the eye, but a broad expanse of a dead level plain, which conveyed to the mind the idea that it had been the muddy sandy bottom of a former lake. —**J. Quinn Thorton, 1846**

MISSION STATEMENT

The Bureau of Land Management is responsible for the stewardship of our public lands. It is committed to manage, project, and improve these lands in a to manner to serve the needs of the American people for all times. Management in based upon the principles of multiple use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation, rangelands, timber, minerals, watershed, fish and wilderness, air and scenic, scientific and cultural.

BLM/WN/LP-98/022+1793

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Nevada State Office
P.O. Box 12000 (1340 Financial Blvd.)
Reno, Nevada 89520-0006
http://www.nv.blm.gov

In Reply Refer To:
(NV-910) 1610

September 16, 1998

Dear Reader:

Enclosed for your review and comment is the Sonoma-Gerlach and Paradise-Denio Management Framework Plan Amendment and Draft Environmental Impact Statement (EIS) for a Management Plan for the Black Rock Desert. This EIS sets forth the management prescription the Bureau of Land Management is proposing for the management of the Black Rock Desert.

The proposed planning area encompasses portions of the West Arm of the Black Rock Desert in Northwestern Nevada and comprises approximately 452,086 acres of public lands administered by the Winnemucca Field Office within Humboldt, Pershing and Washoe Counties, Nevada. No private lands would be directly affected by management direction under the Proposed Action or alternatives.

Public comments concerning the adequacy and accuracy of the Draft EIS will be accepted until January 15, 1999, and must be submitted in writing to Gerald Moritz, EIS Project Manager, Bureau of Land Management, Winnemucca Field Office, 5100 E. Winnemucca Blvd., Winnemucca, Nevada 89445.

In addition, public meetings to accept verbal comments are scheduled for the following dates and locations. All meetings will start at 7:00 P.M.

November 2, 1998	Red Lion Inn, 1401 Arden Way, Sacramento, California
November 3, 1998	Nevada State Office, 1340 Financial Blvd., Reno, Nevada
November 4, 1998	Lovelock Community Center, 820 6th Street, Lovelock, Nevada
November 5, 1998	Winnemucca Field Office, 5100 E. Winnemucca Blvd., Winnemucca, Nevada
November 9, 1998	Cedarville Field Office, 602 Cressler Street, Cedarville, California
November 10, 1998	Gerlach Community Center, 410 Cottonwood, Gerlach, Nevada

A Final Environmental Impact Statement will be prepared that will consider the comments received after the public review and comment period. This Final EIS may be in an abbreviated format; therefore, you should retain this Draft as a reference. For additional information, contact Gerald Moritz at the above address or at (702) 623-1500.

Sincerely,

Jean Rivers-Council
Associate State Director, Nevada

Enclosure:
As stated above

SONOMA-GERLACH and PARADISE-DENIO MANAGEMENT FRAMEWORK PLAN AMENDMENT
and
ENVIRONMENTAL IMPACT STATEMENT
for
THE MANAGEMENT OF THE BLACK ROCK DESERT

(X) DRAFT ( ) FINAL

Lead Agency:	U.S.Department of the Interior Bureau of Land Management
Project Location:	Humboldt, Pershing and Washoe Counties, Nevada
Comments on this EIS Should be Directed to:	Gerald Moritz, EIS Project Manager Bureau of Land Management Winnemucca Field Office 5100 E. Winnemucca Boulevard Winnemucca, Nevada 89445 (702) 623-1500
Date Draft EIS Filed with EPA:	September 25, 1998
Date by Which Comments Must Be Received by the BLM:	January 15, 1999

ABSTRACT

The Draft Plan Amendment and Environmental Impact Statement for the Management Framework Plans for Sonoma-Gerlach and Paradise-Denio sets forth the management prescription the Bureau of Land Management is proposing for the management of the Black Rock Desert in Humboldt, Pershing and Washoe Counties, Nevada. This amendment is in response to the ever increasing public use occurring on the West Arm of the Black Rock Desert. The accompanying EIS fulfills the National Environmental Policy Act, which mandates that federal agencies analyze the environmental impacts of major undertakings.

The proposed planning area encompasses portions of the West Arm on the Black Rock Desert in northwest Nevada and comprises approximately 452,086 acres of public lands administered by the Winnemucca Field Office within Humboldt, Pershing and Washoe Counties, Nevada. No private lands would be directly affected by management direction under the Proposed Action or alternatives.

Responsible Official for EIS:

Jean Rivers-Council
Associate State Director

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Summary

SUMMARY

In recent years the Bureau of Land Management's (BLM) Winnemucca Field Office has been contacted by the public, local residents and visitors, who have expressed concerns over the increasing number of people coming to the Black Rock Desert region and associated increasing impacts upon the area's sensitive resources. These concerns for the area's unique landscape and resources has moved interested groups and individuals to propose special designations for parts of the region, including recommendations for Areas of Critical Environmental Concern (ACEC) and a National Conservation Area (NCA). Most of these proposals seek to protect National Historic Trail segments passing through the area, along with their viewshed's and integrity of setting. This plan amendment responds to the public interest to protect these resources, some of them unique and rare such as: National Historic Trail segments, hot springs, dune landscapes; irreplaceable, fragile cultural resources; and paleontological resources, in the face of increasing recreation pressure and casual use.

The increased visitor use is attributed to the success of word-of-mouth advertising and media coverage associated with the growing popularity of unique events, such as land sailing, model rocketry, world land speed record attempts, and a large festival known as "Burning Man", all of which take place on the Black Rock Desert.

Another significant visitor activity is off-highway use, especially dirt bikes and all-terrain vehicles (ATVs or Quads). Nationwide, the popularity of recreation vehicles has increased greatly in the past decade. As this use increases, impacts upon the natural landscape escalate. While stringent restrictions and closures have resulted from past indiscriminate uses of this type in some areas of the country, the proposed plan for the Black Rock Desert area would set in place goals and actions, which together with public use awareness, would moderate and direct impacts before irreparable damage to, or loss of, public resources could dictate that such measures should be taken.

With knowledge of past and present use of the Black Rock Desert area, the Winnemucca Field Office made the decision to amend the existing Sonoma-Gerlach and Paradise-Denio Management Framework Plans with a comprehensive management plan and environmental impact statement to resolve issues associated with the increased recreational uses of the Black Rock Desert area.

The proposed planning area encompasses portions of the Black Rock Desert West Arm in northwest Nevada and comprises approximately 452,086 acres of public lands administered by the Winnemucca Field Office within Humboldt, Pershing and Washoe Counties, Nevada. No private lands would be directly affected by management direction described under the Proposed Action or alternatives.

Purpose and Need

The purpose of this plan amendment is to implement goals and actions in the Black Rock Desert region of Humboldt, Pershing and Washoe Counties, Nevada. These goals and actions are needed to address the increasing recreational use in this region.

Proposed Action

The Proposed Action would assist in the management of recreational and other uses in the Black Rock Desert Planning Area while minimizing adverse impacts to cultural and natural resources in the area. The Proposed Action would establish an Area of Critical Environmental Concern (ACEC), of approximately 452,086 acres of public lands, encompassing the natural areas around the West Arm of the Black Rock Desert. Management actions within the ACEC would be directed towards protection of fragile resources, including portions of the National Historic Trail network and playa edge areas. The existing Soldier Meadows ACEC would not be expanded to 35,000 acres, but the proposed 3,500 acres mineral withdrawal and the other provisions of SMAP would be carried forward.

Alternatives

Alternative One (No Action Alternative) would continue management under the approved *Sonoma-Gerlach and Paradise-Denio MFPs*. No special management direction for large recurring recreational events or other consumptive uses in the Black Rock planning area would be developed. However, the recommendation in the approved Soldier Meadows Activity Plan to expand the Soldier Meadows ACEC to 35,000, with a 3,500 acre mineral withdrawal, would be carried forward. The No Action Alternative forms the baseline against which to assess the effects of the alternatives and is required for a comprehensive NEPA analysis.

Alternative Two (Maximum Resource Protection) would preserve the natural and cultural resources of the area in a pristine state, including key viewsheds of the National Historic Trail network. This alternative would limit and restrict uses allowable under current management. It would establish an ACEC over the entire area, including portions of seven Wilderness Study Areas, and propose a mineral withdrawal for the entire proposed planning area: encompassing up to 452,086 acres of public lands. The existing Soldier Meadows ACEC would not be expanded to 35,000 acres nor would a 3,500 acres withdrawal be necessary; however, the other provisions of SMAP would be carried forward.

Alternative Three (Maximum Resource Use) would allow and promote maximum resource utilization and improvement within the planning area with the least restricted uses allowed under current laws and regulations. The existing Soldier Meadows ACEC would be expanded to 35,000 acres and include a 3,500 acre mineral withdrawal.

Preferred Alternative

In accordance with the National Environmental Policy Act, Federal agencies are required to identify the agency's preferred alternative in the Draft Environmental Impact Statement prepared for the project. The preferred alternative is an indication of the agency's preliminary preference. The preferred alternative is subject to change from the draft to the final based on public input received during the comment period on the draft. For this project, the agency preferred alternative is the Proposed Action as described in the

environmental impact statement with all appropriate mitigation.

A summary of the Proposed Action and Alternatives is provided in Table S-1.

A summary of the Impacts of the Alternatives (including the Proposed Action) is provided in Table S-2.

Table S-1 Summary of Alternatives

Resource/Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
ACEC	Black Rock Desert ACEC approximately 452,000 acres.	Soldier Meadows ACEC expansion of approximately 35,000 acres.	Black Rock Desert ACEC approximately 452,000 acres.	Soldier Meadows ACEC of approximately 35,000 acres.
Cultural	The Applegate-Lassen Trail viewshed managed to VRM Class II.	Management remains limited to inventories and mitigation, as warranted for compliance.	The Applegate-Lassen Trail viewshed managed to VRM Class I.	The Applegate-Lassen Trail viewshed managed to VRM Class III.
	Discretionary actions which cause long term adverse impacts to nonvisual elements of the Applegate-Lassen Trail would not be allowed. Nondiscretionary actions would be mitigated to avoid such long term adverse impacts.			
	The Nobles Route treated as National Register eligible district with contributing elements.		The Trail's entire viewshed would be evaluated as a cultural landscape and managed as if it were National Register eligible.	The Applegate-Lassen National Register site would be redefined as a district.
	Disturbances to intact traces of the Applegate-Lassen Trail would not be allowed.		The following sites and routes managed for conservation use:	The Nobles Route would be determined eligible as a district with contributing elements.

Table S-1 Summary of Alternatives

Resource	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Cultural (Cont.)	The following sites and routes managed for public use:		the Applegate-Lassen Trail, Nobles Route, Fremont Route,	
	Applegate-Lassen Trail Nobles Route, Fremont Route, associated campsites on these routes, including Hardin City and the Lassen-Clapper Murder site.		associated campsites on these routes, including Hardin City. and the Lassen-Clapper Murder site.	The following sites and routes managed for public use: Applegate-Lassen Trail, Nobles Route, Fremont Route, associated campsites on these routes, including Hardin City and the Lassen-Clapper Murder site.
	Provide general information on the prehistory, history, and paleoenvironment to the public.		The Nobles Route would be managed as if it were National Register eligible.	Provide the public with a greater understanding of the area's paleoenvironment through non-intrusive interpretive methods not exceeding VRM Class III.
	Designate appropriate prehistoric sites for public use.		Manage 90% of all prehistoric and historic resources for conservation use.	
	Designate appropriate rock art sites for public use.		Manage 10% of all prehistoric and historic resources for scientific use.	
	Manage appropriate prehistoric and historic resources for scientific use.		Record and evaluate known cultural sites.	
	Manage appropriate prehistoric and historic resources for conservation use.		Inventory cultural resource sites in the plan area.	

Table S-1 Summary of Alternatives

The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Resource **Cultural** (Cont.)			
Record and evaluate known cultural sites.		Post positive protective signs at appropriate cultural resource sites.	
		Patrol cultural resource sites during heavy use periods.	
Inventory cultural resource sites in the plan area.		Include protective messages in interpretive and,educational material.	
Post positive protective signs at appropriate cultural resource sites.			All rock art sites would be identified for public use. Other sites would be evaluated for public use as they are identified.
Patrol cultural resource sites during heavy use periods.			
Include protective messages in interpretive and educational material.			

Table S-1 Summary of Alternatives

Resource	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Native American Concerns	Involve tribes in cooperative management.	Tribes would continue to to be consulted prior to authorization of surface-disturbances.	Limit access to traditional cultural properties identified by Native Americans	Traditional cultural properties (and their appropriate environmental setting) identified by Native Americans would be managed to VRM Class III.
		Tribes would continue to be consulted for mitigation projects and when Native American human remains are located.	To the maximum extent allowed by law, follow tribal recommendations in land use planning and the land use application process.	
	Negotiate with tribes to develop and implement a cultural resource data sharing agreement that allows tribes access to archeological and historic site records protected by ARPA.		Traditional cultural properties (and their appropriate environmental setting) identified by Native Americans would be managed to VRM Class I standards.	
	Traditional cultural properties and their appropriate environmental setting would be managed to conform to VRM Class II standards.			

Table S-1 Summary of Alternatives

The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Resource			
Paleontology			
Evaluate known locations for scientific and educational significance. Evaluate new localities for significance. Paleontological inventories would be required for large surface disturbing projects in sensitive areas.	Vertebrate collection would continue to be carried out under current and valid permits. Invertebrate casual use collection would be managed under existing laws and regulations.	Activities which fall under permitting review would be evaluated in order to identify and prevent potential adverse impacts. Access to identified resources would be limited to permitted activities. Non-degraded resources would be managed for conservation use. Cooperative agreements, and other mechanisms, would be developed to systematically inventory, map, and evaluate fossil-bearing strata.	Manage appropriate resources for scientific use. Designate appropriate sites for public interpretation or collecting and manage those sites for public use. Identify and develop appropriate fee collection sites.
Recreation			
Permitted events would be managed under the *Winnemucca District Operations Plan.* Establish Common Pool permit allocation. The Limits of Acceptable Change study would continue for three to five years to determine visitor use	Management would continue as directed by the current land use plans. Special Recreation Permits would continue to be issued on a case-by-case basis.	Those policies and actions presented in the Proposed Action would be implemented under this alternative, with the following exceptions:	Special Recreation Permits would continue to be issued on a case-by-case basis.

Table S-1 Summary of Alternatives

Resource	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Recreation (Cont.)	and impact growth trends. Define large-scale Special Recreation Permits as having one or more of the following: 1. Over 4,500 people 2. Requiring over five square miles for the event. 3. Requiring a linear area longer than four miles. 4. Rocket launches exceeding 10 miles in altitude. 5. Requiring extended closure(s) beyond three days. 5. Requiring over 40 hours of BLM staff time. 6. Events in which over 25 vehicles participate. 7. Exceeding one week in duration. BLM law enforcement presence would be required for large-scale events.		Special Recreation Permits would not be issued to large-scale events (as defined under the Proposed Action).	

Table S-1 Summary of Alternatives

The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Resource			
Recreation (Cont.)			
SRP events would be prohibited from removing natural resources, unless authorized by the Winnemucca Field Manager.			
SRPs would be subject to applicable permitting proceedurs, laws, and regulations.			
Cost recovery would be initiated for all events falling within the definition of a large-scale event.			
All events would be analyzed for components of resource conflict and safety.			
A Visitor Contact Station would be operated in the vicinity of Gerlach.	A trailer-based roadside Visitor Contact Station would continue to operate in the vicinity of Gerlach.	A permanent Visitor Contact Station would not be established. Temporary facilities would continue to be used.	A Visitor Center would be constructed, with full-service interpretive and facility amenities.
Cooperative agreements would be developed to staff the VCS.			Cooperative agreements would be developed to staff the Visitor
Low-impact use back-country	Low-impact use back-country		

Table S-1 Summary of Alternatives

The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Resource			
Recreation (Cont.)			
ethics would be promoted.	ethics would be promoted.		Center.
Camping areas would be designated at evaluated hot springs.		Designated camping areas would be established and available for use by permit only.	Marketing strategies would be developed to promote recreation in the Black Rock Desert.
OHV access related camping would be allowed in ***Open*** areas.	Discretionary activities and facilities would continue to to be provided based upon need, available funding, and other resource allocation.	Access to the area and the types of vehicles allowed within the area would be limited or restricted.	Sites would be analyzed for the potential location of recreational facilities or amenities.
Comprehensive interpretive media would be developed.			
Cooperative agreements would be developed to assist interpretive presentations.		Skill and materials would be used to develop recreatioal facilities.	Comprehensive interpretive media would be developed.
The District Volunteer Program would be utilized to facilitate plan implementation.	The District Volunteer Program would be the agencies liaison to activity specific recreation: casual users and special events.		Cooperative agreements would be developed to assist interpretive presentations.
A primitive campground would be established in the vicinity of Lost Springs.			A primitive campground would be established at Lost Springs.
The use of signs would be minimal and unobtrusive.		Signs and facilities would be minimal impact improvements in order to meet VRM Class I	

Table S-1 Summary of Alternatives

Resource	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Recreation (Cont.)	Facilities would meet VRM Class II standards. BLM law enforcement rangers would increase their presence in the area.		objectives: maintain a natural area.	
	Current OHV designations would be changed. ---- playa areas retain ***Open*** classification. ---- nonplaya areas are classified as ***Limited***. Designated roads in edge areas would be considered for inclusion into the BLM transportation system. Unapproved roads would be ***Closed*** and reclaimed. Trego, Black Rock Hot, and Soldier Meadow Hot springs would have designated camping areas.	With the exception of WSAs, the public lands within the area remain ***Open***. WSAs are currently designated ***Closed***, access is only by existing ways and trails.	Current OHV designations would be changed. ---public lands lying within the National Register Corridor and that located between the playa edge and the proposed plan boundary would be designated ***Closed***. Those portions of the playa outside of the National Register Corridor would remain ***Open***. Vehicular travel through the edge areas would be restricted to designated access roads. Designated roads would be those which service traditional accesses related to county or BLM maintained roads.	With the exception of WSAs, the public lands within the area remain ***Open***. WSAs remain ***Closed*** with the exception of existing ways and trails. Access roads would be improved maintained.

Table S-1 Summary of Alternatives

Resource	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Recreation (Cont.)	Approved playa access/egress would only be from current locations.		Designated accesses would be monitored and would be subject to closures.	
	The three dunes in the vicinity of Coyote Springs would be designated ***Closed***.			
	All intact segments of the Applegate-Lassen Trail would be designated ***Closed***.		The use of historic trails, routes, and Trego, Black Rock, Hardin City, Double Hot, and Soldier Meadows Hot springs would be only by permit to nonvehicular access.	
	Educational materials would be promoted though kiosks, public workshops and presentations.			
	As part of a continuing Limits of Acceptable Change study, visitor use data and environmental monitoring would continue.		Designated roads would not be included into the BLM transportation system.	
			A perimeter enclosing each of the three dunes in the vicinity of Coyote Springs would be designated ***Closed***.	
			All playa locations with intact trail ruts would be designated ***Closed***.	

Table S-1 Summary of Alternatives

Resource	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Visual Resources	VRM reclassification would be undertaken to manage recreational and viewshed resources.		VRM classification reevaluation would be defined from a recreational and viewshed preservation viewpoint in the context of VRM Class I parameters.	VRM classification reevaluation would be defined from a recreational and viewshed preservation viewpoint in the context of VRM Class III parameters.
	Non-WSA lands within the managment area would be managed to VRM Class II standards.	Non-WSA public lands within the management area reflect more than one VRM class.	Non-WSA lands within the proposed management area would be managed under VRM Class I standards.	Non-WSA lands within the management area would be managed under VRM Class III standards.
	Adverse impacts to the viewshed of the Applegate-Lassen Trail would be unacceptable.			
Wilderness	Lands presently designated WSAs will be managed under VRM Class I.	WSAs are managed as as natural areas under VRM Class I.	Lands presently designated WSAs will be managed under VRM Class I.	Lands presently designated WSAs will be managed under VRM Class I.
	Lands within the plan boundary released by Congress from Wilderness consideration would be managed under VRM Class II standards.		Lands within the plan boundary released by Congress from Wilderness consideration would be managed under VRM Class I standards.	Lands within the plan boundary released by Congress from Wilderness consideration would be managed under VRM Class III standards.

Table S-1 Summary of Alternatives

	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Resource				
Minerals				
	Locatable minerals activities would be managed to meet VRM Class II standards.	As part of SMAP a 3,500 acre mineral withdrawal would occur.	A mineral withdrawal would be proposed for the entire plan area: approximately 452,000 acres.	Mineral activities would be managed to meet VRM Class III standards.
	With the exception of the Soldier Meadows ACEC, geothermal, oil, and gas leasing would be allowed within the plan boundary under the restrictions of the special stipulations for No Surface Occupancy.	With the exception of the above noted lands, all public lands within the area remain open to location of mineral under the authority of the 1872 Mining Law.	No leasing would be allowed within the plan boundary. Allowed mineral related activities would maintain VRM Class I standards.	Geothermal, gas, and oil leasing would be allowed within the plan boundary under the restrictions of the special stipulations for No Surface Occupancy.
	No leasing of sodium or potassium would be allowed with the plan boundary.	Lands located outside of WSAs are managed under 43 CFR 3809.		
	Saleable mineral activities would be required to meet VRM Class II standards.	Lands located within WSAs are managed under 43 CFR 3802.	Mineral material sales and free use permits would be allowed out of the Blue Pit.	Mineral material disposals would be allowed at the discretion of the authorizing officer.
	Mineral material disposals would be allowed at the discretion of the authorizing officer.	Oil, gas, and geothermal leases would be managed under current land use plans. Leasing would not be	Mineral material sales and free use permits within the proposed plan boundary would only be extended to the State of Nevada, Washoe, Pershing, or Humboldt counties, and	Sodium and potassium leasing would be disallowed. A 3,500 acre mineral withdrawal

Table S-1 Summary of Alternatives

Resource	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Minerals (Cont.)	A 3,500 acre mineral withdrawal in the Soldier Meadows area as part of the SMAP.	permitted in the proposed Soldier Meadows ACEC. Sodium and potassium leasing would continue to be disallowed. Discretionary disposal of saleable mineral materials would continue under existing management.	the BLM for construction and maintenance of projects and roads within the plan area. Existing and currently unauthorized gravel or borrow pits would be inventoried and, if no agency identified above wishes to utilize the sites, they would be reclaimed.	would occur in the Soldier Meadows area. Existing and currently unauthorized gravel or borrow pits would be inventoried and, if neither the State of Nevada, Washoe, Pershing, or Humboldt counties wishes to utilized the sites, they would be reclaimed.
Lands and Realty	Land acquisitions would focus upon holdings with high resource values. The acquisition of easements and/or private lands to provide legal access would be considered.	Land acquisitions would focus upon holdings with high resource values. The acquisition of easements and/or private lands to provide legal access would be considered.	Land ownership adjustments would continue to be used to acquire private lands that contain high resource values, or provide access to public lands that have limited or no legal access.	The same as the No Action Alternative.

Table S-1 Summary of Alternatives

Resource	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Lands and Realty (Cont.)	No public land within the proposed plan boundary would be made available for community expansions. Permitted activities would be minimal impact in nature and would be in compliance with VRM Class II standards. Communication sites would be authorized if they do not impact the visual integrity of the Applegate-Lassen Trail.	Lands would continue to be made available for agricultural disposal. Activities would continue to be permitted if all impacts could be mitigated.	No public lands would be made available for agricultural disposal. No commercial activities or right-of-ways would be permitted unless they were determined to be conformable with VRM Class I standards.	

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Soils	Limiting OHV use to designated roads would minimize the destruction of surface crust and vegetation, the loss of which results in increased soil erosion.	The rates of soil erosion and loss of protective surface crust and vegetative cover over broad areas would increase.	Impacts would be similar to those of the Proposed Action.	Impacts to soil resources would lead to maximized rates of soil and vegetation loss. Impassable ruts would develop on existing roads in mountain soils. Increased soil disturbance in high use sites would lead to soil deposition in springs. Broadening areas of denuded soils would also lead to increasing loss of visibility during dust storms and general deterioration of air quality.
Noxious Weeds	Limiting OHV use to designated roads would reduce the spread of noxious weeds.	Noxious weeds would spread at an increasing rate over a broad area.	The spread of noxious weeds by OHV activity would be minimized and may be localized to routes of travel.	Noxious weeds would spread at an increasing rate over a broad area.
Fish and Wildlife	Impacts would be beneficial to to terrestrial and aquatic species. Protection of spring areas would diminish degradation of	Habitats would continue to be threatened by increasing use. Wildlife populations may destabilize with the continued degradation of	The consequences would be similar to those of the Proposed Action.	Impacts from this alternative would not be beneficial. Degradation of physical habitat would result in a decease in

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Fish and Wildlife (Cont.)	physical habitat components. OHV limitations would reduce disturbance to wildlife during critical seasons and lower the vulnerability of game species during hunting seasons.	habitat components as a result of increased human activities. Allotment MUDs would be continued and modified if needed in the next reevaluation.		wildlife populations and possibly further listings under the Endangered Species Act. Wildlife populations would be adversely impacted by resource degradation and human activities.
Watershed and Riparian Areas	Spring areas would be protected from degradation. These areas would improve or at least be maintained. Habitats associated with riparian areas would benefit.	Adverse impacts to springs and to riparian areas would continue. Loss of vegetation, the spread of undesirable plants, the introduction of foreign materials and chemicals into spring systems, bank and soil destabilization would all continue to occur. Allotment MUDs would be continued and modified if needed in the next reevaluation.	Environmental consequences of this alternative would be the same as those of the Proposed Action.	Adverse impacts to riparian areas and springs would increase; the watershed health would suffer further aggravated degradation.

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Wild Horses and Burros	Impacts beneficial to wild horses and burros would occur. The decrease in human incursions related to OHV activity would decrease the habitat pressure of these animals. This would have an adverse impact on visitors wishing to view these animals but would also probably increase the number of animals to be seen. Management opportunities would also benefit from land acquisitions.	Adverse impacts to the physical habitat would continue and would probably increase with increased widespread recreational activities.	The environmental consequences of this alternative would be the same as those of the Proposed Action.	The consequences of this alternative would be similar to those of the No Action alternative. An anticipated increase in adverse impacts may be offset by a greater public awareness and accepted responsibility as a result of an expanded interpretation effort. Management opportunities would also benefit from land acquisitions.
Cultural	Impacts beneficial to cultural resources would occur. The establishment of an ACEC would provide these resources a greater level of protection from adverse impacts related to mining activity. VRM Class II standards would help preserve the integrity of the Applegate-Lassen trail viewshed.	An increase in adverse impacts would occur, largely as a result of an increase in recreational visitors. Increased monitoring and patrolling during permitted events and holiday weekends would reduce some of the site degradation that would occur as events and casual use increased in size, duration, and area.	Impacts beneficial to cultural resources would occur. Reclamation efforts, OHV use restrictions, and VRM Class I standards would preserve and restore the integrity of the viewshed. Indirect adverse impacts from permitted events would be avoided by the disallowance of these events.	Adverse impacts would occur as a result of increased visitation, land disposals, commercial and right-of-ways developments, OHV use, and 'VRM Class III designation. Beneficial impacts would occur as a result of resource interpretation and public concern and awareness. Further benefits could result from

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Cultural (Cont.)	Increased monitoring, patrolling, and interpretation efforts would reduce adverse impacts through public awareness and response. The conservation use of some sites would preserve scientific information for future inquiries. Proposed OHV limitations would help to preserve the Applegate-Lassen's Trail viewshed integrity and reduce sites threatened by continued and expanded OHV use. Site recordation and evaluation of sites would document important information and enable the BLM to focus protection efforts on threatened National Register eligible sites. The proposed restrictions on large-scale events may limit indirect adverse impacts.	Hot springs, camp sites, the integrity of the trail viewshed, and other cultural resources would be adversely impacted by unrestricted OHV use and the lack of toilets and use guidelines at springs. Limited public outreach efforts would continue to provide some beneficial impacts in the reduction and prevention of damage to cultural resources. The acquisition of private lands would benefit these resources. Land disposals could adversely impact the trail viewshed without attaching conservation easements or other protective covenants to the action. Current restrictions on the utility corridors would continue to protect the integrity of the trail setting.	Land acquisitions which included the viewshed or other cultural resources would result in beneficial impacts. Adverse impacts to the viewshed of the Applegate-Lassen Trail would be prohibited by restrictions on utility and communications development and by the locatable mineral withdrawal of 452,086 acres of public lands.	the acquisition of lands containing cultural resources, including portions of the viewshed. Geothermal development could adversely impact resources outside the No Surface Occupancy zone.

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Cultural (Cont.)				
	The acquisition of lands within the Applegate-Lassen viewshed would aid the BLM's effort to preserve the integrity its setting.	Current stipulations on geothermal leasing would continue to protect a corridor along the Applegate-Lassen Trail from development.		
	Mitigated impacts from land disposals within the viewshed would benefit cultural resources.	Geothermal drilling outside of this corridor could adversely affect the integrity of the trail setting. hot springs, associated campsites along the trails, and other resources.		
	Restrictions on utilities and communications development would preserve the integrity of the Applegate-Lassen Trail's viewshed.	A lack of inventory data would continue to impair monitoring efforts.		
	With the exception of the provisions for geothermal drilling outside of the No Surface Occupancy corridor, the impacts of the proposed Mineral program actions would be beneficial to cultural resources. Geothermal drilling could adversely impact historic hot springs and associated campsites along the trails.	Notice level mining activity (under five acres of disturbance) would continue to potentially adversely impact the trail's integrity of setting and other cultural resources.		
		Mineral developments and extraction could adversely impact the viewshed of the Applegate-Lassen Trail, the Trail itself, and other cultural resources.		

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Native American Concerns	Beneficial impacts would occur. Public education together with identification, monitoring, and patrolling of sites would provide protection from destructive acts. ACEC designation of 452,086 acres of public lands would afford Native American sites greater protection from notice level mining activity. VRM Class II standards, OHV use limitations, and efforts to protect springs would reduce degradation to sites important to Native Americans. Proposed restrictions on permitted events would limit adverse impacts to these sites also.	Adverse impacts would result from unrestricted OHV use, permitted recreation event size, a lack of use guidelines for springs, the lack of sanitation facilities, and limited public education and monitoring and patrolling efforts. Beneficial impacts would result from the acquisition of private lands containing sacred sites. Adverse impacts could result in land disposals made which result in the degradation or destruction of sacred sites.	Beneficial impacts similar to the would Proposed Action would result from this alternative. The more protective nature of this alternative would provide greater protection to sacred sites and other Native American concerns. Some adverse impacts would occur as a result of noncompliant OHV use and vandalism.	Impacts from recreation would be the same as under the No Action alternative with the exception of increased adverse impacts related to an increase in visitors. Beneficial impacts would result from the acquisition of private lands containing sacred sites. Adverse impacts could result from land exchanges which included sacred sites. Sacred sites and medicinal plants around springs could be adversely impacted by geothermal drilling.

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Native American Concerns (Cont.)	The acquisition of private lands including sacred sites would be a beneficial impact. Land disposals would be either beneficial or adverse impacts depending upon whether sacred sites or other resources suffered resultant degradation or destruction. Beneficial impacts would result from measures to avoid sites, reclamation, leasing stipulations, and mitigation by the Minerals program. Sacred sites and medicinal plants of springs could be adversely impacted by geothermal drilling.			

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Paleontology	Direct adverse impacts would decrease through efforts to preserve and protect fossil locales. Indirect adverse impacts from OHV use, increased visitor access and use, and surface disturbing activities would continue.	Adverse impacts related to vandalism and site degradation would continue. Otherwise, significant affects to these resources would not be anticipated.	Beneficial impacts to these resources would occur under this alternative. Adverse impacts would be minimized.	Adverse impacts would occur as a result of promoting fossil collecting: vandalism and unauthorized excavations for example. Beneficial impacts may occur as a result of increased amateur and professional inquiry.
Recreation	SRP management would reduce the indirect adverse impacts related to large-scale events. Public outreach efforts would reduce adverse impacts by successful promotion of low impact use and resource awareness. Cost recovery and other funding options would provide beneficial impacts to recreation management. The growth of large-scale events would be restricted by the adoption of Common Pool permit allocation	Baseline visitor data use collection, environmental education, and volunteer involvement would continue. Adverse impacts would continue unabated except by public response to an awareness of the resources at risk. Cost recovery and other funding options would provide beneficial impacts to recreation management. SRP events would grow in size and complexity, eventually reaching	Adverse impacts to recreational users would be widespread under this alternative. Hunters, campers, rock-hound, fossil collectors, hikers, and event sponsors and organizers, to mention but a few, would be impacted by the proposed limitations and restrictions in use and access. Adverse impacts would include noncompliant events and activity trespass. Beneficial impacts would occur as a result of operating a Visitor Center: increased public awareness and	Adverse impacts to the area's natural and cultural resources would be widespread as intensive, increased, unregulated visitor use occurred. Visitors desiring the conditions of a remote backcounty experience would be adversely impacted. SRP events and dispersed casual users would benefit from facility development and increased recreational opportunities.

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Recreation (Cont.)	The Limits of Acceptable Change study would establish key indicators of environmental change and acceptable levels of impacts. The growth and expansion of SRP events, the management of these events and casual dispersed use would be dependent upon the results of this study.	proportions unmanageable by the BLM alone. Visitors desiring a remote back-country experience would become adversely impacted as events and dispersed casual use increased	interpretation of resources. Beneficial impacts would occur as a result of preserving and maintaining the natural character of the area. A diversity of users would benefit from a healthy habitat and preserved cultural resources.	
	Beneficial impacts would occur as a result of establishing a permanent Visitor Services facility.	Beneficial impacts would occur as a result of operating a Visitor Contact Station.	Adverse impacts related to OHV use would decrease with growing compliance to travel limitations and restrictions.	Beneficial impacts would occur as a result of operating a Visitor Services facility.
	Increased visitor amenities and resource interpretation would enhance the experience of some visitors.	An increase in cross-county "destinationless" roads would occur as OHV activity increases.		
	Adverse impacts would occur to some OHV users as a result of travel limitations and restrictions.			

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Visual Resource Management (VRM)	Beneficial impacts would occur as a result of preserving the unique character and scenery of the area. Such benefits may include increased visitor interest, greater populations of wildlife, and the preservation of an accessible area for remote backcountry experiences. Adverse impacts would include decreasing the area's viability for industrial/commercial developments and access.	Adverse impacts which could alter the character of the area would probably occur.	Beneficial impacts would result in the preservation and maintenance of the area in its natural state. Recreational visitors, habitat and wildlife researchers, and cultural, Native American, and paleontological resources would benefit from protective measures. Commercial/industrial access and developments would be adversely impacted.	Adverse impacts that would alter the character of the area would occur.
Wilderness	Direct adverse impacts which threaten wilderness values would decrease. Some adverse impacts related to OHV use and surface disturbing activities would continue.	WSA resources would not be significantly affected by the continuation of current management policies. Adverse impacts to wilderness values would continue to occur with increase visitation to the area.	Wilderness values would benefit from the actions of this alternative.	Direct adverse impacts that threaten wilderness values would increase leading to a degradation of these resources.

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Minerals	The proposed management area encompasses a variety of mineral resources, including geothermal, precious opal, sand and gravel, and metallic and industrial minerals. Possible future development of these resources would be restricted as a result of mitigation and development measures required to maintain the integrity of the environment, especially with regard to the visual elements of the area. Mineral exploration and development activities within the ACEC would be required to operate under a Plan of Operations, this would include notice level activity. In addition, an EA and a reclamation bond would be required. These requirements would be beneficial to other resources within the plan area. However, the mitigation measures needed to operate within the scope	The consequences of this alternative are very similar to those of the Proposed Action with the following exceptions: Notice level activity would not be required to operate under a Plan of Operations, conduct a NEPA analysis, or post a bond. Mitigation levels would vary according to the VRM Class within which the project occurred. Possible future development of mineral resources would continue to be constrained by the current utility corridor.	Within the Black Rock Desert ACEC: 452,086 acres closed to the operation of the General Mining Law, subject to valid existing rights, mineral material disposals, and closed to fluid and non-energy mineral leasables. Mineral material sales and free use permits would continue to be authorized out of the Blue Pit.	Most of the consequences of this alternative would be the same as the No Action alternative with regards to locatable minerals. Locatable minerals actions would be manage the same as under the No Action except that mitigation and reclamation would have to meet VRM Class III standards. The No Surface Occupancy restriction on geothermal, oil and gas leasing would be removed from lands located one mile east of the Applegate-Lassen Trail to the crest of the Black Rock Range. Most of the planning area would continue to have leases issued with the No Surface Occupancy restriction.

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Minerals (Cont.)	of the management guidelines may constrain and limit the scope of operations to the extent that a resource may not be economical to extract or develop. Approved actions would include stipulations and mitigation measures that avoid adverse impacts to riparian, spring, and cultural resources as they relate to Native American concerns. Reclamation seed mixes would include native species and be certified weed free. Operators and permitees would be required to conduct activities so as to control, limit, and reduce the spread of noxious weeds. Beneficial impacts to the character of the area would result from the requirement to reclaim disturbances to VRM Class II standards.			

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Mineral (Cont.)	Long term mining, utilization, and exploitation operations of mineral resources would be required to maintain VRM Class II standards throughout the period of operations. Exploration operations are temporary and would not be required to maintain VRM Class II throughout the period of operations. However, any staging or mobile facilities would be required to be removed at the termination of each phase of the project. Utilities needed for large-scale mineral and geothermal operations would be limited to the existing and proposed corridors.			
Lands and Realty	Land tenure adjustments processed by the BLM would be limited to only land exchanges.	No change in impacts would result from the continuation of current management.	No public lands within the proposed planning area would be made available for disposal through sale or exchange.	Public lands within the planning area would be available for disposal through sale or exchange.

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Lands and Realty (Cont.)	Public land would not be made available for sale to the public and would not be sold under the R&PP, as amended, to state or local governments; and to qualified, nonprofit organizations. Limiting land tenure adjustments may affect BLM efforts to provide legal access to public lands and to consolidate land blocks. Adverse impacts to leases and permits would result from the requirement for the proposed activities to be minimal impact in nature. Leases would not be considered unless they met the visual resource requirements. Adverse impacts to all types and categories of linear utilities would result from the requirement to maintain underground transmission.		Limiting land tenure adjustments may affect BLM efforts to provide legal access to public lands and to consolidate land blocks. Exchanges would be limited to private lands located within the planning area and public lands located outside of it. Adverse impacts to leases and permits would result from the requirement for the proposed activities to be minimal impact in nature. Leases would not be considered unless they met the visual resource requirements. All utilities authorized within the plan area would be required to be underground and restricted to designated routes along established transportation and utility corridors.	The acquisition of easements and/or other private lands would continue to be pursued through donation or purchase. Permits and leases would continue to be issued as long as they were in compliance with visual resource requirements. All utilities authorized within the area would be in compliance with VRM Class III standards. All types and categories of linear utilities would be encouraged to stay within designated utility and transportation corridors; however, alternate routes outside of these corridors would be considered. This could result in buried facilities crossing the Black Rock Desert playa. Above ground facilities such as overhead utility lines would be permitted if they were subordinate to the existing

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Lands and Realty (Cont.)	Any proposed rights-of-way would not be considered unless they met the visual resource requirements.			character of the landscape.
Socio-Economic	Recreation: At the present time these constraints would affect only the Burning Man event. In the future, this event would be required to limit the number of participants and/or reduce the number of days scheduled for the event, or seek an alternate location. The future potential loss of 5,000 participants and up to 62,500 user days (or more if participation in this event should continue to grow) could reduce potential expenditures in the Gerlach-Empire area by up to $100,000 and in the Reno-Sparks area by up to $1 million. Should the organizers of the event decide to use an alternative location, all local expenditures deriving from	Based on forecasted population growth for the Reno-Sparks area, casual recreation visits may be expected to increase to about 24,000 visits by the year 2017. This would produce about 60,000 user days with associated expenditures estimated at about $1.6 million. Willingness-to-Pay value is estimated ate $1.1 million. Based upon the premise that a most conservative estimate of growth for SRP events would be at least equal to the expected increase in participation rates for casual-use, participation in SRP events (not including the Burning Man) should reach a minimum of 2,800 persons,	The elimination of all large-scale events would result in the immediate loss of an estimated $540,000 in annual recreation expenditures in the local area, plus the additional loss of $3 million that organizers of the Burning Man Festival estimate would be spent in the Reno-Sparks area. Restrictions on free travel and access for OHV recreation would result in fewer user days and reduced expenditures in the local area. Locatable Minerals: The potential for development of the commercial gold mining operation and the private opal mines would be effectively eliminated. All potential economic benefits would	While no specific estimates of potential recreation visitation are available,user days and expenditure levels associated with both casual use recreation and SRP events may be expected to expand well beyond those which are projected in the No Action alternative. Management costs are also likely to increase substantially. Eventually visitor-use fees may have to be collected to offset operational costs. Total Willingness-to-Pay values should also increase as a result of the increased numbers of recreational visitors. However,

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Socio-Economic (Cont.)	the event could be lost. However, if future Burning Man events were scheduled for 10,000 people for four user days, for a maximum of 40,000 user days, local and regional expenditures deriving from participation in this event could be expected to continue at estimated levels of about $200,000 in Gerlach -Empire, and $2 million in Reno-Sparks. Cost-recovery would ensure that federal expenditures necessitated for planning and managing large-scale events would be fully re-imbursed. It would also provide compensation for the costs imposed upon public health, public safety, law enforcement, and medical services provided by the counties. Casual recreation use, including OHV, would not be affected and would be expected to increase to	with about 13,000 user days, and generate about $309,000 in expenditures. The Burning Man Festival should increase to a minimum estimate of 17,000 people, for 51,000 to 119,000 user days. Local expenditures from this event may be expected at about $340,000 in Gerlach-Empire and about $ 3.4 million in Reno-Sparks. Locatable Minerals: The potential income derived from the development of three small opal mines could reach up to $25-30,000 per year. Local expenditures would probably remain small. Based on the probability of a hot-spring gold deposit it is estimated that one gold and silver mining	be foregone. Leasable Minerals: All possibility for the potential economic benefits of additional income and employment would be eliminated. Geothermal power plants would not be constructed and oil exploration would not occur. Saleable Minerals: Effects would essentially be the same as the Proposed Action. Except for the Blue Pit, mineral material pits within the area would be closed and pending authorizations would not be approved. Revenues from the sale of landscape and decorative rock would be lost. Lands and Realty: Economic effects under this alternative would be similar to those discussed in the Proposed Action. Economic effects would not be significant.	individual Willingness-to-Pay values would probably eventually decline as increased numbers of visitors and excessive use would diminish the quality of the individual recreation experience. Locatable Minerals: Economic effects would be the same as those discussed in the No Action alternative. Leasable Minerals: The likelihood of geothermal development and oil exploration would be increased. Saleable Minerals: No adverse economic effect would result. Lands and Realty: No adverse economic effect would result.

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Socio-Economic (Cont.)	levels discussed in the No Action alternative. Improved facilities, together with the proposed increase in publicity and the distribution of public information through the media and to schools and organizations, may have the effect of moderately encouraging casual recreation visitation beyond currently projected levels, with comparable growth in expenditures and income in the Gerlach-Empire area. Locatable Minerals: Both the small opal mines and the commercial gold mining operations would be subject to special stipulations and mitigation measures. These additional requirements could entail such sufficient extra costs and administrative burdens that exploration or development plans could be abandoned.	operation would occur. The mine would probably have an 8-year operating life. Local expenses for exploration field crews may be $200-300 per day. The total annual wages during the operation of the mine is estimated at $4.7 million with an additional $7.4 million generated in the Reno-Sparks area. Leasable Minerals: Two geothermal powerplants may be developed in the area. Should both of these operations come on-line there would be about $1.1 million in local salaries generated annually. The projects each have a predicted 20-30 year economic life. Very little, if any, direct local employment results from oil and gas exploration and development. Corporate expenditures incidental to exploration and development		

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Socio-Economic (Cont.)	These requirements could have a discouraging effect on smaller or high risk based operations. For larger operations, entailing major investment and the expected long-term returns, such additional costs are usually incidental, not prohibitive, and may be found to exist, in one form or another, in most mineral exploration and development areas. Leasable Minerals: Geothermal exploration and development, and oil exploration would be less likely to occur under this alternative. The application of special mitigation measures to protect the important values and resources of the ACEC could increase costs and discourage investment. The "No Surface Occupancy" restrictions would impose additional operating difficulties and increase costs in those areas where they are imposed	would contribute to local revenues. Saleable Minerals: This alternative would have no effect on current extraction and use of these commodities. Lands and Realty: No adverse economic effects.		

Table S-2 Summary of Impacts

Resource/ Program	The Proposed Action	Alternative One No Action	Alternative Two Resource Protection	Alternative Three Resource Use
Socio-Economic (Cont.)	Saleable Minerals: No significant economic impact is anticipated. Lands and Realty: The incidence of commercial activities are few and the majority of their local expenditures are probably only incidental. A major filming effort for a commercial motion picture, of course, would be quite another matter. Local expenditures in that case would be quite substantial. The stronger management presence proposed under this alternative would, to a degree, assure that the necessary fees for commercial use of the public lands are collected. At current costs, electricity provided by gasoline generators or solar panels is already more cost effective for rural power requirements.			

Chapter 1

CHAPTER 1

INTRODUCTION

PURPOSE AND NEED

The purpose of this plan amendment is to implement management goals and actions for BLM- administered lands in the Black Rock Desert region of Humboldt, Pershing, and Washoe Counties, Nevada. These goals and actions would address and manage the increasing recreational use on the largest dry lake bed, or playa, in North America, its peripheral edge areas (lake-plain terraces), and portions of the surrounding mountain ranges.

BACKGROUND

In recent years the Bureau of Land Management's (BLM) Winnemucca Field Office has been contacted by the public, local residents and visitors, who have expressed concerns over the increasing number of people coming to the Black Rock Desert region and the associated increasing adverse impacts upon the area's sensitive resources. Many BLM resource specialists have also expressed concerns over patterns of increased recreational uses. Concern for the area's unique landscape and resources has moved interested groups and individuals to propose special designations for parts of the region, including recommendations for Areas of Critical Environmental Concern (ACECs) and a National Conservation Area (NCA). Most of these proposals seek to protect National Historic Trail segments passing through the area, along with their viewsheds and integrity of setting. This plan amendment responds to the public interest to protect these resources, some of them unique and rare such as: National Historic Trail segments, hot springs, dune landscapes; irreplaceable, fragile cultural resources, and paleontological resources, in the face of increasing recreation pressures and casual use.
Visitor use data indicates that the observed recreational increase has its roots in the metropolitan growth of Reno, Nevada, about 110 miles away, Sacramento, California, about 240 miles distant, and the San Francisco Bay area, approximately 340 miles away. The increase in trend is attributed to the success of word-of-mouth advertising and media coverage associated with the growing popularity of unique events such as: land sailing, model rocketry, world land speed record attempts, and a large festival known as "Burning Man", that take place on the Black Rock Desert. The latter three events have utilized the Internet extensively to communicate with their respective publics. This medium has focused national and international attention on the Black Rock Desert region, especially since 1992. The residents of Gerlach, a town at the southern end of the playa, attest to the popularity of the region, reporting a nearly constant passage of visitors during the months when the playa is dry.

Another significant visitor activity is off-highway use, especially dirt bikes and all-terrain vehicles (ATVs or Quads). Nationwide, the popularity of recreation vehicles has increased greatly in the past decade. Motorcycles, dune buggies, ATVs, sport utility vehicles (SUVs), pickups, campers, and many passenger car models can all fit the

recreation vehicle classification. Instead of "off-road vehicles "(ORV), they are now known as "off-highway vehicles" (OHV), that is, any vehicle that can travel off improved roads. As OHV use increases, impacts upon the natural landscape escalate.

This land use plan amendment is not unique in addressing the impacts of OHV use. In Nevada, OHV use is currently a major issue in the Las Vegas Proposed Resource Management Plan, the subject of a land use plan amendment for desert tortoise recovery in Lincoln County and also in the Pine Nut Mountains urban interface area near Carson City. The proposed plan for the Black Rock Desert area would set in place goals and actions with increased emphasis on public use awareness. These would moderate and direct visitor use impacts before irreparable damage to, or loss of, public resources could occur.

History of the Black Rock Desert Management Plan Amendment Conception

The concept of a special designation for the Black Rock Desert dates to the 1960s, which was the late Dr. Bob Griffin and other members of Trails West, Inc., proposal to the National Park Service (NPS) that this area, together with the High Rock Canyon area, be declared a national monument. In the 1970s, the NPS sent an evaluation team to address the national monument proposal. The resources found there impressed the team; however, the NPS determined that the area did not contain national park qualities.

In 1982 the *Sonoma-Gerlach Management Framework Plan* (MFP) directed that a recreation management plan was to be completed for the Black Rock Desert Special Recreation Management Area. Recreation planners in 1982 were beginning to see the first indications and trends toward increased recreational use in the Black Rock Desert region.

On July 16, 1990, the BLM received a proposal from the High Rock/Black Rock Emigrant Trail Coalition to create a National Conservation Area (NCA) on 1,132,000 acres in northwestern Nevada. An NCA is an area of public lands designated by Congress to conserve resources of outstanding or exceptional national value. The California BLM's Susanville District Office, and Winnemucca District Office, Nevada, administered the public lands that would be affected. The Coalition members represented the Oregon-California Trails Association (OCTA), the Sierra Club, Public Resources Associates, the National Park and Conservation Association, the Nevada Wildlife Federation, Nevada Bighorn Unlimited, Nevada Historical Society, Trails West, and the Friends of Nevada Wilderness.

The coalition's proposal emphasized the preservation of the historic 1850s emigrant trail network (including the Applegate-Lassen Trail, Nobles Route, and Capt. John C. Fremont's exploration route) along with its associated viewshed, including such features as its wildlife, vegetation, isolation, and distant horizons.

In March 1993, the Winnemucca District Office, Nevada, and the Susanville District Office, California, prepared an *Interdistrict Management Summary* to consolidate into one document the current management policy and planned actions for the areas under consideration as an NCA.

By 1996 it was evident the NCA designation would not become a reality. In 1997 the BLM Winnemucca Field Office (formerly the Winnemucca District Office), made the decision to initiate a process which would amend the existing Sonoma-Gerlach and Paradise-Denio Management Framework Plans (MFPs) with a comprehensive management plan and environmental impact statement to resolve the issues associated with increased recreational uses of the Black Rock Desert area. It was also determined that the High Rock Canyon area, managed by California BLM's Surprise Resource Area Field Office (formerly the Susanville District Office) would be addressed under a separate plan.

During July and August of 1997, the BLM held public scoping meetings at three locations in Nevada (Gerlach, Lovelock, and Reno) and two in California (Sacramento and Cedarville). The BLM received nearly 800 comments and letters from these public meetings which addressed the management of the Black Rock Desert. A BLM interdisciplinary team was formed to analyze these comments, and from the analysis, potential alternatives were developed for a management plan.

LOCATION AND LAND STATUS

The proposed planning area encompasses portions of the west arm of the Black Rock Desert in northwestern Nevada and comprises approximately 452,086 acres of public lands administered by the Winnemucca Field Office within Humboldt, Pershing, and Washoe Counties, Nevada (**Figure One** -- Proposed Management Area). The proposed plan boundary was determined using a criteria of management objectives, identifiable geographic limits, and constraints on enforceability.

PLAN AMENDMENT PROCESS OVERVIEW

The land use planning process, as mandated by the Federal Land Policy and Management Act (FLPMA), requires the BLM to solicit and incorporate public input in the management of public lands, while still complying with the laws and policies established by Congress and the Executive branch of the federal government. Amendments to approved land use plans are developed using this same planning process, following these basic steps:

Identification of Issues

Issues drive the plan amendment process and suggest concerns that the BLM and the public may have regarding the management of specific resources in a planning area. An issue is an opportunity, conflict, or problem concerning the management of public lands and associated resources. Identification of issues orients the planning process so that interdisciplinary analysis and documentation are directed toward resolution of the issues. The public issues were categorized as follows (headings correspond to resource programs in which these issues are addressed):

RECREATION

1. Off-Highway Vehicle (OHV) use

2. Public access

3. Size and type of permitted events (recreational, commercial, special use)

4. Public safety

5. Scheduling of permitted events

6. Impacts to playa edge areas

7. Human health and sanitation

RECREATION, CULTURAL, AND NATIVE AMERICAN CONCERNS

8. Impacts to springs

CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

9. Cultural resources

VISUAL RESOURCES

10. Visual Resource Management (VRM)

Development of Planning Criteria

The BLM formulates planning criteria to guide the development of a land use plan amendment. The criteria are derived from laws, Executive Orders, regulations,planning principles, consultation with interest groups and the public, and available resource information for the area. The planning criteria for this amendment are as follows:

1. Comply with applicable laws, Executive Orders, and regulations.

2. Use a systematic, interdisciplinary approach to achieve integrated consideration of physical, biological, economic, social, and cultural aspects of public land management.

3. Weigh short and long-term benefits and detriments.

4. Coordinate BLM resource inventory, planning and management activities with the resource planning and management programs of other federal agencies, state and local governments, and Indian tribes, to the extent consistent with applicable laws.

5. Rely on available inventories and existing resource data in the planning area to reach sound management decisions.

6. Develop and implement management actions to accomplish the goals and objectives of the management plan, consistent with direction in the BLM's Recreation 2000 Policy Plan.

Inventory and Data Evaluation

Using the planning criteria and focusing on the management of the Black Rock Desert, BLM specialists reviewed and evaluated available data. These data included field examinations, published and unpublished studies, and consultations with individuals and staff from other agencies and organizations.

Analysis of the Management Situation

An analysis of the management situation is prepared to describe the condition and capabilities of resources within the planning area. The analysis provides the basis for developing and evaluating alternatives. The analysis of the management situation is herein incorporated into the draft plan amendment as the Affected Environment (**Chapter 3**) and the No Action Alternative, which represents continuation of present management.

Formulation of Alternatives

Based on the issues, planning criteria, and concerns raised during scoping, three alternatives, including the Proposed Action, were developed for consideration. The No Action Alternative is required by law and represents a continuation of present management. Each alternative must meet the purpose and need for action and address the issues while emphasizing different management.

Estimation of the Effects of Alternatives

In accordance with the National Environmental Policy Act (NEPA) of 1969, the physical, biological, social, and economic effects of implementing each alternative are estimated to allow for a comparative evaluation of impacts (**Chapter 3**). Site-specific environmental analyses would be prepared for projects and proposals that implement the management guidance contained in the approved Plan Amendment.

Selection of the Preferred Alternative

The Winnemucca Field Manager may recommend a Preferred Alternative to the Nevada State Director, based on the issues and information identified through the planning process, coordination and consultation with other entities, and the impact analyses of the alternatives. The Draft Plan Amendment and Environmental Impact Statement (EIS) is then distributed to the public, including other government agencies and interest groups, for a 120-day review and comment period.

Selection of the Proposed Plan Amendment

Following the public review and comment period, the Winnemucca Field Office Manager will recommend a Proposed Plan Amendment to the Nevada State Director. Based on an evaluation of the public comments, the BLM will select an alternative as analyzed or modify an alternative from the range of alternatives analyzed in the Draft Plan Amendment. The Proposed Plan Amendment/Final EIS will be filed with the Environmental Protection Agency (EPA) and distributed to the public for review.

Monitoring and Evaluation

Monitoring and evaluation, which are the keys to this plan, are conducted annually and at five year intervals for the plan amendment. These results will be used to determine the effectiveness of the plan amendment in achieving the desired results, to ensure that mitigation measures are satisfactory, and to discover whether there have been changes in related plans of other federal, state, or local governments. Any information gained would be incorporated into future planning, including other amendments or revisions to the Sonoma-Gerlach and Paradise-Denio Land Use Plans.

CONFORMANCE WITH THE LAND USE PLAN

The Proposed Action and alternatives, with the exception of the No Action alternative, would amend the existing land use plans (*Sonoma-Gerlach and Paradise-Denio MFPs*) by establishing goals, objectives, and management direction for the Black Rock Desert plan area which are not currently identified in the land use plans. Other than the changes proposed in the amendment, the Proposed Action and alternatives would be in conformance with the remainder of the decisions contained within the approved MFPs. Neither the Proposed Action nor any alternatives proposed in this plan amendment contain direction that is inconsistent with approved activity plans for the planning areas.

CONSISTENCY WITH OTHER PLANS

The Proposed Action and alternatives are consistent with the approved resource-related policies and programs of other federal agencies and the state of Nevada. Approved land use plans for adjacent federal administrative units include the Walker Resource Management Plan (RMP), Carson City Field Office, Nevada, and the Surprise Resource Area MFP, California.

The Proposed Action and alternatives are also consistent with the Washoe County Regional Open Space Plan, the Pershing County Land Use Ordinance, the Humboldt County Master Plan, and Section 3 of Senate Bill 40 - Nevada Statewide Policy Plan for Public Lands. These plans support the conservation of open space and protection of other natural and scenic resources from unreasonable impairment.

RELATIONSHIP TO STATUTES AND REGULATIONS

This Draft Plan Amendment complies with Sections 102 and 202 of the Federal Land Policy and Management Act (FLPMA) to manage public land through multiple use and sustained yield. Management direction for this plan amendment was also developed within the context of the BLM's Recreation 2000 Policy Plan. The Proposed Action and alternatives are also in accordance with applicable federal statutes and regulations, including, but not limited to, the Taylor Grazing Act, the Endangered Species Act (ESA), the Wild Free-Roaming Horse and Burro Act, the National Historic Preservation Act, the Clean Water Act, the Clean Air Act, the Wilderness Act, Congressional mandates, and Executive Orders.

Chapter 2

CHAPTER 2

THE PROPOSED ACTION AND ALTERNATIVES

INTRODUCTION

Based on public input, and through the established procedures of implementing regulations of the National Environmental Policy Act (40 CFR 1500 - 1508), the BLM proposes to establish management goals and actions that will maintain and improve recreational resources and will preserve and protect significant historic and prehistoric cultural resources, scenic landscapes, and traditional resources important to Native Americans within the proposed plan boundary.

ALTERNATIVES CONSIDERED IN THE PLAN AMENDMENT

The Proposed Action

The objective of the Proposed Action alternative is to manage recreation and other uses to minimize adverse impacts to cultural and natural resources in the proposed Black Rock Desert planning area while providing for compatible resource use and development opportunities.

The focus of the Proposed Action would be to establish an Area of Critical Environmental Concern (ACEC) encompassing the natural areas around the west arm of the Black Rock Desert, including the viewshed of the Applegate-Lassen Trail. This ACEC would comprise approximately 452,086 acres of public lands (the entire proposed planning area - -see **Figure 2**) and be based on the Relevance and Importance criteria associated with the unique character of the landscape, scenery and landform, and the cultural and historical resources located within the Applegate-Lassen Trail's viewshed. Management actions within the ACEC would be directed towards protection of fragile resources including portions of the National Historic Trail network and the edge areas of the Black Rock Desert playa.

Alternative 1 : The No Action Alternative - Continuation of Present Management

Under this alternative, management as directed under the approved *Sonoma-Gerlach* and *Paradise-Denio MFPs* and other approved activity plans would continue. The land use plans' objectives and directions have been maintained and updated to conform with current BLM regulations and policies.
No special management direction for large recurring recreational events or other consumptive uses in the Black Rock planning area would be developed. Under this alternative, the recommendation in the Approved Soldier Meadows Activity Plan (1998) to expand the Soldier Meadows ACEC would be carried forward (**Figure 2**).

The Soldier Meadows Activity Plan (SMAP) would establish an expanded Soldier Meadows ACEC from 307.22 acres to approximately 35,000 acres with a 3,500 acre

mineral withdrawal. The Soldier Meadows ACEC expansion is based on the Relevance and Importance criteria associated with the recovery and delisting of a federally-listed threatened fish species, the Desert Dace.

Alternative 2 : Maximum Resource Protection

The objective of this alternative is to preserve the natural and cultural resources of the proposed plan area in a pristine state, including key viewsheds of the National Historic Trail network. This alternative would limit and restrict uses allowable under current management. The focus of this alternative would be to establish an ACEC over the entire planning area, including portions of seven Wilderness Study Areas (WSAs) and to propose a mineral withdrawal for the entire proposed planning area: approximately 452,086 acres of public lands. Although the WSAs are managed in accordance with the *Interim Management Policy and Guidelines for Lands under Wilderness Review (*BLM Manual Handbook H-8550-1), this management direction is recommended in the event that these WSA lands are released by Congress from further wilderness consideration. This ACEC would therefore encompass up to 452,086 acres of public lands and be based on the Relevance and Importance criteria associated with the scenic values of the historic viewshed of the Applegate-Lassen National Historic Trail and associated historic routes.

The Soldier Meadows ACEC would no longer need to be expanded from 307.22 acres to approximately 35,000 acres nor would a 3,500 acre mineral withdrawal be necessary. Management direction for the Soldier Meadows area would continue to be provided by the Approved Soldier Meadows Activity Plan (1998) in conjunction with those of this alternative.

Alternative 3 : Maximum Resource Use

The objective of this alternative is to allow and promote maximum resource utilization and improvement within the planning area. This alternative would maximize the uses allowed on public lands within the planning area under current laws and regulations.

The Soldier Meadows ACEC would be expanded from 307.22 acres to approximately 35,000 acres with a 3,500 acre mineral withdrawal. Management direction for the existing Soldier Meadows ACEC would be provided by the Approved Soldier Meadows Activity Plan (1998).

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Public nominated ACECS in the vicinity of the Black Rock Planning Area

In July 1990, as a result of the Apex legislation (*Apex Project Nevada Land Transfer and Authorization Act of 1989*, P.L. 101-67, July 31, 1989), the BLM solicited nominations (Federal Register (FR) Vol. 55, No. 146, July 30, 1990) from the public for additional ACECs in Nevada which would be considered in future planning efforts. As a result of the 1990 solicitation, one nomination was received which is relevant to this planning

effort. In addition, a number of ACEC nominations have been proposed through the Nevada Outdoor Recreation Association (NORA) in the vicinity of the Black Rock Desert planning area in Humboldt and Pershing Counties. The public nominated ACECs in the immediate region are listed below:

Black Rock Desert Archaeological Area

This APEX legislation nomination was submitted by Intermountain Research (IMR) in 1990. The Archaeological District is located in both the east and west arms of the Black Rock Desert and is nominated for historic, prehistoric, and paleontological values.

This nomination meets the Relevance and Importance criteria for ACECs. The proposed planning area of this document comprises primarily the west arm of the Black Rock Desert. Much of the Black Rock Desert's east arm is currently managed as the Black Rock Desert WSA and provides management protection for these values. This nomination will be considered in this planning effort under the Proposed Action and Alternative 2 : Maximum Resource Protection, which includes the area encompassed by the nomination outside of the east arm of the Black Rock Desert.

The following ACEC proposals were nominated by NORA:

Soldier Meadows

This area was designated as an ACEC in *Sonoma-Gerlach MFP* in 1982 and is recommended for expansion in this plan under the incorporated SMAP.

Double Hot Springs

This area is located on private land and will not be evaluated further in this plan. The area surrounding the private land is considered for ACEC status under the Proposed Action and Alternative 2 : Maximum Resource Protection.

Hardin City

This historic site does not meet the Relevance and Importance criteria for ACEC status on its own; however, in context with the National Historic Trail network in the Black Rock Desert, the Hardin City property contributes to the values considered in the ACEC recommended under the Proposed Action and Alternative 2 : Maximum Resource Protection.

Applegate Cut-off Trail

This trail is a Congressionally designated National Historic Trail and is an issue of this plan amendment. The Applegate Cut-off Trail contributes to the values considered in the ACEC recommended under the Proposed Action and Alternative 2 : Maximum Resource Protection.

Pronghorn ACEC

In June 1998, an unsolicited nomination for a 1.1 million acre ACEC for Pronghorn Antelope was received simultaneously by BLM in Oregon, California, and Nevada. This proposed ACEC encompasses a portion of the northern end of the Black Rock planning area. Rather than evaluate the Pronghorn ACEC proposal in relation to this planning effort within the public lands administered by the Winnemucca Field Office, the Pronghorn ACEC proposal will be evaluated in its entirety over the portions of the three state area it encompasses. If all or portions of the proposal meets the Relevance and Importance criteria, the ACEC will be considered in the upcoming Lakeview RMP planning effort in Oregon (scheduled 1999). Any ACEC designation in Nevada resulting from that planning effort will further amend the Winnemucca Field Office land use plans, including this plan amendment.

MANAGEMENT GUIDANCE COMMON TO ALL ALTERNATIVES

This section describes resource management guidance that is applicable, and therefore, common to all of the alternatives. Continuing management guidance includes laws, Executive Orders, regulations, Memoranda of Understanding, Cooperative Agreements, Department of Interior manuals, BLM Instruction Memoranda, and other management practices and prescriptions that will not change or be proposed for change within this plan amendment.

The following resources will continue to be managed under valid existing management decisions contained in the approved land use plans. The environmental impacts of land use actions not specifically covered in this plan amendment will continue to be analyzed in site-specific documents as required by NEPA. Such analyses will be completed on a case-by-case basis. Proposed actions that are not in conformance with land use decisions in the approved land use plans may be modified, denied, or evaluated through the plan amendment process.

AIR QUALITY RESOURCES

All BLM and BLM-authorized activities will be managed to prevent air quality deterioration beyond the thresholds established by the Nevada Ambient Air Quality Standards. Mitigation measures will be developed on a project-specific basis through the NEPA and statutory or regulatory processes to reduce impacts on air quality.

SOIL AND WATER RESOURCE MANAGEMENT

Soil and water resources will continue to be evaluated on a case-by-case basis as part of project level planning. Such evaluation will consider potential project impacts and the sensitivity of the soil and water resources in the area. Stipulations will be attached, as appropriate, to ensure protection of these resources.

Soils

Soils will be managed to maintain the natural habitat of the area, or, where applicable, to improve rangeland productivity, and to minimize potential wind and water erosion. Soils data will be used in project planning, with mitigation measures developed through the NEPA process to prevent deterioration or degradation of the soils resource.

Water Resources

Water quality will be maintained or improved in accordance with applicable federal and state of Nevada standards. Consultations will be undertaken with state agencies for proposed projects that could significantly affect water quality.

NOXIOUS WEEDS

The Winnemucca Field Office strategy for noxious weed management is to prevent and control the spread of invasive and noxious weeds through local and regional cooperative efforts with all partners to ensure maintenance and restoration of healthy ecosystems on BLM-managed lands. Noxious weed control would be based on the principles of Integrated Weed Management which emphasizes prevention, education, detection, and quick control of small infestations.

The Federal Land Policy and Management Act (FLPMA) specifically directs that range betterment funds be expended for on-the-ground rehabilitation, protection, and improvement of rangelands which includes, but is not limited to, seeding, reseeding, fence construction, weed control, water development, and enhancement of fish and wildlife habitat.

Noxious weed control is currently being implemented through the BLM Nevada Weed Management Strategy, Winnemucca Field Office Annual Operating Plan, and Weed Prevention Schedule. The Winnemucca Field Office is actively involved in development of a Cooperative Agreement for weed control in Humboldt County with various federal, state, county, local government, businesses, and private individuals.

SPECIAL STATUS SPECIES MANAGEMENT

The BLM will continue to manage lands to meet the goals and objectives of any Recovery Plans and approved Habitat Management Plans (HMPs). Section 7 consultations with the U.S. Fish and Wildlife Service (USFWS) would continue to be conducted as required by applicable law. Monitoring of desert dace and Lahontan Trout populations will continue to be conducted, in cooperation with the USFWS and the Nevada Department of Wildlife (NDOW). Protection of sensitive species and their habitat will be considered in all BLM-authorized or initiated activities.

FISH AND WILDLIFE HABITAT MANAGEMENT

Fish and wildlife habitat management is provided by the BLM's Wildlife 2000, the Riparian-Wetlands Initiative for the 1990s, a Strategy for Future Waterfowl Habitat Management on Public Lands, Animal Inn, Watchable Wildlife, the Recreational Fisheries Program, the USFWS, and NDOW.

Predator control will be authorized, as required, through the Field Office Animal Control Plan, in coordination with the USFWS, NDOW, and the Animal and Plant Health Inspection Service of the U.S. Department of Agriculture. Protocols were formalized in an Interagency Memorandum of Understanding between the Department of the Interior-BLM and the Department of Agriculture in 1995 (60 FR 26045-48, 5-16-95).

LIVESTOCK AND GRAZING MANAGEMENT

Portions of five grazing allotments (Soldier Meadows, Leadville, Buffalo Hills, Seven Troughs, and the Blue Wing) occur within the proposed planning area (see **Figure 3**). All five allotments have Multiple Use Decisions (MUDs) that address specific rangeland issues. These allotments are monitored annually to insure compliance with the respective MUDs. Any future allotment re-evaluations will also incorporate the Standards for Rangeland Health as developed in consultation with the Sierra Front-Great Basin Resource Advisory Council (Appendix A), other publics, and approved by the Secretary of the Interior, February 12, 1997.

WILD HORSE AND BURRO MANAGEMENT

Portions of four Herd Management Areas (Black Rock Range-West, Calico Mountains, Lava Beds, and the Warm Springs Canyon) and one Herd Area (Selenite Range) occur within the proposed planning area (see **Figure 3**). Management objectives and the Appropriate Management Level (AML) for wild horses and burros were established by the Full Force and Effect MUDs for Blue Wing/Seven Troughs, Buffalo Hills, Leadville, and Soldier Meadows Allotments .

Wild horses and burros that establish home ranges beyond the boundaries of an HMA will continue to be removed. Wild horses and burros will continue to be removed from private lands after a request from the private landowner is made and reasonable efforts to keep the animals off private lands have failed.

CULTURAL AND PALEONTOLOGICAL RESOURCES MANAGEMENT

Cultural resources will continue to be managed to evaluate, conserve, and interpret the full array of archeological, historical, and socio-cultural values in the planning area. Federal laws, such as the Antiquities Act of 1906, National Historic Preservation Act of 1966, the Archeological Resource Protection Act of 1979, as amended, the American Indian Religious Freedom Act of 1978, as amended, and the Native American Graves Protection and Repatriation Act provide for the protection and management of these resources.

These laws are implemented through federal regulations, Programmatic Agreements, and BLM Manual guidance.

A Tri-State/District agreement between the Susanville (California), Lakeview (Oregon), and Winnemucca (Nevada) Field Offices facilitates communication and cooperative efforts to manage and protect cultural resources in these three adjacent districts. The National Park Service has prepared a *Draft Comprehensive Management and Use Plan and Environmental Impact Statement: California and Pony Express National Historic Trails.* This plan includes recommendations for the Applegate-Lassen Trail.

Native American Concerns

Traditional cultural properties identified by Native American tribal governments will be managed for traditional use.

Interested Native American tribes would be consulted to identify sensitive areas which require special protection. These areas will be managed on an equal footing with sensitive archeological sites, including monitoring and protection measures. Native Americans will be consulted in all authorized actions which may impact areas of Native American concern. Cultural information identified as relevant by interested Native American tribes will be incorporated into public education and interpretive materials. Sacred sites which Native Americans have identified to the BLM will remain open for Native American traditional and religious use.

Reclamation efforts will consider revegetation of native plants: including medicinal plants used by Native Americans, particularly in the vicinity of springs and riparian areas.

Cultural Resources

Cultural resource inventories to identify cultural resource sites and evaluate National Register eligibility and effects, as-well-as consultation with the Nevada State Historic Preservation Office (SHPO), will be undertaken for all authorized actions (including implementation of management plan proposals involving surface disturbance) in accordance with Section 106 of the National Historic Preservation Act (NHPA) and the Programmatic Agreement between the Nevada BLM, and the Advisory Council on Historic Preservation.

A one-mile wide corridor along the Applegate-Lassen Trail will continue to be listed on the National Register of Historic Places. Effects of federally authorized actions on National Register values of the Applegate-Lassen Trail and other National Register eligible sites will continue to be considered as required by Section 106 of NHPA. This will include impacts on the integrity of setting of the Applegate-Lassen Trail.

Cultural materials on public lands are prohibited from collection or excavation without a BLM permit under the Archeological Resource Protection Act of 1979 (ARPA) and other laws and regulations. Unauthorized collection, excavation, or damage of cultural sites is a

prosecutable offense subject to citations and/or misdemeanor and felony penalties. Cultural resource protection laws and regulations will be enforced.

In accordance with BLM Manual 8110 cultural resources must be categorized according to their potential uses. The following use categories are identified:

A. Scientific Use. This category applies to any cultural property determined to be available for consideration as the subject of scientific or historical study at the present time, using currently available research techniques. Study includes methods that would result in the property's physical alteration or destruction. This category applies almost entirely to prehistoric and historic archaeological properties where the method of use is generally archaeological excavation, controlled surface collection, and/or controlled recordation (data recovery). Recommendations to allocate individual properties to this use must be based on documentation of the kinds of data the property is thought to contain and the data's importance for pursuing specified research topics. Properties in this category need not be conserved in the face of a research or data recovery (mitigation) proposal that would make adequate and appropriate use of the property's research importance.

B. Conservation for Future Use. This category is reserved for any unusual cultural property which, because of scarcity, a research potential that surpasses the current state of the art, singular historic importance, cultural importance, architectural interest, or comparable reasons, is not currently available for consideration as the subject of scientific or historical study that would result in its physical alteration. A cultural property included in this category is deemed worthy of segregation from all other land or resource uses, including cultural resource uses, that would threaten the maintenance of its present condition or setting, as pertinent, and will remain in this use category until specified provisions are met in the future.

C. Traditional Use. This category is to be applied to any cultural resource known to be perceived by a specified social and/or cultural group as important in maintaining the cultural identity, heritage, or well-being of the group. Cultural properties assigned to this category are to be managed in ways that recognize the importance ascribed to them and seek to accommodate their continuing traditional use.

D. Public use. This category may be applied to any cultural property found to be appropriate for use as an interpretive exhibit in place or for related educational and recreational uses by members of the general public. The category may also be applied to buildings suitable for continued use or adaptive use, for example, as staff housing or administrative facilities at a visitor contact or interpretive site or as shelter along a cross-country ski trail.

E. Experimental Use. This category may be applied to a cultural property judged well-suited for controlled experimental study to be conducted by BLM or others concerned with the techniques of managing cultural properties, which would result in the property's alteration, possibly including loss of integrity and destruction of physical elements. Committing cultural properties or the data they contain to loss must be justified

in terms of specific information that would be gained and how it would aid in the management of other cultural properties. Experimental study should aim toward understanding the kinds and rates of natural or human-caused deterioration, testing the effectiveness of protection measures, or developing new research or interpretation methods and similar kinds of practical management information. It should not be applied to cultural properties with strong research potential, traditional cultural importance, or good public use potential if it would significantly diminish those uses.

F. Discharged from Management. This category is assigned to cultural properties that have no remaining identifiable use. Most often these are prehistoric and historic archaeological properties, such as small surface scatters of artifacts or debris whose limited research potential is effectively exhausted as soon as they have been documented. Also, more complex archaeological properties that have had their salient information collected and preserved through mitigation or research may be discharged from management, as should cultural properties destroyed by any natural event or human activity. Properties discharged from management remain in the inventory, but they are removed from further management attention and do not constrain other land uses. Particular classes of unrecorded cultural properties may be named and described in advance as dischargeable upon documentation, but specific cultural properties must be inspected in the field and recorded before they may be discharged from management.

Paleontological Resources

Paleontological resources will continue to be managed to prioritize research needs, facilitate educational and recreational needs, and protect significant sites. Nothing in the proposed management area qualifies for special designations such as registry with the U.S. Geological Survey,
National Historical Landmarks, or National Park Service National Natural Landmarks

The potential for, and significance of, paleontological resources will be considered in the land use planning and application process. The potential for paleontological resources in the proposed management area is represented by the occurrence of sedimentary and some predominantly volcanic units containing interbedded sedimentary material which have documented occurrences of fossils, either in the plan area or adjacent areas containing the same stratigraphic units. Firby (1995) presents the following guidelines in determining potential:

1. the presence of fossil material recorded in the literature within the area,

2. the presence of fossils elsewhere within a stratigraphic unit mapped or recorded as present within the project area, and

3. the favorability of a stratigraphic unit to contain fossil material based on its assumed depositional environment.

High potential formations will be inventoried to identify resources which may be impacted by the proposed land use.

RECREATION MANAGEMENT

Title 43 CFR, Subchapter H - Recreation Programs, provides for general recreation management on public lands administered by the BLM. Revisions, when necessary, are published in the Federal Register. Both *Title 43 CFR* and the *Federal Register* are consulted for regulatory guidance pertaining to recreation management on all public lands: Part 8340 - Off Road Vehicles; Part 8350 - Management Areas; Part 8360 - Visitor Services (includes Closures & Restrictions, Rules of Conduct - public health and safety, property and resources, state and local law applications); Part 8370 - Use Authorizations; Part 8372 - Special Recreation Permits, Other Than on Developed Recreation Sites; Part 9260 - Law Enforcement. The Black Rock Desert Management Plan would provide management guidance not specifically covered in *Title 43 CFR*.

VISUAL RESOURCE MANAGEMENT

As a result of the Winnemucca District decision, made November 15, 1980, to designate WSAs, all Winnemucca District WSAs are managed under the Wilderness IMP to maintain "a natural environment essentially unaltered by man." BLM manual H-8410-1 requires a VRM Class I designation for all WSAs.

The BLM initiated visual resource management to manage landscape quality by reducing visual resource impacts resulting from development activities while maintaining the effectiveness of all BLM resource programs. In determining visual resource management class designations, the inventory process considers landscape scenic values, viewer sensitivity to surrounding scenery, and the viewer distance in relation to the subject landscape. These management classes (Table 2-1) identify various permissible levels of landscape alteration, while protecting overall regional scenic quality. Management classes are broken down into four levels (Classes I to IV), with Class I designated the most protective. Class objectives range from very limited management activity (Class I) to activity allowing major landscape modifications (Class IV).

Visual analyses would be based on one or more of 21 Key Observation Points (KOPs), whose locations will be fixed by Global Positioning System readings (GPSed) at prominent overlook-type localities throughout the proposed management area.

KOPs are physically locatable positions, usually along major access roads into a subject area (**Figure 4**). From each KOP, the observer analyzes scenic quality in relation to foreground, middle-ground, and background views.

Table 2-1, BLM Visual Resource Management Classes	
Class	Description
I	Objective: Preserve existing landscape character. This class provides for natural ecological changes. It does not, however, preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
II	Objective: Retain existing landscape character. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract a casual observer's attention. Any changes must repeat the basic elements of line, form, color and texture found in the predominant natural features of the characteristic landscape.
III	Objective: Partially retain existing landscape character. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate a casual observer's view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
IV	Objective: Provide for management activities which require major modification of the existing landscape character. The level of change to the characteristic landscape can be high. Management activities may dominate the view and be the major focus of viewer attention. Every attempt, however, should be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements.

WILDERNESS STUDY AREAS MANAGEMENT

All actions on lands under wilderness review will be processed in accordance with the BLM Manual H-8550-1, entitled *Interim Management Policy for Lands under Wilderness Review* (IMP), until Congress either designates those lands as Wilderness Areas or releases them for other uses. Should areas be released from wilderness consideration, management direction contained in this plan amendment would apply to these areas located within the proposed plan boundary.

Portions of seven Wilderness Study Areas occur within the proposed plan area: East Fork High Rock Canyon, High Rock Lake, Little High Rock Canyon, North Black Rock Range, Pahute (aka: Paiute) Peak, Calico Mountains, and Selenite Mountains (see **Figure 5**). As required by Section 603(c) of FLPMA, BLM must manage all WSAs so as not to impair their suitability for preservation as wilderness.

Pending Congressional disposition of WSAs, the Winnemucca Field Office WSAs are classified as VRM Class I and are managed according to VRM Class I management objectives: maintaining a natural environment essentially unaltered by humans.

MINERAL RESOURCE MANAGEMENT

Locatable Minerals

Disposal of locatable minerals is not a discretionary action for the BLM. With the exception of Alternative 2, Maximum Resource Protection, all public lands within the plan boundary are open to location of mining claims under the authority of the 1872 Mining Law. Lands located outside the WSA's are managed under the authority of 43 CFR 3809 Surface Management Regulations. Lands located within the WSA's are managed under authority of 43 CFR 3802 Explorations and Mining, Wilderness Review Program Regulations, and the Manual Handbook H-8550-1, *Interim Management Policy and Guidelines for Lands under Wilderness Review.*

Leasable Minerals

The leasing and development of these minerals is a discretionary action for the BLM. Geothermal leasing and development is conducted under the authority of the 1970 Geothermal Steam Act and regulations contained in 43 CFR 3200. Oil and gas leasing and development is conducted under the authority of the Mineral Leasing Act of February 25, 1920, as amended, and regulations contained in 43 CFR 3100. Sodium and potassium leasing and development is conducted under the authority of the Mineral Leasing Act of 1920, as amended, and the regulations contained at 43 CFR 3500. Lands which are under wilderness review are managed by BLM Manual Handbook H-8550-1. No new leases may be issued on lands under wilderness review.

Saleable Minerals

The disposal of these minerals is discretionary action for the BLM. Mineral material disposals are conducted under the authority of the Materials Act of July 31, 1947, as amended, and regulations at 43 CFR 3600. Material site right-of-ways are granted to Nevada Department of Transportation under Title V of FLPMA and Title 23, Section 317 U.S.C. Mineral material disposals are not permitted in wilderness study areas or, when designated, wilderness areas.

HAZARDOUS MATERIAL MANAGEMENT

Public lands will be kept free from unauthorized hazardous materials generation, storage, disposal, and transport.

Cleanup actions, other than emergency removals, will be consistent with the management objectives and actions in the approved Plan Amendment. All cleanups will be conducted in compliance with the requirements of the National Contingency Plan. The BLM will continue to clean up unauthorized dumps and other nuisance conditions consistent with funding and other workload priority commitments.

FIRE MANAGEMENT

Fire management activities will continue to conform to BLM directives in the application of appropriate levels of suppression to protect and enhance resource values.

LAW ENFORCEMENT

The BLM will continue to provide law enforcement to ensure compliance with regulations.

SOLDIER MEADOWS ACTIVITY PLAN

In 1998, the Soldier Meadows Activity Plan (SMAP) and Environmental Assessment was approved. The SMAP recommends expansion of the existing Soldier Meadows ACEC from 307.22 acres to approximately 35,000 acres, including a 3,500 acre mineral withdrawal (**Figure 2**). Since ACECs must be designated through the BLM's planning process, this recommendation will be considered in this planning effort. The Soldier Meadows Activity Plan and EA are herein incorporated by reference. The Soldier Meadows Activity Plan is a feature of all alternatives.

THE PROPOSED ACTION

This alternative would recommend the entire proposed planning area be designated an ACEC, the Black Rock Desert ACEC. The management prescriptions of the Proposed Action would become the means of providing special management attention.

Objective:

The objective is to amend the land use plans (*Sonoma-Gerlach and Paradise-Denio MFPs*) in order to minimize adverse impacts to cultural and natural resources in the proposed Black Rock Desert Management Area, within the context of continuing multiple use management, in conjunction with efforts to ascertain and document the cause(s), nature(s), and trend(s) of these impacts. This alternative contains four major components: 1) recommended designation of an ACEC with associated management prescriptions; 2) cultural resources and Native American concerns; 3) increased attention to recreational use; and 4) maintenance of the unique visual landscape of the Black Rock Desert's western arm.

One ACEC would be recommended for designation and managed primarily to maintain the integrity of the scenic landscapes. This ACEC, the Black Rock Desert ACEC, would encompass all public lands lying within the proposed management boundary, approximately 452,086 acres (**Figure 2**). BLM-permitted events and casual recreational use are occurring within the scenic and unique landscape of the west arm of the Black Rock Desert, which itself is imprinted with important historic and prehistoric cultural resources and traditional resources important to Native Americans. Management direction is proposed to address the growing recreational use of this area of the Black Rock Desert. The Soldier Meadows Activity Plan (SMAP) would be incorporated into the management direction and goals for the Black Rock Desert ACEC. The SMAP management prescriptions address the recovery of a federally-listed threatened fish species, Desert Dace (*Eremichthys acros*), its hot springs habitat, and cultural resources, all in the vicinity of Soldier Meadows. These management goals and prescriptions are consistent with the objectives and goals of this proposed plan amendment. **Appendix B** describes the relevance and importance criteria met by the proposed ACEC with other resource values of the area.

The following description of the Proposed Action includes only those programs or resources for which new management objectives or direction are proposed; all other decisions from the approved land use plans would remain valid.

SPECIAL MANAGEMENT AREAS:

The Proposed Action would recommend the designation of an ACEC within Humboldt, Pershing, and Washoe Counties, Nevada, with a total acreage of approximately 452,086 acres. The proposed ACEC would be contiguous with some Special Management Areas (SMAs) and overlay other SMAs, currently designated within, or adjacent to, the proposed planning area. Special Management Areas falling within, or adjacent to, the proposed

ACEC are: the Soldier Meadows ACEC (entirely within the proposed plan boundary); portions of seven WSAs; and the border of the High Rock Canyon ACEC, under the management of the BLM's Surprise Resource Area, California (see **Figure 5**). **Appendix B** describes the other resource values of the area, as well as the relevance and importance criteria met by the proposed ACEC.

Black Rock Desert ACEC:

The west arm of the Black Rock Desert contains exceptional prehistoric, historic, cultural, and scenic values. The Black Rock Desert playa, with its lake-plain terrace margins, is part of the largest dry lake bed in North America: a unique vast landform which forms the focus of a scenic landscape. Within the proposed ACEC are over 110,000 acres of WSA lands, comprising nearly one-fourth of the proposed planning area. Through this landscape pass segments of the National Historic Trail System: the Applegate-Lassen Trail, the Nobles Route, and the John Fremont Exploration Route. The Applegate-Lassen Trail, a cut-off from the California Emigrant Trail, is listed on the National Register of Historic Places. Its integrity of setting was a primary qualifying characteristic for listing. In addition to the historic trails, the region is known to have prehistoric sites which display aboriginal use of the area. The environment has the potential for discovery of Western Pluvial Lakes Tradition sites, which are some of the earliest human occupations in the Great Basin.
Acreage: 452,086
Figure 2

PROPOSED ACTION MANAGEMENT DIRECTION:

CULTURAL RESOURCES

Objective: Protect emigrant trails and setting of the Applegate-Lassen Trail while allowing recreation and other uses.

Action: Manage Applegate-Lassen Trail viewshed to VRM Class II standards

Management Prescriptions: Discretionary actions would meet VRM Class II standards or not be allowed. Non-discretionary actions would be mitigated to VRM Class II standards.

Action: Discretionary actions which would cause long term significant adverse impacts to non-visual (i.e. noise, odor, etc.) elements of the setting of the Applegate-Lassen Trail would not be allowed. Non-discretionary actions would be mitigated to avoid such long term adverse affects.

Action: The Nobles Route would be managed as a National Register eligible district with contributing elements.

Management Prescription: Intact traces and camp sites of the Nobles Route would be considered

contributing elements. Other portions of the route would be considered non-contributing elements. Disturbances to intact traces, including vehicular travel, would not be allowed. Travel would be allowed on non-contributing segments of the Nobles Route.

Action: Disturbances to intact traces of the Applegate-Lassen Trail, including motorized and nonmotorized vehicular traffic, would not be allowed.

Objective: Provide for the education and enjoyment of the public while maintaining the integrity of setting of the Applegate-Lassen Trail.

Action: The following historic sites and routes would be managed for public use: The Applegate-Lassen Trail, Nobles Route, Fremont Route and campsites along these routes as well as Hardin City, and the Lassen Clapper Murder site. Other historic sites would be evaluated for public use as they are identified.

Management Prescriptions: The above trails, routes, and sites would be interpreted through non-intrusive interpretive methods not exceeding VRM Class II standards.

Interpret trails, campsites along trails, and other historic sites through use of brochures, audio tapes, and/or interpretive broadcast stations. Some general information would also be provided through kiosks.

Brochures would be available at the Visitor Contact Station (in Gerlach), kiosks, the Winnemucca Field Office, and other locations to be identified.

Enter into a cooperative agreement with OCTA and other interested persons/organizations for historic trail interpretation.

Action: Manage Hardin City for public use.

Management Prescription: Prepare and implement treatment plan for the site. Pursue alternative funding sources for implementation of treatment plan and/or seek cooperative agreements.

Implement a signing program to discourage metal detecting and for positive protective signs at site.

Interpret the site using non-intrusive interpretive methods.

Action: Provide general information on the prehistory, history, and paleoenvironment to the public.

Management Prescriptions: Prepare brochures which provide a summary of pertinent information. Brochures would be available at a Visitor Contact Station, kiosks, and Winnemucca Field Office. Include a brief summary of this information on kiosks.

Action: Designate appropriate prehistoric sites for public use.

Management Prescriptions: Prehistoric sites, which are well known and/or have been heavily impacted by unauthorized collection, excavation, or other activities, would be considered for public use. A representative sample of the various site types in the planning area would be considered for public use management. Sites would be interpreted utilizing non-intrusive interpretive means. The damage to cultural resources caused by unauthorized collection/excavation and other forms of vandalism would be emphasized. Before the sites were interpreted to the public, remaining portions of sites would be recorded and mitigated.

Action: Designate appropriate rock art sites for public use.

Management Prescriptions: Rock art sites which are well known to the public would be considered appropriate for public use management. Fully record all rock art sites. Rock art sites managed for public use would be interpreted utilizing signing, brochures, and/or self-guided or docent led tours.

Objective: Provide research opportunities while preserving a representative sample of sites for future study.

Action: Manage appropriate prehistoric rock shelters, occupation sites, quarry sites, hunting blinds, lithic scatters, pebble mounds, rock art sites, and historic sites for scientific use.

Management Prescription: Actively encourage researchers to pursue studies in the Black Rock Desert Plan area. Seek cooperative agreements, funding for cost/share projects, and contracts.

Action: Manage appropriate prehistoric rock shelters, occupation sites, quarry sites, hunting blinds, lithic scatters, pebble mounds, rock art sites, and historic sites for conservation use.

Further protection for cultural sites and the Applegate-Lassen Trail viewshed would be provided under the proposed Lands and Realty, Minerals, Recreation, and Visual Resources actions.

Objective: Identify, record, and evaluate plan area archeological sites for management purposes.

Action: Record and evaluate known cultural sites.

Management Prescriptions: Record and assign known sites to the following use categories: scientific use, conservation for future use, traditional use, public use, and experimental use in accordance with BLM Manual 8110. Sites currently being adversely impacted by recreation, unauthorized collection/excavation, or other uses would be prioritized for evaluation. Sites would also be evaluated for National Register eligibility. Measures such as public education, OHV closures, monitoring and patrol activities, and

data retrieval would be considered for cultural sites which are being adversely impacted by casual use and/or unauthorized collection/excavation and vandalism.

Action: Inventory cultural resource sites in the plan area.

Management Prescriptions: Develop research design and sampling strategy for the plan area. Assign sites to use categories (see above). Evaluate sites for National Register eligibility.

Objective: Protect cultural resources.

Action: Post positive protective signs at appropriate cultural resource sites.

Action: Patrol cultural resource sites during heavy use periods.

Management Prescription: Increase the presence of BLM law enforcement and resource personnel and volunteers for monitoring.

Action: Include protective messages in interpretive and educational material.

NATIVE AMERICAN CONCERNS

Objective: Manage uses and resources to provide full consideration of Native American traditional and cultural concerns in activity planning and the land use approval process.

Action: Involve tribes in cooperative management of traditional cultural properties identified by Native Americans

Management Prescriptions: Negotiate cooperative management agreements with tribal governments that allow tribes an active role in land use planning efforts and the land use application review process.

Action: Negotiate with tribes to develop and implement a cultural resource data sharing agreement that allows tribes access to archaeological and historic site records protected by ARPA.

Objective: Manage land uses so as to limit adverse impacts to traditional cultural properties important to Native Americans.

Action: Traditional cultural properties identified by Native Americans and their appropriate environmental setting will be managed to conform with VRM Class II standards.

Management Prescription: Discretionary land uses, except for Native American traditional uses, would be permitted if they conform to VRM Class II standards and denied if they do not. Non-discretionary land uses will be mitigated as much as necessary so as to make them conform to VRM Class II standards.

PALEONTOLOGY

Objective: Assign paleontological locales to appropriate Use Categories - Scientific Use, Conservation for Future Use, Traditional Use, Public Use, or Experimental Use.

Action: Evaluate known paleontological locations for scientific and educational significance.

Action: When new localities are discovered, evaluate them for significance.

Action: Paleontological inventories would be required for large surface disturbing projects in sensitive areas.

Management Prescription: Develop cooperative agreements with professional and/or professionally supervised amateur volunteer groups to inventory, record locales, and make evaluations.

RECREATION

Systematic visitor use data collection and related documentation of adverse impacts to Black Rock Desert natural and cultural resources began a little over one year ago. More time, however, is required to establish photomonitor and visitor use trends. Some data on recreational visitor increase trends exist from the Recreation Management Information System (RMIS). Both public perception and BLM resource specialists' judgments agree that increased recreational pressure on fragile resources is occurring. Controversy arises over such issues as the resiliency and durability of the playa, edge areas and springs; an agreeable public value for scenic, cultural, and paleontological resources; human impacts to wildlife and habitat; event scale, duration, control and residual effects.

In order to adequately analyze the adverse impacts of increasing recreational activities, it is necessary to establish a base-line reference. For the purposes of recreational analysis, the visitor activity and use data of 1997 for permitted events and dispersed use, would be used as a base-line reference. This data, in conjunction with proactive measures to meet this alternative's goals, would provide a means to adequately document and monitor landform and resource adverse impacts. The data obtained would enable a comprehensive analysis to be undertaken during plan implementation and maintenance phases. Current issues requiring clarification include short-term, long-term, and cumulative effects of large scale events (as defined below), and of casual or dispersed use, including off-highway vehicles (OHVs). The following proposed management direction would address recreational uses within the proposed Black Rock Desert management area under this alternative:

Special Recreation Permit Management

Given increased applications for Special Recreation Permits (SRPs) and due to intensive and/or large-scale events, a concern exists that these activities may adversely impact sensitive resources to the point of non-recovery. In order to ascertain the impacts of

SRPs, the 1997 use levels would be used as a base-line reference to assess and monitor impacts. To establish an equitable method of permit allocation for SRP issuance for activities within the area of the proposed management plan, the following management direction would be undertaken.

Objective: Continue to issue Special Recreation Permits under guidelines contained in BLM Handbook H-8372-1, 43 CFR 8370 and, when finalized, the Draft User Guide and Policy.

Action: During permitted events the *Winnemucca District Operations Plan for Recreational Events* would be in effect.

Objective: Utilize a Common Pool permit allocation system to hold permitted use at a base-line level of 50,000 User Days annually (A User Day is a calendar day (43 CFR8372.0-5(h)); it would be all or part of a 24-hour period.), in conjunction with defined parameters for large-scale events.

Action: Establish Common Pool permit allocation.

Management prescriptions: Special Recreation Permits would be allocated using the Common Pool methodology for all events on an annual basis. The base is established using actual use data which occurred in 1997. Permit applicants not utilizing their allocation within set time frames would forfeit that time back to the common pool.

50,000 twenty-four-hour User Days would be used as a baseline along with additional factors based on past data collection, to determine a method of evaluating the permitted and casual use. Applications of data shall be applied to Limits of Acceptable Change Study.

The Common Pool permit allocation system would be modified in response to carrying capacity results from the current on-going Limits of Acceptable Change (LAC) study, consisting of photomonitoring, visitor use data collection and Recreation Opportunity Spectrum (ROS) determinations.

Objective: Limits of Acceptable Change would be used to evaluate and monitor the planning area in order to determine when, where, and to what degree "management prescriptions" would be implemented.

Action: The LAC study would continue for three to five years upon plan completion to determine visitor use and impact growth trends.

Management prescription: If the LAC study determines the existence of definable, permanent, adverse impacts, ongoing or resulting from Common Pool, other methods of permit allocation, such as: lottery, historical use, and a competitive system would be considered for implementation. (BLM Handbook H-8372-1).

Action: Large-scale events permitted under SRPs would be defined if the event includes one or more of the following:

1. Over 4,500 people.
2. Over five square miles required for an event.
3. Linear area longer than four miles.
4. Rocket launches exceeding 10 miles altitude.
5.. Requirement of extended closure(s) beyond three days.
6. Over 40 hours staff time needed to process permit.
7. Events in which 25 or more vehicles participate.
8. Duration exceeding one week.

Management prescription: Permitted large-scale events would be limited to eight-five percent of the Common Pool.

These large-scale events would be limited to 10,000 people per event within a fiscal year.

Large scale-events would be restricted to designated locations on the playa.

Objective: Ensure compliance with permit stipulations and agreements on all SRPs.

Action: BLM law enforcement presence would be required for all large-scale events on a daily basis to monitor compliance, officially represent BLM, and to render assistance.

Management prescription: If BLM law enforcement is not available, such events may be disallowed.

Objective: To provide for visitor safety and environmental protection, manage SRPs in concurrence with appropriate entities, laws, and regulations.

Action: All SRPs within the proposed management area would be subject to applicable federal, state and county permits and other requirements stipulated by law, ordinance, or regulation (food vending license, temporary water rights, and appropriate altitude waivers).

Unless authorized by the Field Manager, SRP events would be prohibited from removing natural resources within the proposed management area.

Objective: Place the burden of funding permit processing on the applicants.

Action: Cost recovery would be initiated for all events defined as large-scale.

Management prescription: Cost recovery would be outlined in an MOU between the permittee and the BLM for each permit application.

Objective: Analyze all events for certain limiting parameters.

Action: Events would be permitted in a manner that would minimize conflicts such as seasonal wet playa conditions or scheduling conflicts with other users.

Public Use and Visitor Services

Objective: Establish a Visitor Contact Station (VCS) to provide interpretive and directional information to visiting publics.

Action: A roadside trailer-based Gerlach Visitor Contact Station (VCS) would continue to be operated periodically until a permanent VCS is established.

Management prescription: A Visitor Contact Station consisting of a small building with a public lands information center function and rest-rooms would be constructed. Sales materials thematic to the region, maps, and other literature would be provided. One or two back rooms to serve as sleeping quarters and maintenance area for the BLM staff would also be included.

A cooperative agreement would be developed between the BLM and appropriate interpretive cooperating associations and/or interested parties to help staff the proposed Visitor Contact Station. Volunteers staffing the VCS would provide assistance and regional recreational information, sell maps, and accumulate visitor usage data.

Objective: Develop activity-specific contact groups to introduce and orient visitors to BLM's back-country use ethic.

Action: The back-country use ethic of low-impact use, as reflected in the *Tread Lightly!* and *Leave No Trace* programs, would be emphasized to visitors.

Management prescription: Activity-specific recreational use contact groups, i.e., ATV group to contact ATV users, would be formed through Field Office Volunteer Program resources of the District Volunteer Program and trained as certified Leave No Trace/Tread Lightly instructors for public outreach.

A pro-active outreach program incorporating the emphasis of the *Tread Lightly* and *Leave No Trace* programs would be provided to schools, organizations, and media on a regular basis.

Media contacts/articles and public service announcements would be conducted on a regular basis in order to promote the program.

Standard rules and regulations, and those supplemental to, or derived from, this management plan, would be posted at various sites and locations.

Objective: Manage visitor occupancy at designated hot springs.

Action: Designate camp areas.

Management prescription: Trego, Black Rock, and Soldier Meadows Hot Springs, would have a designated camping area to partition occupancy-related impacts away from water sources. Impacts to other springs would be evaluated to determine the appropriate measures to protect identified significant resources.

Camping would be permitted in all areas designated OHV ***Open***. Cross-country OHV access to campsites would not be allowed in areas designated OHV ***Limited to Designated Roads and Washes***.

Interpretation and Environmental Education

Objective: Develop a comprehensive interpretive program for the Black Rock Desert region.

Action: Comprehensive-interpretive media would be developed to provide the public an understanding of regional natural and cultural history, recreational resources, and hazards associated with the high desert environment.

Management prescriptions: A comprehensive interpretive brochure would be developed to replace several current brochures.

Interpretive materials placed on-site would remain unobtrusive, meeting VRM Class II standards.

A series of interpretive broadcast stations that could be received on visitor vehicle radios and located at various key regional locations would be investigated for feasibility. If the proposal proves feasible, then vehicular radio channel information would be posted on signs along the primary improved roads into the region and on kiosks. The feasibility of an interpretive audio cassette tape would also be investigated.

Develop agreements with interested organizations, groups, or/and persons to develop interpretive audio cassettes of the area.

Interpretive panels would be developed and installed in relation to the Soldier Meadows Activity Plan.

Interpretive panels would be developed and installed in existing and on proposed kiosks in the region around the playa. Kiosk placement locations would be determined based upon public input and the criteria to inform the most people with minimal impact to the character of the area (i.e. major vehicular access points).

Objective: Cooperate and consult with volunteer program partners on interpretive development.

Action: Encourage and support development of a "friends" or natural and cultural heritage cooperating organization.

Action: The District Volunteer Program would be utilized for skills and materials necessary to construct, install, and maintain kiosks, visitor register boxes, and other items as needed.

Management prescription: Membership would be encouraged from organizations and individuals.

Objective: Work with a professional organization in operating the permanent VCS.

Action: Enter into a cooperative agreement with a natural and cultural heritage interpretive organization to operate the VCS and provide thematic literature sales and other amenities.

Recreational Facilities Development

Objective: Establish a primitive campground at Lost Springs (also known as Flowing Wells).

Action: A primitive campground would be established in the vicinity of Township 35 North, Range 24 East, Section 36, SW1/4, SW1/4. This location, known locally as Lost Springs (Flowing Wells), is about 1.25 miles northeast of Steamboat between Soldier Meadows Road and the western edge of the playa.

Management prescription: A campground or site host facility for public contact, staffed by volunteers, would be established at this campground or other sites.

Other site host facility locations identified by the public would also be considered for a proposed Visitor Contact Station.

Objective: Provide appropriate facilities that blend in form and color with settings.

Action: Signing and any other facilities would be limited and remain unobtrusive to blend with settings in order to meet VRM Class II standards.

Unobtrusive toilet facilities would be constructed at designated hot springs (selected through BLM analysis and public input). Structures, such as vaults and privacy screens/vegetation would blend with surrounding color patterns and low relief settings.

Opportunities such as challenge cost-share, matching grants, and volunteer work would be provided to permittees.

Enforcement and Safety

Objective: Provide for environmental enhancement and visitor and staff safety through enforcement of laws and regulations.

Management prescription: Upon plan completion and acceptance, *Supplemental Rules of Conduct* would be published in the Federal Register, carried as an appendix in the plan, posted within the proposed management area, and distributed to the public in brochure form and other printed media.

During periods the Visitor Contact Station is in use, or other periods when staff and volunteers are collecting visitor use data and/or making public contacts, the *Black Rock Desert Region Visitor Contact and Resource Patrol Plan* would be in effect. This document is available for viewing at the Winnemucca Field Office. Black Rock Desert BLM volunteers would require one 8-hour volunteer refresher annually.

Post emergency services on all literature, kiosks, interpretive broadcasting, and print and broadcast media.

A one-year transition period following *Federal Register* notification would be observed to gauge the effectiveness of the public awareness efforts (see OHV section below).

Action: Pursue an additional Winnemucca Field Office Ranger to patrol the Black Rock Desert region.

Access and Off-Highway Vehicle (OHV) Use

Although the impacts to the Black Rock Desert region from the observed increase trend in OHV activities are inadequately documented, increased degradation in heavily used playa edge areas has been observed. Certain areas of the landscape are being more heavily used by OHV enthusiasts, and this use continues to create an adverse impact. The adverse impacts from heavy OHV use are not limited to surficial disturbances but potentially affect the cultural and Native American concerns often associated with springs and dunes, currently the most heavily impacted landscapes. The prospect of significant degradation to, and loss of, public resources in the proposed Black Rock Desert Management area requires special management attention.

The growing popularity of OHVs with the recreating public could result in an increase in areas which are adversely impacted and an increase in impact intensity within the proposed management area. Without measures in place to protect the region's sensitive and/or significant resources from OHV terrain degradation, these resources could sustain sufficient adverse impacts that could degrade or destroy them.

Objective: Protect the integrity of the Applegate-Lassen National Historic Trail and Black Rock Desert scenic viewsheds and other public resources from degradation and loss due to OHV use.

Action: Change the current OHV designations (**Figure 6**).

Management prescription: The playa within the proposed management area would retain the OHV designation ***Open.*** The OHV designation in all other areas within the proposed management area would be changed to ***Limited to Designated Roads and Washes***. With

exception of OHV operation on ways and trails, WSAs within the proposed management area are ***Closed*** to motorized vehicles.

Action: Designated roads in edge areas for inclusion into the BLM transportation system.

Management prescription: Edge area roads within the proposed planning area would be identified. Identify all edge area roads in the planning area and rehabilitate those that do not serve a purpose. Sign high-use roads to facilitate visitor orientation.

Objective: Manage OHV impacts and visitor occupancy at hot springs.

Action: Trego, Black Rock Hot, and Soldier Meadows Hot Springs would each have a designated camping area to partition adverse impacts resulting from occupation and OHV impacts away from water sources. Impacts to other springs would be evaluated to determine the appropriate measures to protect identified significant resources.

Objective: Provide continued playa access.

Action: The playa would be accessed or exited only by way of existing roads and access points.

Management prescription: Traditional playa entrance/exit points would be reconstructed and maintained as site conditions require and as funding and resource allocations permit. If these locations become significantly adversely impacted, due to natural causes and/or vehicle induced degradation, they would be evaluated for closure, relocation, or improvement of access locations.

Where necessary, to prevent adverse impacts, roads would be closed or rerouted to protect springs, cultural, and paleontological resources, or to provide for visitor safety.

Playa accesses would be monitored to identify other access sites that may develop as viable access alternatives or as candidates for closure. Seasonal closures would be considered for impacted areas in order to facilitate recovery and for wildlife habitat to facilitate minimal disturbances in critical seasons.

BLM would coordinate with OHV interest groups to identify an area outside the proposed management area for dedicated, intensive OHV use.

Objective: Protect the Coyote Springs dunes.

Action: A zone enclosing each of the three parna dunes in the vicinity of, and including, Coyote Springs, northwest of Old Razorback Mountain (Trego), would be designated ***Closed to Motor Vehicles*** and signed to prevent further degradation of these landforms and the Nobles Route, a portion of which passes between two of the dunes.

Objective: Protect and preserve intact segments of the historic Applegate-Lassen Trail and the Nobles Route from adverse OHV impacts.

Action: All locations with intact trail ruts would be designated ***Closed***. Those trail portions currently overlain by modern roads would remain ***Open***.

Objective: Promote a back-country OHV use ethic through the *Tread Lightly!* program.

Action: Disseminate educational material by the use of kiosks, presentations as part of workshops in regional towns, and through presentations to the public via print and broadcast media.

Management prescription: Implement an intensive public education program. This program would endeavor to modify OHV user behavior toward active participation in reducing edge area impacts from OHVs. A transition period of one year would elapse to allow the opportunity for the public to become aware of new designations.

BLM would present *Tread Lightly!* information and Black Rock Desert Plan OHV goals to the public, with an emphasis on regional schools and OHV organizations.

Interpretive kiosks would be strategically placed at the intersection of County Road 34 and the Leadville entrance to High Rock Lake and on the Winnemucca Road approaching Trego Hot Spring.

Visitor registers currently at hot springs would be repositioned on approach roads and away from the springs.

If voluntary adverse OHV impact reduction were not successful, dedicated enforcement of OHV designations would begin.

Citation Authority: As a contingency, the BLM would maintain the enforceability option of one year following plan completion. Discretionary authority of law enforcement (Title 43 CFR) would remain in effect; enforcement measures would depend upon public response to education and resource awareness.

Objective: Limits of acceptable change would be instituted to determine functional recreational carrying capacities on playa and in edge areas.

Action: The current effort of establishing photomonitor and collecting visitor use data would continue for at least three years following plan completion. If photomonitoring demonstrates impacts, then management, the interdisciplinary team, and the resource advisory council would address appropriate corrective measures.

Monitoring of all permitted events would continue. If permitted events demonstrate residual impacts by "returnees", then management, the interdisciplinary team, and the resource advisory council would address appropriate corrective measures.

VISUAL RESOURCE MANAGEMENT (VRM)

Each VRM class has an objective which prescribes a level of acceptable change to the characteristic landscape. Since final class designation is a management decision, adjustments to classification boundaries may be necessary when management plans are prepared. VRM Class II for the proposed management area was defined from a recreational and viewshed preservation viewpoint. The objective for VRM Class II is to retain the existing landscape character. Further defined, the level of change in Class II to the characteristic landscape should be low: activities may be seen but should not attract a casual observer's attention. Current VRM classifications and proposed classifications are presented in **Figure 7**.

Objective: Conduct VRM classification reevaluation for the proposed management area.

Action: VRM reclassification would be defined from a recreational and viewshed preservation viewpoint.

Management prescriptions: The visual classification system within the proposed management area may be revised based on visual resource manual guidelines (BLM Handbook 8430, *Visual Resource Project Planning and Design Application*). This would include a reevaluation of the Scenic Quality Rating Units and an updated visual sensitivity analysis.

Visual analyses would be based on one or more of 21 identified and GPSed Key Observation Points (KOPs) located at prominent overlook-type locations throughout the proposed management area.

Objective: Establish a VRM Class II setting for all non-WSA public lands within the management area.

Action: The visual setting within the proposed management area would be maintained at VRM Class II standards. Any physical changes to the landscape would be required to repeat the basic elements of form, line, color and texture found in the characteristic features of that landscape.

Adverse visual impacts to the Applegate-Lassen Trail viewshed would not be acceptable.

Visual parameters related to wilderness values are found in the Wilderness sections.

WILDERNESS

Objective: Manage for VRM Class I standards.

Action: Lands presently designated WSAs will be managed under VRM Class I. Should these WSA lands, or portions of them, be released by Congress, they would be managed under VRM Class II.

MINERALS

Objective: Allow the development and utilization of the mineral resources within the constraints of the overall plan objectives.

Locatable Minerals

Action: Manage locatable minerals in order to minimize impacts to the visual resources of the plan area.

Management Prescription: To the extent feasible, reclamation of all projects would take place concurrent with operations.

Management Prescription: All approved mining plans of operations must maintain VRM Class II standards as described in the Visual Resource Management section of this plan throughout the period of operations. All concurrent and final reclamation and mitigation measures would include contouring and revegetation to blend in with the natural setting.

Management Prescription: Exploration plans of operations would be considered temporary and must be reclaimed to VRM Class II standards immediately following project completion. Temporary facilities, such as staging areas and storage trailers, would be removed at the end of each phase of operations.

Leasable Minerals

Action: Geothermal and oil and gas leasing would be allowed in the entire plan area (except for lands in the proposed Soldier Meadows ACEC, and those under wilderness review) with the following restrictions:

> Special stipulations for No Surface Occupancy would be applied within one mile to either side of the Applegate-Lassen Trail from one mile east of Rabbithole Springs to the Union Pacific tracks, north to Black Rock. From Black Rock north to the Soldier Meadows ACEC, the restriction would apply one mile to the west of the Applegate-Lassen Trail, and to the crest of the Black Rock Range to the east. From the west side of Soldier Meadows ACEC to the mouth of High Rock Canyon, the one mile restriction also applies. The viewshed looking east from the mouth of High Rock Canyon would also have the No Surface Occupancy restriction (**Figure 12**). This will continue to allow oil and gas leasing over the trail, but no surface developments will be allowed within the area with the No Surface Occupancy restriction.

Management Prescription: All long-term authorizations would be required to maintain the visual setting consistent with VRM Class II and as detailed in the Visual Resource Management element of the plan throughout the period of operations.

Management Prescription: Exploration and drilling activities would be considered temporary and would be reclaimed immediately following those activities to VRM Class

II visual standards. Temporary facilities such as: staging areas, storage trailers, etc., would be removed at the end of each phase of operations.

Action: No leasing of sodium or potassium would be allowed within the plan boundaries.

Saleable Minerals

Action: At the discretion of the authorized officer, mineral material disposals would be allowed.

Management Prescription: All approved permits must maintain VRM Class II standards as described in the Visual Resource Management section of this plan throughout the period of operations.

Management Prescription: All concurrent and final reclamation and mitigation measures would meet VRM Class II standards.

Action: Existing unauthorized gravel or borrow pits would be inventoried and if neither Washoe, Humboldt, or Pershing Counties, nor the BLM wishes to utilize the sites they would be reclaimed.

LANDS AND REALTY

Objective: Acquire lands with desirable resource values, protect those values, and acquire such lands as enable legal access to public lands and those which consolidate blocks.

Management prescription: As opportunities arise, the BLM would continue to consider the acquisition of private lands intermingled with public lands within the planning area. Acquisitions would specifically focus on lands that hold high cultural and historic value, and lands that contain high resource values including Threatened and Endangered Species habitat. The BLM would also consider the acquisition of easements and/or private lands that would provide legal access to the Granite Range and to other areas that currently have limited or no legal access.

Action: The BLM would continue to consider land ownership adjustments through land exchanges. Land considered for acquisition through land exchange would hold high resource values and would be determined to be in the public's interest.

Action: The BLM would retain rights-of-way for access roads prior to conveyance of public lands into private ownership.

Action: No public land within the proposed plan boundary will be made available for community expansion or public sale.

Management prescription: The BLM would continue to authorize the use of public lands within the proposed management area for commercial and non-commercial purposes

including, but not limited to: motion picture and commercial television filming and still photography.

Action: Permitted activities would be minimal impact in nature and would be in compliance with visual resource requirements.

As outlined in the existing land use plan: "*...designated rights-of-way routes have been established along existing transportation and utility corridors within the proposed management area with a specified width of 1.5 miles on each side of those corridors. Exceptions to this width requirement would be made on a case-by case basis following an environmental analysis of the specific proposal and other restrictions as defined by this plan. On the south side of the Black Rock Desert playa, from Sulphur to Gerlach, transportation and utility routes would continue to be located within a designated corridor bounded one-quarter (1/4) mile north and two and three quarter (2-3/4) miles south of the existing railroad tracks. Upon acceptance of this plan, only underground utility facilities would be authorized within the proposed management area in order to reduce visual impacts to the area. No utility facilities would be allowed to cross the playa of the Black Rock Desert.*"

Action: Communications sites would be authorized within the proposed management area as long as they do not impact the visual integrity of the Applegate-Lassen Emigrant Trail.

ALTERNATIVE 1 : NO ACTION - CONTINUATION OF PRESENT MANAGEMENT

The No Action Alternative would continue management decisions and actions, as approved in the *Sonoma-Gerlach and Paradise-Denio MFPs* and approved activity plans. The land use plans' objectives and directions have been maintained and updated to conform with current BLM regulations and policies. This alternative, required by NEPA for comparative purposes, serves as a baseline against which to evaluate the environmental consequences of implementing the Proposed Action or other alternatives.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

The Soldier Meadows Activity Plan (SMAP) ACEC recommendation would be carried forward.

One ACEC, the Soldier Meadows ACEC, would be recommended for designation and managed primarily to assist in the recovery and delisting of a federally listed threatened fish species, the desert dace (*Eremichthys acros*). This ACEC, located in Humboldt County, Nevada, would encompass approximately 35,000 acres and includes a proposed 3,500 mineral withdrawal. Management prescriptions for the Soldier Meadows ACEC would be provided by the SMAP. The SMAP management prescriptions address the recovery of the Desert Dace, its hot springs habitat, and cultural resources, all in the vicinity of Soldier Meadows. **Appendix B** describes the relevance and importance criteria met by the proposed ACEC with other resource values of the area.

Soldier Meadows ACEC:

The Soldier Meadows project area is unique for its combination of natural and cultural resources. The hot spring complexes within the area provide the only known habitat for a federally listed threatened fish species, Desert Dace (*Eremichthys acros*). The spring complexes and 50 feet of the bank on either side of them have been designated as critical habitat (50 CFR 50304). The Endangered Species Act of 1973 as amended (ESA) directs federal agencies to seek to conserve endangered and threatened species and to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of critical habitats. At the time of the writing of this document the Recovery Plan for the Rare Species of Soldier Meadows has been finalized (USFWS, 1997).

The area is also one of the few habitats for the plant, Basalt Cinquefoil (*Potentilla basaltica*), a federally listed species of concern and Nevada BLM sensitive species. Recent investigations of the hot springs in the area have also revealed the presence of several species of hydrobiid snails.
Acreage: 35,000
Figure 2

CULTURAL RESOURCES

Cultural resource management would continue to be limited to inventories, and–mitigation as needed for specific projects in compliance with NHPA, NEPA, FLPMA, NAGPRA, ARPA, and other federal laws and regulations. Monitoring and patrol of the area would continue to be focused on holiday weekends and/or special events. A one-mile corridor along the Applegate Lassen Trail would continue to be listed on the National Register of Historic Places.

Further protection for cultural sites and the Applegate-Lassen Trail viewshed is covered under the Lands and Realty, Minerals, Recreation, and Visual Resources proposed actions.

NATIVE AMERICAN CONCERNS

Native Americans would continue to be consulted prior to authorization of surface-disturbing activities in cases where projects have the potential to impact sacred sites or traditional cultural properties. Native Americans would also be consulted for mitigation projects and when Native American human remains are encountered.

PALEONTOLOGY

Vertebrate paleontology collection would continue to be carried out under a current and valid permit. Invertebrate fossils, leaf impressions, and petrified wood collection, as casual use, would continue to be managed under existing laws and regulations.

RECREATION

Present management goals and actions would continue as directed by the current land use plans. Please see the affected environment for further discussion.

Special Recreation Permit Management

Objective: Issue Special Recreation Permits

Action: Special Recreation Permit (SRP) applications would be processed and permits issued on a case-by-case basis according to BLM Handbook H-8372-1 and 43 CFR 8370 - 8372, and, when finalized, the Draft User Guide and Policy.

Management Prescription: SRPs would be issued if all NEPA and other permit conditions are satisfied.

Two major evaluation factors would be (1) analyzing impacts to WSAs and (2) complying with a decision that prohibits any off-road vehicle events on the playa which permanently affect scenic qualities.

The Winnemucca and Surprise (California) BLM Field Offices would coordinate on patrols during holiday weekends, for visitor contact and protection of cultural resources,

involving primarily cultural resource and recreation specialists, recreation program volunteers, and occasional participation of law enforcement specialists.

Both field offices would continue to issue brochures that describe High Rock Canyon and the Black Rock Desert and provide limited user information.

Maps would be available at BLM offices in Winnemucca or Cedarville.

During permitted events the *Winnemucca District Operations Plan for Recreational Events* would be in effect.

Public Use and Visitor Services

Objective: Continue to conduct public contact and provide area information.

Action: Continue to staff the roadside trailer-based Gerlach Visitor Contact Station on a periodic basis. Public education and visitor services would remain discretionary as manpower or funding allow.

Interpretation and Environmental Education

Objective: Develop a cadre of activity-specific contact groups to introduce and orient visitors to the BLM's back-country use ethic.

Action: As reflected in the *Tread Lightly!* and *Leave No Trace* programs, a back-country use ethic would be emphasized to visitors to promote low-impact use.

Management prescription: Activity-specific recreational use contact groups, i.e., ATV group to contact ATV users, would be formed through Field Office Volunteer Program resources of the Field Office Volunteer Program and trained as certified Leave No Trace/Tread Lightly instructors.

A proactive outreach program, incorporating the emphasis of the *Tread Lightly!* and *Leave No Trace* programs, would be provided to schools, organizations, and media on a regular basis.

Recreational Facilities Development

Objective: Provide a limited amount of amenities for human health and safety.

Action: Facilities, other than those proposed under the SMAP, would remain discretionary based on need, available funding, and public input.

Enforcement and Safety

Objective: Provide law enforcement.

Action: No supplemental rules of conduct would be generated.

Objective: To provide for a safe visit, BLM employees and Volunteer Program staff would continue to render aid and information to visitors.

During periods the Visitor Contact Station is in use or other periods when staff and volunteers are collecting visitor use data and/or making public contacts, the *Black Rock Desert Region Visitor Contact and Resource Patrol Plan* would be in effect. This document is available for viewing at the Winnemucca Field Office.

Access and Off-Highway Vehicle (OHV) Use

Objective: With the exception of WSAs allow access to all Black Rock Desert areas.

Action: With the exception of WSAs, which are currently designated ***Closed***, all other areas would remain ***Open*** to OHV use.

Management prescriptions: WSAs would remain accessible by existing ways and trails which remain ***Open***.

Ways and trails would be formally designated and appropriately signed.

Ways and trails would become part of BLM's transportation system.

VISUAL RESOURCE MANAGEMENT

Objective: Manage for current VRM Class standards (see **Figure 7**).

Action: Non-WSA lands would be managed under current VRM standards. Released WSA lands would be managed under current VRM standards, as presented in the current land use plan.

Management prescriptions: Continue present approved guidelines and standards.

WILDERNESS

Objective: Maintain the WSAs as natural areas.

Action: WSAs are designated VRM Class I.

Management prescription: Allow no activity to degrade the landscape as it existed at the time of WSA designation.

MINERALS

Locatable Minerals

With the exception of lands withdrawn from mineral entry, all public lands within the plan boundary would remain open to location of minerals under the authority of the 1872 Mining Law. Lands located outside the WSAs are managed under the authority of 43 CFR 3809 Surface Management regulations. Lands located within the WSAs are managed under the authority of 43 CFR 3802 *Exploration and Mining, Wilderness Review Program* regulations and the Manual Handbook H-8550-1, *Interim Management Policy and Guidelines for Lands under Wilderness Review*. Development in wilderness study areas are subject to Valid Existing Rights. If and when designated, wilderness areas would be closed to new mineral location; however, Valid Existing Rights would be managed under the authority of the 1872 Mining Law and the Wilderness Act.

Leasable Minerals

Oil and gas and geothermal would continue to be managed under existing regulations and policy.

Leasing would not be allowed in the proposed Soldier Meadows Activity Plan ACEC.

Leasing and development of sodium and potassium would be conducted under current management policy and guidance. As stated in the current land use plan, sodium and potassium leasing would not be allowed on the Black Rock Desert playa.

Saleable Minerals

Disposal of mineral materials would be conducted under current management policy and guidance.

The current land use plan directs BLM to create a community pit in the vicinity of Gerlach.

LANDS AND REALTY

The existing management situation would continue under the management guidelines outlined in the existing land use plans. Land ownership adjustments would continue to be used in the acquisition of privately owned lands that contain high resource values or provide access to other public lands that currently have limited or no legal access. The BLM would continue to make lands available for agricultural disposal with priority given to lands which will result in the expansion of existing agricultural units or areas. Commercial activities would continue to be permitted if all impacts could be mitigated. Rights-of-way would continue to be granted under the management guidelines outlined in the existing land use plans.

ALTERNATIVE 2 : MAXIMUM RESOURCE PROTECTION

Activity management as directed under this alternative would maintain and improve resource values by placing restrictions on public access to, and use of, sensitive ecosystem elements and areas. The management objective would be to preserve the Applegate-Lassen Trail and scenic viewshed. This endeavor would include efforts to maintain and improve the soils, springs, and native vegetation of the playa transition (edge) areas (part of the Pleistocene lake-plain terraces). Implementation of the proposed management directives would reduce accelerated erosion and maintain and improve habitat for native species: both plant and animal.

This alternative would limit and restrict the allowable usages. A mineral withdrawal is proposed for the entire proposed planning area (**Figure 1**), approximately 452,086 acres of public lands. Potential adverse impacts to natural and cultural resources within the proposed Black Rock Desert Management Area boundary would be minimized or avoided to the fullest extent possible under current laws and regulations.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

The Black Rock Desert ACEC, as described under the Proposed Action, would be designated.

PROPOSED MANAGEMENT DIRECTION FOR THE BLACK ROCK DESERT ACEC:

CULTURAL RESOURCES

Objective: Preserve the setting of the Applegate Lassen Trail to the maximum extent possible.

Action: Manage the Applegate-Lassen trail viewshed to VRM I standards.

Management Prescriptions: Proposed uses would be evaluated using VRM I standards. Discretionary actions that do not meet these standards would not be authorized. Non-discretionary actions will be mitigated to conform to VRM I standards.

Action: The entire viewshed of the trail will be evaluated as a cultural landscape and managed as if it were National Register eligible.

Objective: Protect cultural resources to the maximum extent possible while allowing education of public.

Action: The following historic sites and routes would be managed for conservation use: The Applegate-Lassen Trail, Nobles Route, Fremont Route and campsites along these routes as well as Hardin City, and the Lassen Clapper Murder site. Other historic sites would be evaluated for conservation use as they are identified.

Management Prescription: Vehicular access to, and camping in, the above cultural resources would be allowed by permit only. Travel on intact traces of the Applegate-Lassen Trail and Nobles Route would not be allowed.
Travel along the Applegate-Lassen Trail and camping at campsites along the Applegate-Lassen Trail and Nobles Route would be by permit only. The number of permits would be determined by the Limits of Acceptable Change.

No signing or facilities would be allowed at these historic sites and trails.

Brochures which would provide general information about the historic trails and other cultural resource sites would be prepared and made available to the public. Site protection would be emphasized. Videos and exhibits would be acceptable interpretive mediums. Commercial interpretive overflights of trail and other resources would be allowed

Action: The Nobles Route would be managed as if it was eligible to the National Register.

Objective: Protect cultural sites while allowing minimal scientific research.

Action: Manage 90% of all prehistoric rock shelter, occupation sites with probable or known buried deposits and quarry sites, hunting blinds, lithic scatters, pebble mounds, rock art sites, and historic sites for conservation use.

Management Prescription: Allow non-destructive scientific research at sites managed for conservation use.

Action: Manage 10% of all prehistoric rock shelters, occupation sites with buried deposits, quarry sites, hunting blinds, lithic scatters, pebble mounds, rock art sites, and historic sites for scientific use.

Management Prescription: Allow scientific research at these sites.

Objective: Identify, record, and evaluate plan area archeological sites for management purposes.

Action: Record and evaluate known cultural sites.

Management Prescriptions: Record and assign known sites to the following use categories: scientific use, conservation for future use, traditional use, public use, experimental use in accordance with BLM Manual 8110. Sites currently being impacted by recreation, unauthorized collection/excavation, or other uses would be prioritized for evaluation. Sites would also be evaluated for National Register eligibility.

Action: Inventory cultural resource sites in plan area.

Management Prescriptions: Develop research design and sampling strategy for the plan area. Assign sites to use categories (see above). Evaluate sites for National Register eligibility.

Objective: Protect cultural resources.

Action: Post positive protective signs at appropriate cultural resource sites.

Action: Patrol cultural resource sites during heavy use periods.

Management Prescription: Utilize BLM personnel and volunteers for monitoring.

Action: Include protective messages in interpretive and educational material.

Further protection for cultural sites and the Applegate-Lassen Trail viewshed would be provided under Lands and Realty, Minerals, Recreation, and Visual Resources programs.

NATIVE AMERICAN CONCERNS

Objective: Manage uses and resources to preserve Native American traditional cultural properties.

Action: Limit access to traditional cultural properties identified by Native Americans

Management Prescriptions: Discretionary land uses will not be authorized if they conflict with traditional cultural properties identified by Native Americans. Roads to traditional cultural properties identified by Native Americans will be closed to all users except Native Americans using the property for traditional purposes. Hot Springs will be closed to camping, unless by Special Permit.

Action: To the maximum extent allowed by law, follow tribal recommendations in land use planning and the land use application review process.

Action: Traditional cultural properties identified by Native Americans and their appropriate environmental setting will be managed to conform with VRM Class I standards.

Management Prescription: Discretionary land uses, except for Native American traditional uses, would be permitted if they conform to VRM Class I standards and denied if they do not. Non-discretionary land uses will be mitigated to conform with VRM Class I standards.

PALEONTOLOGY

Objective: Protect paleontological resources to the maximum extent possible under existing laws and regulations.

Action: Activities under permitting review would be evaluated in order to identify and prevent potential adverse impacts. Access to identified resources would be limited to permitted activities.

Management Prescriptions: Paleontological collecting permits would be limited to fossil localities
threatened by natural or human caused destruction or degradation.

Action: Nondegraded resources would be managed for conservation use.

Objective: Systematically identity and evaluate resources.

Action: Develop cooperative agreements or other mechanisms to systematically inventory, map, and evaluate fossil bearing strata. Work with Professional and amateur volunteer groups to identify fossil localities.

RECREATION

Special Recreation Permit Management

Special Recreation Permits would not be granted to large scale events as defined in the Proposed Action.

Public Use and Visitor Services

The policies and actions presented in the Proposed Action would be implemented with the following exception:

Objective: Limit or restrict the number of visitors to the area.

Action: Restrict access to the area and the types of vehicles allowed within the plan area.

Recreational Facilities Development

Objective: Develop and employ a recreation volunteer program to augment limited staff and manpower.

Action: Utilized skills and materials necessary to construct, install, and maintain kiosks, visitor register boxes, and other items as needed.

Objective: Provide appropriate facilities that blend in form and color with settings to meet VRM Class I standards.

Action: Signing and any other facilities would be limited and remain unobtrusive to blend with settings.

Unobtrusive toilet facilities may consist of vaults and privacy screens, or such facilities as may be deemed adequate and appropriate for a particular location within VRM Class I standards.

Such facilities would be constructed at designated hot springs (selected through BLM analysis and public input), and would meet VRM Class I standards.

Structures would blend with surrounding color patterns and low relief settings to meet VRM Class I standards.

Enforcement and Safety

Objective: Provide for environmental enhancement and visitor and staff safety through enforcement of appropriate laws and regulations.

Upon plan completion and acceptance, any *Supplemental Rules of Conduct* developed would be published in the Federal Register, carried as an appendix in the plan, posted within the proposed management area, and distributed to the public in brochure form and other print media.

Acquire additional rangers whose primary patrol responsibility would be the proposed management area.

During periods the Visitor Contact Station is in use or other periods when staff and volunteers are collecting visitor use data and/or making public contacts, the *Black Rock Desert Region Visitor Contact and Resource Patrol Plan* would be in effect. This document is available for viewing at the Winnemucca Field Office.

To provide for a safe visit, BLM employees and Volunteer Program staff would continue to render aid and information to visitors.

Emergency Services would be posted on all literature, kiosks, interpretive broadcasting, print, and broadcast media.

Access and Off-Highway Vehicle (OHV) Use

Objective: Protect the integrity of the Applegate-Lassen National Historic Trail and Black Rock Desert scenic viewsheds and other public resources from degradation and loss due to OHV use.

Action: Change the current OHV designations (**Figure 6**).

Management prescription: The lands located within the National Register Corridor and between the playa edge and the proposed plan boundary would be designated ***Closed***.

Vehicular travel through the edge areas would be restricted to designated playa entry/exit access roads. Designated roads would be those which service traditional existing playa entry/exit points and are directly related to county or BLM maintained roads.

Designated entry/exit points would be monitored during wet conditions for adverse impacts and may be closed temporarily in the interests of safety and the prevention of irretrievable landscape degradation.

Designated camping areas would be established at Trego, Black Rock, and Soldier Meadows Hot Springs (provisional to SMAP adoption) to partition Special Permit use occupation impacts away from water sources.

The use of historic trails and Trego, Black Rock , Hardin City, Double Hot, and Soldier Meadows Hot Springs would be restricted to permit-authorized nonvehicular access.

Those portions of the playa outside of the National Register Corridor would retain the OHV designation ***Open.***

With exception of OHV operation on ways and trails, WSAs within the proposed management area remain ***Closed*** to motorized vehicles.

Action: Upon plan completion, designated roads in edge areas would not be considered for inclusion into the BLM transportation system

Management prescription: No edge area roads within the proposed plan boundary would be considered for inclusion in the BLM transportation system.

Objective: Manage OHV adverse impacts and visitor occupancy at hot springs.

Action: Designated camping areas would be established at Trego, Black Rock, and Soldier Meadows Hot Springs to partition Special Permit use occupation impacts away from water sources. The use of historic trails and Trego, Black Rock , Hardin City, Double Hot, and Soldier Meadows Hot Springs would be restricted to permit-authorized nonvehicular access.

Objective: Provide continued playa access.

Action: The playa would be entered or exited only by way of existing roads and access points.

Management prescription: Traditional playa entrance/exit points would be reconstructed and maintained as site conditions require and as funding and resource allocations allow.

If these locations become significantly adversely impacted, due to natural causes and/or vehicle induced degradation, they would be evaluated for closure, relocation, or road improvements.

Where necessary, roads would be closed or re-routed to protect springs, cultural, and paleontological resources, or to provide for visitor safety.

Playa access locations would be monitored to identify other sites that may develop for their viability or closure. Seasonal closures would be considered for impacted areas in order to facilitate recovery.

Objective: Protect the Coyote Springs dunes.

Action: A perimeter enclosing each of the three dunes in the vicinity of Coyote Springs, northwest of Old Razorback Mountain (Trego), would be designated ***Closed to Motor Vehicles*** and signed to prevent further degradation of this landscape and the Nobles Route, a portion of which passes through it.

Objective: Protect and preserve the historic Applegate-Lassen Trail from adverse impacts caused by OHVs..

Action: All locations with intact trail ruts would be designated ***Closed***. Those trail portions currently overlain by modern roads would remain accessible to permitted vehicles.

Objective: Promote a back-country OHV use ethic through the *Tread Lightly!* program.

Action: Educational material would be posted on kiosks, presented as part of workshops in regional towns, as well as to the public via print and broadcast media.

Management prescription: Following a one year transition period, after completion of this plan, to provide public with the opportunity to become aware of the new designations, enforcement of OHV designations would begin.

VISUAL RESOURCE MANAGEMENT

Each VRM class has an objective which prescribes a level of acceptable change to the characteristic landscape. Since final class designation is a management decision, adjustments to class boundaries may be necessary when management plans are prepared. VRM Class I for the proposed management area was defined from a recreational and viewshed preservation viewpoint. The objective for VRM Class I is to retain the landscape as it existed at the time of WSA designation. Further defined, natural ecological changes and very limited management activity are allowed. Any contrast created within the characteristic landscape must not attract attention. **Figure 7** presents the VRM classification proposals of each alternative.

Objective: Conduct VRM classification reevaluation for the proposed management area.

Action: VRM reclassification would be defined from a recreational and viewshed preservation viewpoint in the context of VRM Class I parameters.

Management prescription: The visual classification system within the proposed management area may be revised based on visual resource manual guidelines (BLM Handbook 8430, *Visual Resource Project Planning and Design Application*). This would include a reevaluation of the Scenic Quality Rating Units and an updated visual sensitivity analysis.

Objective: Establish a VRM Class I setting for all Non-WSA public lands within the management area.

Action: The visual setting within the proposed management area would be maintained at VRM Class I standards.

Management prescription: Adverse visual impacts to the Applegate-Lassen Trail viewshed would not be acceptable. Permitted changes to the landscape would be minimal.

Visual parameters related to wilderness values are found in the Wilderness sections.

WILDERNESS

Objective: Manage for VRM Class I standards.

Action: Non-WSA lands within the proposed management area would be classified VRM Class I. Upon Congressional release those former WSA lands within the proposed planning area would be classified VRM Class I.

MINERALS

Objective: Limit and restrict the development and utilization of mineral material resources in order to preserve the cultural and natural resources and the pristine setting of the plan area while allowing development of mineral material resources for use within the plan area.

Locatable Minerals

Action: A mineral withdrawal would be proposed for the entire plan area: approximately 452,086 acres of public lands (**Figure 1**).

Management Prescriptions: Evaluate the Valid Existing Rights of current claim-holders and operators.

Leasable Minerals

Action: The plan area would be closed to leasing.

Management Prescription: Evaluate the Valid Existing Rights of current leaseholders within the plan area.

Saleable Minerals

Action: Allow mineral material sales and free use permits out of the Blue Pit, because it is an established high quality, frequently utilized pit that is currently used by Washoe County and the communities of Gerlach and Hualapai Flat. The Blue Pit is located outside of the viewshed established for the Applegate-Lassen Trail and would not adversely impact the Trail's integrity of setting.

Management Prescription: All approved permits must maintain VRM Class I standards as described in the Visual Resource Management section of this plan throughout the period of operations.

Management Prescription: All concurrent and final reclamation and mitigation measures would be contoured and colored to mimic and blend in with the natural setting.

Management Prescription: The Blue Pit shall be managed in such a manner that it does not become visible from playa.

Action: Except for the Blue Pit, do not allow mineral material sales or free use permits within the plan boundary except those that would be used by the BLM, Washoe, Pershing or Humboldt counties, nor the state of Nevada for construction and maintenance of projects and roads within the plan area.

Action: Existing and currently unauthorized gravel or borrow pits would be inventoried and if neither Washoe, Humboldt, Pershing County, or BLM wishes to utilize the sites they would be reclaimed.

Management Prescription: Sites would be contoured and revegetated to mimic and blend with the natural setting in order to maintain a VRM Class I standard.

LANDS AND REALTY

Objective: Acquire lands with desirable resource values, protect those values, and acquire such lands as enable legal access to public lands and those which consolidate blocks.

Management prescription: Use land ownership adjustments to accomplish these goals.

Action: Land ownership adjustments would continue to be used to acquire privately owned lands that contain high resource values, or provide access to other public lands that currently have limited or no legal access.

Action: No public lands would be made available for agricultural disposal.

Management prescription: Restict approval to those permits which are compliant with the visual resource standards for the area.

LANDS AND REALTY (Continued)

Action: No commercial activities or rights-of-way would be permitted, unless they were determined to be minimum impact - no surface disturbing activities and were consistent with VRM Class I standards.

ALTERNATIVE 3 : MAXIMUM RESOURCE USE

This alternative would permit maximum use within the proposed Black Rock Desert Management Area boundary to the fullest extent permissible under current laws and regulations.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

The Soldier Meadows ACEC expansion, as proposed under the SMAP, would be carried forward (**Figure 2**).

PROPOSED MANAGEMENT DIRECTION:

CULTURAL RESOURCES

Objective: Allow maximum use of the emigrant trails while preserving contributing elements.

Action: The Applegate-Lassen viewshed would be managed to VRM Class III standards.

Management Prescriptions: Discretionary actions would meet VRM Class III standards or not be allowed. Non-discretionary actions would be mitigated to VRM Class III standards. Maximum access to trail would be allowed. No restrictions would be placed on camping.

Action: The Applegate-Lassen National Register site would be redefined as a district.

Management Prescriptions: Define contributing elements. Discretionary and non-discretionary actions would be allowed in noncontributing elements without mitigation and in contributing elements with mitigation.

Action: The Nobles Trail would be determined eligible as a district with contributing elements.

Management Prescriptions: Discretionary and non-discretionary actions would be allowed in noncontributing elements without mitigation and in contributing elements with mitigation.

Objective: Provide for the education and enjoyment of the public to the maximum extent possible within the constraints of the plan.

Action: The following historic sites and routes would be managed for public use: The Applegate-Lassen Trail, Nobles Route, Fremont Route and campsites along these routes as well as Hardin City, and the Lassen Clapper Murder site. Other historic sites would be evaluated for public use as they are identified.

Management Prescriptions: The above trails and routes would be interpreted through non-intrusive interpretive methods not exceeding Class III VRM standards.

Historic trails, trail campsites, and other historic sites would be interpreted through the use of brochures, audio tapes, and/or interpretive broadcast stations. Some general information would also be provided on kiosk panels.

Brochures would be available at the Visitor Contact Station in Gerlach, kiosks, the Winnemucca Field Office, and other locations.

Interested parties would be offered partnership in a cooperative agreement for historic trail interpretation.

Guided and self-guided tours of historic routes and sites would be offered.

Living history re-enactments would be encouraged.

The Internet would be used to broadcast interpretive information about the area to the public.

Campfire talks on historical topics would be offered.

Action: Manage Hardin City for public use.

Management Prescription:
Prepare and implement treatment plan for the site.
Pursue alternative funding sources for implementation of treatment plan and/or seek cooperative agreement.
Implement a signing program to discourage metal detecting and for positive protective signs at the site.
Interpret the site using non-intrusive interpretive methods.

Action: Provide the public with a greater understanding of the area's history, prehistory, and paleoenvironmental history.

Management Prescriptions:
Brochures which provide a summary of pertinent information would be prepared.
Brochures would be available at the Visitor Contact Station, kiosks, and the Winnemucca Field Office.

A brief summary of the cultural and paleoenvironmental history of the area would be included on kiosk panels.

Exhibits and videos on history, prehistory, and paleoenvironmental history of the management area would be installed in the Visitor Contact Center.

Cooperative agreements with Universities would be sought to accomplish these management prescriptions.

The Internet would be used to broadcast interpretive information about the area to the public.

Public participation would be encouraged in data recovery projects.

Information gleaned from cultural resource inventories, mitigation projects, and scientific studies which would be of interest to public would be interpreted to the public.

Action: Designate one site from each of the following site categories for public use: rock shelter, occupation site, quarry site, hunting blind, lithic scatter, and pebble mounds.

Management Prescription: Record and perform data recovery at these sites, leaving portions of the site intact for interpretive purposes. Offer guided and self-guided tours of sites. Camp hosts would oversee sites.

Action: All known rock art sites would be identified for public use. Other sites will be evaluated for public use as they are identified.

Management Prescriptions: Interpretive and self guided tours of rock art sites would be offered to visitors.

Objective: Provide Maximum Research Opportunities

Action: With the exception of sites designated for public use designate all historic and prehistoric rock shelters, occupation sites, lithic scatters, hunting blinds, pebble mounds, and quarry sites for scientific use.

Management Prescriptions: Actively encourage researchers to pursue studies in the Black Rock Desert Plan area. Seek cooperative agreements, funding for cost/share projects, and contracts.

Further protection for cultural sites and the Applegate-Lassen Trail viewshed would be provided under the Lands and Realty, Minerals, Recreation, and Visual Resources programs.

NATIVE AMERICAN CONCERNS

Objective: Allow maximum resource and land uses and recreational use while considering impacts to Traditional cultural properties identified by Native Americans.

Action: Traditional cultural properties identified by Native Americans and their appropriate environmental setting will be managed to conform with VRM Class III standards.

Management Prescription: Discretionary land uses, except for Native American traditional uses, would be permitted if they conform to VRM Class III standards and denied if they do not. Non-discretionary land uses will be mitigated to conform with VRM Class III standards.

Other than the above, management is the same as the No Action Alternative.

PALEONTOLOGY

Objective: Facilitate scientific studies.

Action: Manage appropriate resources for scientific use.

Management Prescriptions: Develop cooperative agreements, or other mechanisms from partnerships with the scientific community in order to inventory, collect, and study fossil localities.

Objective: Facilitate public appreciation and use.

Action: Designate appropriate sites for public interpretation or collecting and manage those sites for public use.

Management Prescriptions: Develop cooperative agreements or other arrangements with amateur and scientific interest groups to inventory, identify, and map fossil localities appropriate for interpretation or amateur collecting. Prior to allowing public access, a sample of the available fossils will be collected and appropriately curated.

Action: Identify and develop appropriate fee collection sites.

Management Prescriptions: Work in conjunction with recreation to develop appropriate fee sites, and associated interpretation plans, aimed at interpreting paleontological resources. Prior to allowing public access to the site, collect and curate a representative sample from the site.

RECREATION

Special Recreation Permit Management

Objective: Issue Special Recreation Permits

Action: Special Recreation Permit (SRP) applications would be processed and permits issued on a case-by-case basis according to BLM Handbook H-8372-1 and 43 CFR 8370 - 8372, and, when finalized, the Draft User Guide and Policy.

Management Prescription: SRPs would be issued if all NEPA and other permit conditions are satisfied.

Public Use and Visitor Services

Objective: Construct a Visitor Center (VC) with full-service interpretive and facility amenities to provide interpretive and directional information to visiting publics.

Action: A roadside trailer-based Gerlach Visitor Contact Station would continue to be operated periodically until a permanent Visitor Center is established.

Management prescription: A Visitor Center would differ from a visitor contact station in that it would consist of a large building with a public lands information center. The center would consist of a theater or auditorium, museum-quality interpretive displays on Black Rock Desert region resources and activities, rest-rooms, sales materials thematic to the region provided by a cooperating association, maps, and other literature provided by BLM, as well as ancillary rooms to serve as sleeping quarters and maintenance area for BLM staff and volunteers.

A cooperative agreement would be developed between the BLM and appropriate interpretive cooperating associations and/or interested parties to help staff the proposed Visitor Center.

Objective: Market the Black Rock Desert region as a location for numerous recreational activities without regard to scale.

Action: Increased visitation would be encouraged through marketing strategies such as advertising the VC and Black Rock Desert resources in cooperation with the Nevada Department of Tourism and other agencies that could assist in this effort.

Management prescription: The Winnemucca Field Office would produce a series of brochures targeted at national and international audiences, emphasizing the region for numerous activities.

Media contacts/articles and public service announcements would be conducted on a regular basis in order to promote the Black Rock Desert region and its resources.

Numerous permitted events would be encouraged with no limits on size, duration, or types.

Encourage visitation of Trego, Black Rock Hot, and Soldier Meadows Hot Springs, but establish each location as a fee site for camping or day use.

Visitors would continue to camp at any location of choice.

Recreational Facilities Development

Objective: Construct recreational facilities.

Action: Outdoor recreation planners would analyze several locations around the playa for recreational facility or amenity potential

Management prescription: Several primitive, semi-primitive and developed campsites would be designated and constructed to VRM Class III standards.

Sites would be evaluated for one or more developed, full service, campgrounds at VRM Class III standards.

A permanent Visitor Center with full interpretive services would be established in the Gerlach vicinity.

Toilet facilities at selected sites would consist of contemporary housing with vaults that meet VRM Class III standards.

Site or campground host facilities would be provided where needed.

Objective: Establish a permanent Visitor Center (VC).

Action: A VC would be established in the Gerlach vicinity and would function as public lands information center with Great Basin natural, cultural and recreational resource information, thematic literature, and map sales.

Objective: Designate a primitive campground at Lost Springs (also known as Flowing Wells).

Action: A primitive campground would be established in the vicinity of Township 35 North, Range 24 East, Section 36, SW1/4, SW1/4: a location known locally as Lost Springs, or Flowing Wells, about 1.25 miles northeast of Steamboat, between Soldier Meadows Road and the western edge of the playa.

Management prescription: A campground or site host facility for public contact, staffed by volunteers, would be established at this campground.

Other site host facilities would be considered for the proposed Visitor Center.

Objective: Provide appropriate facilities.

Action: Toilet facilities would be constructed at destination hot springs and other areas within the proposed management area to VRM Class III standards.

Interpretation and Environmental Education

Objective: Develop a comprehensive interpretive program for the Black Rock Desert region.

Action: Comprehensive interpretive media would be developed to provide the public an understanding of regional, natural, and cultural history and hazards associated with the high desert environment.

Management prescription: An interpretive plan would be developed to provide regional, natural, cultural and recreational resources thematic development and implementation guidelines.

A comprehensive interpretive brochure would be produced and distributed to replace several current brochures.

A series of interpretive broadcast stations that could be received on visitor vehicle radios and located at various key regional locations would be investigated for feasibility. If the proposal proves feasible, then vehicular radio channel information would be posted on signs along the primary improved roads into the region and on kiosks. The feasibility of an interpretive audio cassette tape would also be investigated.

Interpretive panels would be developed and installed in relation to the Soldier Meadows Activity Plan.

Interpretive panels would be developed and installed in existing and additional proposed kiosks in the region around the playa.

Objective: Cooperate and consult with volunteer program partners on interpretive development.

Action: Pursue the creation of a "friends" or natural and cultural heritage cooperating organization.

Management prescription: At least one meeting would be held annually for this purpose.

Membership would be encouraged from nearby communities and interested organizations and individuals.

The plan would detail a full range of visitor services and amenities as appropriate under overall plan direction.

Objective: Staff the permanent Visitor Center with professional organizations.

Action: Enter into a cooperative agreement with a natural and cultural heritage interpretive organization to operate the Visitor Center and provide thematic literature sales and other amenities.

Enforcement and Safety

Enforcement

Objective: Provide law enforcement.

Action: No supplemental rules of conduct would be generated.

Management prescription: Present enforcement would be according to 43 CFR 8365 ,9260, and other regulations as applicable.

Citation authority for rules of conduct and recreational use authorizations are found in the *Code of Federal Regulations* (43 CFR Public Lands: Interior) chapters that apply to OHV, recreation, wilderness, law enforcement, and other related programs.

Safety

During periods the Visitor Center is in use or other periods when staff and volunteers are collecting visitor use data and/or making public contacts, the *Black Rock Desert Region Visitor Contact and Resource Patrol Plan* would be in effect. This document is available for viewing at the Winnemucca Field Office.

To provide for a safe visit, BLM employees and Volunteer Program staff would continue to render aid and information to visitors.

Access and Off-Highway Vehicle (OHV) Use

Objective: With exception of WSAs, provide access to all Black Rock Desert areas.

Action: With the exception of WSAs, which are currently designated ***Closed***, all other areas would remain ***Open*** to OHV use (**Figure 6**). Ways and trails in WSAs would remain ***Open***.

Access roads would be improved and maintained.

VISUAL RESOURCE MANAGEMENT

Each VRM class has an objective which prescribes a level of acceptable change to the characteristic landscape. Since final class designation is a management decision, adjustments to class boundaries may be necessary when management plans are prepared. VRM Class III would permit changes to the landscape that did not subordinate its character (visual strength): contrasts to the basic elements (form, line, color, and texture) caused by management activity would be evident. **Figure 7** presents the VRM classifications proposed by each alternative.

Objective: Undertake a VRM classification reevaluation for the proposed management area.

Action: VRM reclassification would be defined from a recreational and viewshed preservation viewpoint within the context of VRM Class III parameters.

Management prescription: The visual classification system within the proposed management area may be revised based on visual resource manual guidelines (BLM Handbook 8430, *Visual Resource Project Planning and Design Application*). This would include a reevaluation of the Scenic Quality Rating Units and an updated visual sensitivity analysis.

Objective: Establish a VRM Class III setting for all Non-WSA public lands within the management area.

Action: Non-WSA lands within the proposed management area would be classified VRM Class III. Upon Congressional release those former WSA lands within the proposed planning area would be classified VRM Class III.

Management prescription: Changes to the landscape would be required to meet VRM 3 standards.

WILDERNESS

Objective: Manage for VRM Class III standards.

Action: Non-WSA lands within the proposed management area would be classified VRM Class III (**Figure 7**). Upon Congressional release, those former WSA lands within the proposed planning area would be classified VRM Class III.

MINERALS

Objective: Maximize development and utilization of the mineral resources within the plan boundary within the constraints of the overall plan objectives.

Locatable Minerals

Action: Manage locatable minerals in order to minimize impacts to the visual resources of the plan area.

Management Prescription: To the extent feasible, reclamation of all projects would take place concurrent with operations.

Management Prescription: All approved mining plans of operations must maintain VRM Class III standards as described in the Visual Resource Management section of this plan throughout the period of operations. All concurrent and final reclamation and mitigation measures would be contoured and colored to mimic and blend with the natural setting.

Management Prescription: Exploration plans of operations would be considered temporary and must be reclaimed to VRM Class III standards immediately following completion of the project. Temporary facilities, such as staging areas and storage trailers, would be removed at the end of each phase of operations.

Leasable Minerals

Action: Geothermal and oil and gas leasing will be allowed in the entire plan boundary (with the exception of the Soldier Meadows ACEC) with the following restriction:

> Special Stipulations for No Surface Occupancy will be applied within one mile to either side the Applegate-Lassen Trail corridor from one mile east of Rabbithole Spring north to the Soldier Meadows ACEC, then west of the Soldier Meadows ACEC to the plan boundary west of High Rock Lake. This will allow leasing over the trail, but no surface developments will be allowed within one mile of the trail. Directional drilling may occur under the trail corridor.

Management Prescriptions: All long term authorizations would be required to maintain the visual setting consistent with VRM Class III and as detailed in the Visual Resource Management element of the plan throughout the period of operations.

Management Prescription: Exploration and drilling activities would be considered temporary and would be reclaimed immediately following those activities to Class III visual standards.
Temporary facilities, such as staging areas and storage trailers, would be removed at the end of each phase of operations.

Saleable Minerals

Action: At the discretion of the authorized officer, mineral material disposals would be allowed.

Management Prescription: All approved permits must maintain VRM Class III standards as described in the Visual Resource Management section of this plan throughout the period of operations.

Management Prescription: All concurrent and final reclamation and mitigation measures would be contoured and revegetated to mimic and blend with the natural setting.

Action: Existing unauthorized gravel or borrow pits would be inventoried and if neither Washoe, Humboldt, Pershing County, nor BLM wishes to utilize the sites, they would be reclaimed.

Management Prescription: Final reclamation sites would be contoured and revegetated to mimic and blend with the natural setting and to maintain a Class III VRM standard.

LANDS AND REALTY

Objective: Acquire lands with desirable resource values, protect those resource values, and those which enable legal access to public lands.

Management prescription: Use land ownership adjustments to accomplish these goals.

Action: Lands ownership adjustments would be used to acquire privately owned lands that contain high resource values or provide access to other public lands that have limited or no legal access.

Action: The BLM would continue to make lands available for agricultural disposal.

Management prescription: Restrict approval to those permits which are compliant with the visual resource standards of the area.

Action: Commercial activities or rights-of-way would be permitted under existing laws and regulations, if consistent with VRM Class III standards.

Chapter 3

CHAPTER 3

AFFECTED ENVIRONMENT and ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter presents the affected environment within the Black Rock Desert region as it exists today and those resource management components of the planning area that are relevant to an analysis of the Proposed Action or its alternatives. The analysis presented in this chapter is an assessment of the anticipated impacts upon those components most likely to be affected. The environmental baseline information summarized in this chapter was obtained from BLM documents, field studies, published sources, and communication with individuals having knowledge of the area. A list of cited references appears in the bibliography.

The analysis presented in this chapter considers the anticipated biological, physical, and socio-economic consequences of implementing the Proposed Action or its alternatives described in **Chapter 2.** The discussion of the environmental consequences follows each component apt to be affected and is in proportion to the significance of the anticipated impacts. The BLM's NEPA Handbook (H-1790-1) requires that all Environmental Impact Statements (EIS) address certain Critical Elements of the Human Environment.

The following critical elements are not present or would not be significantly impacted by the implementation of the Proposed Action or the alternatives : Air Quality, Prime or Unique Farmlands, Floodplains, Water Quality, or Wild and Scenic Rivers.

Two elements, Environmental Justice and Hazardous or Solid Wastes are not directly impacted by the proposal or alternatives but are briefly discussed.

The Critical Element Threatened or Endangered Species is addressed under the heading of Fish and Wildlife. Riparian Zones is addressed under the heading of Watershed and Riparian Areas

Wild Horses and Burros, and Livestock Grazing are managed under the existing Multiple Use Decisions for the affected allotments; only Wild Horses and Burros would be affected by the Proposed Action or alternatives.

ENVIRONMENTAL JUSTICE

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, deals with the disproportionate impacts of federal actions on minority communities and low-income groups. This evaluation must consider social, cultural, economic, and human health effects and whether BLM's decision results in any inequity in the distribution of benefits or risks. The Proposed Action and

Alternatives for the Black Rock Management Plan were evaluated and no disproportionately high or adverse human health or environmental effects were identified for minority or low-income populations.

HAZARDOUS OR SOLID WASTES

As considered appropriate by the authorized officer, a spill prevention, control and cleanup plan would be required for permitted activities. The plan would identify measures taken to minimize the likelihood of hazardous material spill, require notification of the BLM and state agencies, and obligate the permittee to conduct appropriate cleanup. Permit applicants would be required to provide a list of hazardous materials to be used in their activities.

BASELINE COMPARISON AND ANALYSIS

The baseline for comparing impacts is Alternative 1 (No Action Alternative), which represents a continuation of the existing management situation. The impacts associated with the implementation of the Proposed Action or alternatives are compared to this baseline. The analysis of environmental consequences includes identification and discussion of direct and indirect impacts. Cumulative impacts are also analyzed in this chapter. Also discussed in this chapter are mitigating measures needed to lessen the adverse or enhance beneficial impacts; unmitigatable unavoidable adverse impacts; relationship between short-term use and long-term productivity; and irreversible or irretrievable commitment of resources. Where subheadings for the preceding discussions do not appear, no further discussion follows as these impacts were considered insignificant.

ASSUMPTIONS FOR ANALYSIS

The following assumptions underlie the analysis:

Funding and staffing will be adequate to fully implement all management actions associated with each alternative.

Regional human demographic trends will continue at current rates over the life of the plan.

Local governments/municipalities within the planning area will require additional lands for community growth and public purpose development.

Power, communication, and petroleum product transmission and distribution needs will increase in the future.

The Federal Communication Commission (FCC) will make more frequencies available to industry; more communication site locations will be required.

Recreational use of the desert environment will continue to grow as a direct result of the increase in human populations and the increase in sales and use of OHVs.

Areas proposed to be withdrawn from mineral entry will occur timely and will be approved by Congress.

The Soldier Meadows Activity Plan (SMAP) will be approved.

The WSA's recommended "not suitable" will not become wilderness.

It is likely that the larger companies will not be involved in development of the geothermal resources.

Interest in the geothermal resources in this area will be as great as it was in the mid-to-late 1970' and early 1980's.

With increasing technological development, lower temperature geothermal systems will be utilized for electrical generating purposes.

Electrical generating plant would utilize binary technology.

None of the main county roads through the plan area will undergo major improvements.

There will be one major road improvement project through the Gerlach area, but outside of the plan boundary.

Decorative and landscape rock sales from Winnemucca Field Office area will increase.

INCOMPLETE AND/OR UNAVAILABLE INFORMATION

Noxious Weeds

The vast majority of noxious weeds are establishing and spreading relatively unchecked in Nevada.. Our current knowledge of known locations in the Winnemucca Field Office are only generally mapped. These maps are often incomplete. Federal, state, county, and local agencies are only recently beginning to work together to assess the extent of noxious weeds.

Cultural Resources

Most of the management area has not been surveyed for cultural resources. Estimates of the significance of known sites and districts has been made from the less than 10% of the area that has been done.

Watershed and Riparian Areas

Although ecological site information is available for the entire area, riparian ecological status has not yet been determined. Currently, riparian assessments are being done as part of the allotment evaluation process.

Paleontological Resources

No systematic paleontological inventory has been conducted in the Black Rock Plan Area. The relative lack of documented paleontological sites does not reflect the potential number and significance of such sites in the proposed management area.

PHYSICAL DESCRIPTION OF THE PLANNING AREA

PHYSIOGRAPHIC AND TOPOGRAPHIC SETTING

The proposed Black Rock Management Plan area is located in the northwest portion of the Basin and Range Physiographic Province (Peterson 1981). This province is characterized by elongated, generally north-south trending mountain ranges separated by broad basins which are filled with thousands of feet of unconsolidated stratified sediments. The southern portion of the west arm of the Black Rock Desert, however, trends northeast-southeast. Around High Rock Lake, at the northern edge of the proposed management area, a broad plateau developed on a thick sequence of nearly flat-lying volcanic rocks, bisected by deep canyons and several small valleys.

The region's topographic relief is approximately 4700 feet. Elevation in the plan area ranges from about 3800 to about 8500 feet. The plan area is bounded on the west by the Calico Mountains, where the highest elevation is 8463 feet, and on the east by the Black Rock Range, where the highest elevation is 5592 feet.

The playa of the Black Rock Desert, covering nearly 150 square miles, dominates the landscape of the proposed plan area. It is a remnant of a Pleistocene pluvial lake which extended across a wide area, interconnecting several of Nevada's northwestern basins. This system of interconnected lakes is referred to as Lake Lahontan. The shorelines, beach terraces, gravel bars, and playa of the Black Rock Desert are remnants of a lake which reached a maximum shoreline elevation of 4,380 feet approximately 18,000 years ago (Davis, 1982). The playa surface overlies a deep structural basin containing thousands of feet of wet, stratified saline silt and clay with interbeds of hardpan, sand, and gravel. Maximum depth is about 10,000 feet below the surface.

Sand sheets and dunes, located around the playa edge areas, are the prominent geomorphic features of the Black Rock Desert playa. Sand sheets (Soil Survey Staff 1996, Part 629-33) develop from wind moving across alluvial flats and lack slip faces characteristic of sand dunes. They developed during the Late Pleistocene and are still active. Sand dunes and parna dunes are developed on the eastern and southeastern edges of the playa. Of two quartz sand dune complexes in the Black Rock Desert, one is located within the

proposed management area along the base of the Black Rock Range north of Double Hot Springs (Sinclair, 1963, p.7). It developed during the Pleistocene. Transient dune-like features (also lacking slip faces) form during the dry season when wind born sediments accumulate around surface irregularities. Wet season conditions tend to eliminate or minimize these features. Parna dunes (Soil Survey Staff 1996, Part 620-28) consist of silt and clay particles rather than quartz, the most common dune material. Parna dunes formed from wind-blown Holocene sediments which accumulated during and after evaporative stages of the Pleistocene intermontane lakes.

Some areas of the playa surface are perennially wet: notably in the Quinn River sink, areas along the south-western margin, and an area on the northwestern margin in the vicinity of Mud Meadows Creek. During late fall, winter and spring, most of the playa surface is wet. The playa surface may be a sea of mud or there may be broad areas of standing water. Wind moves the water around, resulting in a planning action which maintains the relative flatness of the playa (Sinclair 1963, p.6), eliminating or minimizing dry season dune-like features and impacts from recreational activities.

CLIMATE

The arid to semi-arid climate of the Black Rock Desert results from the rain shadow effect of the Sierra Nevada which lie in between the Pacific Ocean and Nevada, absorbing most of the moisture in storm fronts moving east across the area. Annual precipitation varies from five to seven inches at lower elevations to seven to 15 inches in the mountains. Seventy percent of the precipitation occurs during late fall, winter, and spring. Summer precipitation is light and infrequent.

Average monthly high temperatures vary from around 40 degrees (F.) in January to about 95 degrees (F.) in July. Minimum temperatures vary from around 20 degrees (F.) in December and January to about 60 degrees (F.) in July.

Prevailing wind from the west is strongest April through June. Gusts often reach 30 miles per hour and occasionally higher. Wind during other seasons is light and variable and usually result from passing storm systems as well as daily heating and cooling of land surfaces.

GEOLOGY

The region has undergone a long and complex geologic history including cyclic episodes of sedimentation, mountain building, and igneous events. More recent geologic history includes crustal extension accompanied by volcanism, basin and range block-faulting, and regional high heat flow. The geologic landscape (**Figure 8**) influences the location and potential for economic mineral values in the planning area and can be summarized as follows.

The oldest rocks exposed in the mountains surrounding the desert are Permian, Triassic and Jurassic metavolcanic and metasedimentary rocks (Bonham, 1969; Johnson, 1977; Wilden, 1964; Stewart, 1980). They occur primarily in the southern end of the proposed

plan area, although isolated outcrops have been mapped on the south and west sides of the Black Rock Range and the Calico Mountains, where basin and range faulting has exposed them. The Black Rock outcrop is itself a sequence of Permian meta-andesites and interbedded volcaniclastic and fossiliferous limestone units (Howe, 1975). Jurassic and Cretaceous plutons crop out in scattered locations in the Black Rock Desert region. These plutons are prominent in the landscape along the southern and western regions of the desert. They range in age from 170 million years at Paiute Peak to 88 million years in the Granite Range (Maldonado, et. al., 1988).

Unconformably overlying the older rocks is a sequence of volcanic, volcaniclastic, and associated tuffaceous sedimentary rocks of Tertiary age. They range in age from 31.3 million years (Bonham, 1969) to 14 million years old (Noble, et. al., 1970) and occur mostly in the Calico Mountains and the Black Rock Range. Volcanic rock types include basalts, andesites, dacites, rhyolitic ash-flows tuffs and flow domes, and associated pyroclastic flows. The sedimentary rocks are primarily of lacustrine and fluvial-lacustrine in origin and were deposited contemporaneously with volcanism. In a very general sense, most of the older rocks crop out in the south end of the proposed plan area while the younger rocks crop out in the north.

The youngest deposits of the region, of Quaternary age, include an assemblage of fluvial, aeolian, lucustrine, and alluvial deposits primarily associated with Pleistocene Lake Lahontan and its local tributaries. These are discussed in more detail in a previous section. Two landslide deposits have been mapped in the Black Rock Range.

The current topography of the area is primarily the result of extensional forces which developed the Basin and Range Province. The mountain ranges and intervening valleys are the result of high angle faults associated with regional extension. The deep valley sediments come from the erosion of the surrounding mountains. Groundwater circulating through the sediments in the deep basin, picks up heat and eventually rises to the surface along fractures and faults. Hot springs and thermal wells occur throughout the proposed plan area, and the territory is well known for its geothermal resources.
The western arm of the Black Rock Desert is a downfaulted basin situated between two mountain ranges uplifted along generally north trending faults. The uplifted blocks are the Calico Mountains on the west and the Black Rock Range on the east. Thermal waters flowing through faulted and fractured rocks have caused hydrothermal alteration and mineral deposition. Thermal fluids and volcanic rocks in this region tend to be high in silica and within the plan area are found obsidian, agate, chalcedony, jasper, geodes, fire opal and common opal. Within the proposed management area a long, generally north-south trending fault, or fault zone, discontinuously mapped, underlies the playa and extends along the Black Rock Range, this is the Black Rock Fault. Thermal springs are located along much of its course. The Black Rock Fault, mapped along the western edge of the Black Rock Range, is an example of the major north-trending normal faults of the region. Northeast trending faults have been mapped along the southern edge near the mountains in the vicinity of Trego.

SOILS

The soils information in this document are drawn from the following unpublished soil survey reports (available for viewing at the Winnemucca Field Office): *Soil Survey of Washoe County, Nevada, Central Part*, by Ed Blake, Soil Conservation Service; *Soil Survey of Humboldt County, Nevada, West Part*, by Donald Jossie, Bureau of Land Management, and *Soil Survey of Pershing County, Nevada, West Part*, by Clarence Seagraves and Michael J. Zielinski, Bureau of Land Management.

Playas

Playas are on level bolson floors. Playas are nearly impermeable lacustrine sediments that are veneered with fine textured sediments and sandy eolian materials.

Lake plains and lake-plain terraces

In these areas the weathering of soil parent material is slow and leaching is incomplete. Plant cover is sparse and consists of drought and salt tolerant species. Soils are low in organic matter and have thin, light colored A horizons. Soils are nearly level to strongly sloping and are poorly to excessively drained. Some soils have seasonally high water tables and are subject to flooding. Most soils are strongly saline - sodic affected.

Fan Piedmonts

Soils are gently sloping through strongly sloping and somewhat excessively drained, leaching depth increases and pH is lower.

Mountain and Foothills

These soils are steep to very steep, very shallow to moderately deep, somewhat excessively and well drained, leaching depth increases, pH is lower, and a darker A horizon has developed.

Water and Wind Erosion Hazards

Soils with slopes of less than 15 percent have a low to moderate water erosion hazard. Above 6500 feet on slopes greater than 15% the water erosion hazard is high. Soils with slopes greater than 15 percent have a moderate to high hazard.

Wind erosion hazard for the mountain and foothill soils is slight. Lake plains, lake-plain terraces and fan piedmont soils have moderate to high wind erosion hazard. Playas have a high wind erosion hazard. Dry season dust storms accompany wind events over 10 miles per hour which occur during thunderstorms, passage of frontal systems, and vehicle movement on the playa and unpaved roads. Visibility decreases with increasing wind speed and vehicle activity.

Erosions hazards within the proposed plan boundary are presented in **Figure 6**.

Consequences of the Proposed Action

Impact resulting from the proposed alternative would minimize the rate of increase in soil disturbance resulting from an inevitable increase in OHV activity on sand sheets, sand and parna dunes, lake-plain terraces, fan peidmonts, foothill and mountain soils.

Disturbance of sand sheet, sand and parna dune surface crusts would lead to increased erosion of sand, clay, and silt particles.

Limiting OHV use to designated roads will minimize the destruction of existing soil surface crust and vegetation, the loss of which results in increasing soil erosion.

Consequences of the No Action Alternative
Alternative 1

Continuation of present management actions would result in increasing rates of soil erosion and loss of the protective soil crust and vegetative cover over broad areas as OHV users expand their activity across roadless areas. Recover of the soil crust and vegetation in arid regions is known to be as much as 100 years providing that no further disturbances occur.

Consequences of Maximum Resource Protection
Alternative 2

Impacts to soil resources under this alternative would be similar to those under the proposed action.

Consequences of Maximum Resource Use
Alternative 3

Impacts to soil resources under this alternative would lead to maximized rates of soil and vegetation loss.

Uncontrolled and increasing OHV activity on existing roads in mountain soils would result in the development of impassable ruts in this highly erodible soil. OHV activity would inevitably expand across roadless areas, widening the area of soil and vegetation loss.

Increased soil disturbance in high use sites such as hot springs areas would lead to soil deposition in the springs and deeper levels of soft surfaces in which vehicles could become stuck.

Broadening areas of denuded soils would also lead to increasing loss of visibility during dust storms and general deterioration of air quality.

VEGETATION

Vegetative types in the proposed area range from Greasewood and Saltgrass on the flats adjacent to the playa at elevations of 3800 to 4200 feet. Shadscale, bud sagebrush, and Bailey greasewood dominate the alluvial fans at elevations of 4200 to 5000 feet. Lahanton sagebrush dominates the mountain sites to an elevation of 6500 feet. Mountain big sagebrush and low sagebrush dominate the higher elevations with Bitterbrush, Mountain Mahogany and Aspen sites in the higher elevations at 8,600 feet.

NOXIOUS WEEDS

Noxious weeds are non-native, invasive plants which, when introduced, quickly dominate the landscape. Uncontrolled populations may proliferate to the point they crowd out other plants beneficial to wildlife and domestic animals. Wildlife and grazing animals do not often eat noxious weeds because of thorns, spines, or chemical content.

Infestations of noxious weeds can be devastating. Quick, effective control is a priority, but is only possible when there is documentation of infestations. Noxious weeds are spread from infested areas by people, equipment, domestic and wild animals. The potential for greater infestation grows with the increase in population, mining, oil and gas exploration activity, and recreational use, including Off Highway Vehicle use.

The Winnemucca Field Office is currently conducting an inventory of noxious weeds. The purpose of this inventory is to document the location of the infestations so that control/eradication measures can be implemented. This inventory was started in spring of 1997 and is on going.

The following noxious weeds have been identified through inventory efforts within the proposed plan area: Perennial Pepperweed (Lepidium latifolium); Russian Knapweed (*Centaurea repens*); Bull Thistle (Cirsium vulgare (Savi) Tenore); and Salt Cedar (*Tamarix ramosissima*) (see **Figure 5**).

Consequences of the Alternatives

Common to all alternatives is the continued spread of noxious weeds. The degree to which noxious weeds are spread would be directly related to human activities in the area. Other elements would assist in weed proliferation but none so significantly as OHV activity. Therefore those alternatives which impose more restrictive OHV travel would impede the spread of noxious weeds (the Proposed Action and Alternative 2 : Maximum Resource Protection) while those which promote OHV use (Alternative 3 : Maximum Resource Use) or allow unchecked OHV travel (Alternative 1 : No Action) would allow continued and accelerated weed proliferation.

FISH AND WILDLIFE

The proposed management plan area contains a complex mosaic of topography and vegetation which supports a diversity of wildlife (**Figure 9**). The habitat sites and wildlife values found within the proposed management area are of Great Basin fauna. What is unusual is the mosaic of the various habitat types within a relatively small area. Small patches of big and low sagebrush intermix with Aspen and Mountain Mahogany to provide fawning grounds for mule deer and nesting sites for bird species more commonly found in timbered areas elsewhere. Large and small rim rocks in canyons and along mountain ranges provide cliff and rock slopes habitats that are the primary nesting sites for birds of prey, swallows, and swifts. These rim rocks also provide escape cover for bighorn sheep, denning sites for mountain lions and bobcats, and provide yearlong homes for many animals.

The source of water remains integral to the location and survival of both plant and animals within the plan area. Small seeps and springs provide key wildlife water and meadow habitat of green lush vegetation during the hot, dry summer months. Wildlife use riparian habitats extensively, including migrant bird species in the spring and fall months. Small shallow lakes provide seasonal habitat for resident and migrant waterfowl and shorebirds. The narrow canyons provide meadow and stream-side riparian habitats. Fish are found in a few stream and spring areas.

Threatened or Endangered Species

Donnelly Creek is a proposed reintroduction site for Lahontan cutthroat, a federally listed threatened species. Most of the habitat for Desert Dace, another federally listed threatened species, is on public lands around Soldier Meadows. Species of hydrobiid spring snails have also been identified in the some springs and their outflows within the proposed plan area (**Figure 2**). These snails are unique to specific springs a species of snail may not be found in any other spring complexes.

Unusual soils found within the proposed management area support small populations of rare plants. These species are all found in landscapes with little competing vegetation. Crosby's buckwheat, the only known populations of Schoolcraft's cryptantha and Tiehm's milkvetch are within the proposed management area. Basalt cinquefoil, a federal species of concern and Nevada BLM sensitive species, is found near the hot springs in Soldier Meadows. A smooth stickleaf, *Mentzelia mollis,* has been found in the vicinity of the west slopes of the Black Rock Range.

Current Management Directions

Wildlife and wildlife habitats on public land play an increasing role in the formulation of future management actions. The BLM's emphasis on Wildlife 2000, the Riparian-Wetlands Initiative for the 1990s, a Strategy for Future Waterfowl Habitat Management on Public Lands, Animal Inn, Watchable Wildlife, the Recreational Fisheries Program, agency and public policy will direct increasing attention on wildlife issues.

Consequences of the Proposed Action

Impacts from management actions in the proposed alternative would be beneficial to terrestrial and aquatic species within the project area.

Protection of spring areas would protect terrestrial and aquatic species from degradation of physical habitat components. Disturbance to these species during critical seasons, including mating; birthing or nesting and brooding or rearing, should also be reduced.

Limiting vehicle use to designated roads would reduce disturbance to wildlife during critical seasons mentioned above and lower venerability of game species during hunting seasons. Physical habitat parameters would also be protected from destruction resulting from off road vehicle use.

Management actions set forth in the proposed alternative for large events would regulate numbers of users in the area and thus reduce disturbance and offset impacts at the same critical seasons of the year mentioned above.

Increased emphasis on interpretation, as stated in the proposed action, would educate the public on wildlife life histories, habitat needs and impacts by public land users to the species in the area. This would lead to a greater appreciation and a decrease in human impacts to the project areas flora and fauna. In addition the increase presence of BLM employees and volunteer would help to detect problems early and allow them to be dealt with in a timely manner.

The part of the project area that lies within the boundary of the Soldier Meadow Activity Plan would be managed to protect the unique natural and cultural resources of that area.

In general short term impacts of this alternative would be beneficial to wildlife populations by improving physical habitats and limiting human disturbance.

Long term impacts would include wildlife population maintenance or increase and a diminished possibility of further listings under the Endangered Species Act.

Cumulative Impacts

Increased emphasis on interpretation, as stated in the proposed action, would educate the public on wildlife life histories, habitat needs and impacts by public land users to the species in not only the plan area but also in the entire district.

Other proposed actions that restrict activities in the plan area may lead to an increase of adverse impacts on wildlife habitats and increase disturbance of wildlife populations on public and private lands surrounding the plan area.

Consequences of the No Action Alternative - Continuation of Existing Management Alternative 1

Under present management, physical habitats could be threatened by impacts of recreational use on springs, meadows, and streamside riparian areas. Off road vehicle use, camping, and use of warm springs for bathing are contributing to loss of vegetation; introduction of exotic, undesirable vegetation; introduction of foreign materials and chemicals to spring systems; destabilization of banks and soils and increase of sediment introduction to aquatic systems. These impacts can adversely effect food, water, cover and breeding areas for species using these areas.

Populations of wildlife would also be impacted by the increase number of people using the project area. Large scale events and "weekend users" are introducing the area to increasing numbers of people yearly. These users may later visit the area and "explore" during breeding, nesting, birthing, or rearing seasons presenting a disturbance factor at these critical times for wildlife.

At this time the information and education program is informal with information coming from contact with district personnel. This has allowed ignorance of wildlife species needs in the project area and the impacts of human activities on them.

Management actions from the Multiple Use Decisions for the Buffalo Hills, Soldier Meadows, Paiute Meadows, Leadville and Blue Wing/Seven Troughs Allotments would be continued and modified if needed in the next allotment reevaluations.

The part of the project area that lies within the boundary of the Soldier Meadow Activity Plan will be managed to protect the unique natural and cultural resources of that area. In general short term impacts of this alternative would be beneficial to wildlife populations by improving physical habitats and limiting human disturbance.

In general, short term impacts of this alternative would continue to impact wildlife populations by degradation of physical habitats and continuing human disturbance.

Long term impacts are decrease of wildlife populations and the possibility of further listings under the Endangered Species Act.

Cumulative Impacts

Impacts on wildlife habitats and wildlife disturbance within the plan area and on public and private lands surrounding the plan area would remain as they are at present.

Consequences of Maximum Resource Protection Alternative 2

Environmental consequences of this alternative on terrestrial and aquatic wildlife would be the same as those from the proposed action alternative.

Consequences of Maximum Resource Use
Alternative 3

Impacts from management actions in this alternative would not be beneficial to terrestrial and aquatic species.

Open access to spring areas would lead to degradation of physical habitat components. Disturbance to these species during critical seasons, including mating; birthing or nesting; and brooding or rearing, would also occur.

Unlimited vehicle use would increase disturbance to wildlife during critical seasons mentioned above and increase venerability of game species during hunting seasons. Some physical habitat parameters could be protected by improvement and maintenance of access roads, but habitat destruction resulting from off road vehicle use of unimproved road during wet periods of the year would increase.

Lack of management resources for large events and increased visitation from marketing strategies could increase disturbance during critical seasons of the year.

Increased emphasis on interpretation in the proposed action should educate the public on wildlife life histories, habitat needs, and public impacts to the species in the area. This would lead to a greater appreciation of, and could decrease some human impacts to, the area's flora and fauna.

The part of the project area that lies within the boundary of the Soldier Meadow Activity Plan would be managed to protect the unique natural and cultural resources of that area.

In general short term impacts of this alternative would further impact wildlife populations by increased degradation of physical habitats and human disturbance.

Long term impacts are a decrease of wildlife populations and the possibility of further listings under the Endangered Species Act.

Cumulative Impacts

Impacts on wildlife habitats and wildlife disturbance within the plan area and on public and private lands surrounding the plan area would remain as they are at present or increase with the increase in human activities.

WATERSHED AND RIPARIAN AREAS

Streams and Lakes

The proposed plan area has five perennial streams: Donnelly Creek, Cherry Creek, Slumgullion Creek, Soldier Creek, Mud Meadow Creek, and numerous ephemeral streams. The majority of stream flows are generated from springs in the streams headwaters and runoff from winter and spring precipitation. Summer storm events are not a significant

he yearly flow regime. Base flows for these streams are generally less than one ɔt per second (cfs), with average yearly flood stage at less than ten cfs. ɔhology of the watersheds creates streams of moderate to high gradients with low rate sinuosity and bed materials that range from silt-sand to large boulders. Most are characterized by deeply incised channels. Past land management practices ıg: livestock grazing, water diversion and impoundment for ranching and mining, acement, and off road vehicle use have left most of these lotic systems functioning at risk.

The upper watersheds in the Calico Mountains and Black Rock Range are characterized by small spring and meadow complexes. These lentic systems for the most part are functioning at risk due impacts from livestock and wild horse grazing, road intersection, and off road vehicle use.

High Rock Lake is the only natural lake of any significance within the plan area. The lake is shallow and at capacity is no more than ten feet deep. The surface area is highly variable and is dependent on amount, duration and timing of precipitation. There are three impoundments; Mud Meadow Reservoir, Wheeler Reservoir and Jackson Reservoir, of over ten surface acres when full, either partially or fully on public land within the plan area. The Black Rock Playa is partially covered by standing water from March until July in a normal precipitation year. The extent and duration of the standing lake on the playa is determined by the amount and timing of the annual precipitation.

Springs, Seeps, and Wells

Cold water and thermal (hot) springs, seeps and flowing (artesian) wells are common and significant attributes of the Black Rock Desert. Water in these features originates as precipitation and appears on the land surface as ground water discharge.

They occur in various situations: (1) in alluvial fill at the heads of canyons; (2) at locations where the land surface intercepts a water table; (3) where ground water flow intercepts an impermeable barrier, is forced to flow to the land surface, subsequently appearing as a seep or spring; (4) as an artesian flow in which water is forced to the land surface because of certain subsurface conditions such as the presence of faults which allow ground water to circulate at depths where it will be heated, returning to the surface as hot springs; (5) as an unrestrained artesian flow (flowing wells) at locations where a dug or drilled well intercepts ground water in an aquifer with sufficient pressure to flow to the surface under its own power.

Temperature of the thermal springs varies from warm to boiling. Temperatures in individual springs may also vary. Water in thermal springs is highly mineralized due to the depths at which the water circulates and high temperatures. Several thermal springs contain water at temperatures high enough to be a significant health hazard to humans, their pets, and wildlife. Although very alkaline, thermal spring water may be suitable for stock use and bathing if cooled to an acceptable temperature. It is unsuited for domestic use.

Water in some springs, seeps, and flowing wells is cold water from aquifers which originate in piedmont slopes and alluvial fans. These aquifers are recharged by precipitation and are unaffected by the heat generated in the fault zone circulation system associated with the thermal springs. Water quality varies but is generally very alkaline It is suitable for irrigations and stock use but marginal or not suitable for domestic use.

Springs, seeps, and flowing wells are of considerable significance in the natural and cultural history of the Black Rock Desert. During prehistoric and historic periods Native Americans used them as water sources, special places for bathing, healing and other sacred purposes, and for warmth during cold weather. Routes of 19th Century explorers, soldiers, and Euro-American emigrants were dictated by the location of springs. Several thermal spring pools were modified to create a channel in which water would cool sufficiently for stock use. Food was cooked directly in thermal springs.

Recreation activities in the Black Rock Desert focus of the landscape and its thermal springs.
Several popular hot springs, some on public land and others on private property, within the Black Rock Desert have been used for bathing for many years. Of these, only one (on private property) has been developed, but commercial use has ceased and the spring is closed to the public. Temperatures in most of the springs exceed 130 degrees (F.); however, temperatures can vary between 160 degrees (F.) and boiling, temperatures which can cause scalding and death.

Wildlife, amphibians, fish, and birds depend on the habitat provided around these water sources. Vegetation around these spring systems consists of common species including; wiregrass, alkali bullrush, cattails, and various species of rushes and sedges. In addition the spring systems provide habitat for unique species including basalt cinquefoil and several species of monkey flower. Studies are ongoing at this time to determine bacterial inhabitants of the springs, particularly the thermal ones.

Consequences of the Proposed Action

Spring areas would be protected from degradation. Hydrologic function of these areas would improve or at least be maintained. Habitats for terrestrial and aquatic species dependent of the riparian areas would also benefit.

Limiting vehicle use to designated roads would reduce disturbance to riparian areas and decrease erosion rates particularly in meadow areas during wet periods of the year.

Management actions set forth in the proposed alternative for large events would regulate numbers of users in the area and thus reduce disturbance in riparian areas in proximity of the event.

Increased emphasis on interpretation, as stated in the proposed action, would educate the public on the function and importance of healthy riparian areas. This would lead to a greater appreciation and a decrease in human impacts to the project areas riparian resources. In addition, the increase presence of BLM employees and volunteers would

help to detect problems early and allow them to be dealt with in a timely manner.

The part of the project area that lies within the boundary of the Soldier Meadow Activity Plan would be managed to protect the unique natural and cultural resources of that area.

In general short term impacts of this alternative would be beneficial to riparian areas by limiting human disturbance.

Long term impacts are maintenance or improvement of riparian resources and a decrease in erosion processes.

Cumulative Impacts

Increased emphasis on interpretation, as stated in the proposed action, would educate the public on importance of healthy riparian areas and impacts by public land users to these areas in not only the plan area but also in the entire district.

Other proposed actions that restrict activities in the plan area may lead to an increase of adverse impacts on riparian areas on public and private lands surrounding the plan area.

Consequences of the No Action Alternative
Alternative 1

Under present management, recreational use on springs, meadows, and streamside riparian areas would cause adverse impacts to these riparian areas. Off road vehicle use, camping, and use of warm springs for bathing are contributing to loss of vegetation; introduction of exotic, undesirable vegetation; introduction of foreign materials and chemicals to spring systems; destabilization of banks and soils and increase of sediment introduction to aquatic systems.

Riparian areas are also being impacted by the increased number of people using the project area. Large scale events and "weekend users" are introducing the area to increasing numbers of people yearly. These users may later visit the area and "explore" during times of the year when riparian resources are particularly venerable to impacts such as driving on meadows when they are wet.

At this time the information and education program is informal with information coming from contact with district personnel. This has allowed ignorance of riparian resource values in the project area and the impacts of human activities on them.

Management actions from the Multiple Use Decisions for the Buffalo Hills, Soldier Meadows, Paiute Meadows, Leadville and Blue Wing/Seven Troughs Allotments would be continued and modified if needed in the next allotment reevaluations.

The part of the project area that lies within the boundary of the Soldier Meadow Activity Plan will be managed to protect the unique natural and cultural resources of that area.

In general short term impacts of this alternative would be beneficial to riparian resources by improving physical habitats and limiting human disturbance.

In general short term impacts of this alternative would continue to impact riparian areas by degradation of physical and biological functions brought on by continuing human disturbance.

Long term impacts are decrease of riparian functioning in the project area.

Cumulative Impacts

Impacts on riparian areas within the plan area and on public and private lands surrounding the plan area would remain as they are at present.

Consequences of Maximum Resource Protection
Alternative 2

Environmental consequences of this alternative on riparian areas would be the same as those from the proposed action alternative.

Consequences of Maximum Resource Use
Alternative 3

Impacts from management actions in this alternative would not be beneficial to riparian and watershed health in the project area.

Open access to spring areas would lead to their degradation. This Alternative could allow illegal piping/alteration of these water sources which could cause those with weak flows to cease flowing, thereby eliminating wildlife habitat.

Some physical habitat parameters could be protected by improvement and maintenance of access roads, but riparian area destruction resulting from off road vehicle use of unimproved road during wet periods of the year would increase.

Lack of management resources for increased visitation resulting from marketing strategies by tourism agencies, large event organizers, motor vehicle manufactures and dealers, and commercial tour operators could increase adverse impacts to riparian areas.

Increased emphasis on interpretation in the proposed action should educate the public on riparian values and public impacts to these resources in the area. This would lead to a greater appreciation of, and could decrease some human impacts to, the area's riparian resources

The part of the project area that lies within the boundary of the Soldier Meadow Activity Plan would be managed to protect the unique natural and cultural resources of that area.

In general short term impacts of this alternative could further impact riparian areas by increased degradation of physical habitats.

Long term impacts are a decrease of riparian function in the project area.

Cumulative Impacts

Impacts on riparian areas within the plan area and on public and private lands surrounding the plan area would remain as they are at present or increase with the increase in human activities.

LIVESTOCK AND GRAZING

The management area includes portions of the Soldier Meadows, Leadville, Buffalo Hills, and Blue Wing Allotments. Most of the privately owned lands within these allotments are associated with ranches to which BLM livestock grazing permits are attached. Alfalfa growers, such as those of the Hualapi Flat, do not have permits. The majority of the Black Rock Desert Playa lies outside of the above mentioned allotment boundaries (**Figure 3**). Since the playa is mostly barren of vegetation, it is not included as a part of any grazing allotment.

All four of the allotments have Multiple Use Decisions (MUDs) that address specific rangeland issues such as forage allocation, grazing systems, monitoring, and range improvement projects. These allotments are monitored annually to insure compliance with the respective MUDs. Any future allotment re-evaluations would also incorporate the Standards For Rangeland Health (see **Appendix A**) as developed in consultation with the Sierra Front - Great Basin Resource Advisory Council, other publics and approved by the Secretary of the Interior on February 12, 1997.

The Table 3-1 lists the allotments and provides additional related information on the respective allotments:

Table 3-1 Allotments within the Proposed Management Area				
ALLOTMENT	MGT. CATEGORY	TOTAL ACRES	ACRES IN MGT. AREA	% IN MGT. AREA
Soldier Meadows[1]	I	332,726	214,333	64%
Leadville	M	54,572	7,621	14%
Buffalo Hills[2]	I	431,006	71,404	17%
Blue Wing[3]	I	1,279,299	8,644	<1%
TOTAL	----------	2,097,603	302,002	----------

The Table 3-2 provides additional information related to the livestock grazing permits in the respective allotments:

Table 3-2 Allotment Permit Information				
ALLOTMENT	TYPE LIVESTOCK	NUMBER LIVESTOCK	SEASON/USE 1/1 - 12/31	TOTAL AUMS[4]
Soldier Meadows	Cattle	500 - 1117	1/1 & 12/31	7,687
Leadville	Cattle	235	5/1 & 10/15	1,291
Buffalo Hills	Cattle Cattle	613 20	4/1 & 10/15 4/1 & 10/15	3,984 130
Blue Wing[5]	Cattle Sheep	836 4320	3/1 & 2/28 12/7 & 3/17	6,620 2,867
TOTAL	----------	6,524 - 7,141	----------	22,579

Additional information related to the rangeland resource can be obtained in the Sonoma-Gerlach Grazing Environmental Impact Statement and the respective Allotment Re-evaluations and Multiple Use Decisions (MUDs).

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1 Includes 1992 The Nature Conservancy 4,987 ac. purchase.

2 Includes the old Calico Allotment.

3 Includes the old Seven Troughs Allotment.

4 An AUM is the amount of forage to sustain a cow and her calf (up to 6 mo. of age) or five sheep for one month. The number of AUMs would be the licensed annual use.

5 These two permits use areas would lie within the proposed plan boundary.

WILD HORSES AND BURROS

The planning area encompasses part of four Herd Management Areas (HMAs) and one Herd Area (HA) (**Figure 3**). The Black Rock Range-West, Calico Mountains, and Warm Springs Canyon HMA's are located north of the Union Pacific Railroad tracks. There are approximately 42,840 acres (43%) of the Black Rock Range-West, 72,491 acres (46%) of the Calico Mountains, and 16,800 acres (20%) of the Warm Springs Canyon HMA's contained within the planning area boundary. Wild horses are primarily found at higher elevations in the HMA's except for the winter months when there is some movement to the valley floor. Burros are found only in the Warm Springs Canyon HMA, typically on upland areas in the vicinity of the hot springs complex, from Fly Canyon north to the mouth of Warm Springs Canyon.

The Lava Beds HMA and Selenite Range HA are located south of the Union Pacific Railroad tracks. There are approximately 10,085 acres (4%) of the Lava Beds HMA, and 1,260 acres (1%) of the Selenite Range HA. Wild horses are seldom found in the Lava Beds HMA or Selenite Range HA contained within the planning area boundary. Wild horses may utilize Rabbithole Spring during droughts or the late summer season as water becomes scarce at other sources. Wild burros are found south of the planning area boundary.

The Table 3-3 lists the appropriate management level (AML) for Wild Horses and Burros by allotment in each HMA and HA, and the February 1998 estimated population.

Table 3-3 Allotment AML for Wild Horses and Burros

Herd Management Area/Herd Area Allotment	Management Range # below AML to AML	Estimated Population February 1998+
Black Rock Range-West HMA Soldier Meadows	Horses 60 to 93	Horses 316
Calico Mountains HMA Buffalo Hills Leadville Soldier Meadows	Horses 106 to 142 Horses 95 to 126 Horses 49 to 65 Total 250 to 333	Horses 840
Lava Beds HMA Blue Wing/Seven Troughs	Horses 89 to 119 Burros 10 to 13	Horses 370 Burros 34
Warm Springs Canyon HMA Soldier Meadows	Horses 131 to 175 Burros 18 to 24	Horses 453 Burros 24
Selenite Range HA Blue Wing/Seven Troughs	Horses 0 Burros 0	Horses 65 Burros 20

done

done

ARE THESE PRINTS JUST REMOVED ?

Management objectives and the Appropriate Management Level for Wild Horses and Burros were established by the Blue Wing/Seven Troughs, Buffalo Hills, Leadville, and Soldier Meadows Allotment's Final Full Force and Effect Multiple Use Decision's.

Consequences of the Proposed Action

Impacts from management actions in the proposed alternative should be beneficial to wild horse and burros within the project area.

Limiting vehicle use to designated roads should reduce disturbance to wild horses and burros. Physical habitat parameters would also be protected from impacts associated with OHV use.

Limiting vehicle use in the area would result in a reduction of access for viewing wild horses and burros by the public. However, the number of horses and burros seen would probably increase due to reduced habitat pressure.

Increased emphasis on interpretation in the proposed action should educate the public on the history, habitat, and impacts by public land users on wild horses and burros in the project area. This should lead to a greater appreciation and a decrease in human impacts to wild horses and burros. An increase in the presence of BLM employees and volunteers will help to detect potential problems early and allow a faster reaction time to mitigate a problem before it increased in size.

Opportunities to acquire private lands should increase the management opportunities for wild horses and burros.

Management actions from the Buffalo Hills, Leadville, Soldier Meadows, and Blue Wing/Seven Troughs Allotments Multiple Use Decisions would be continued and modified if needed in the next allotment re-evaluations.

Consequences of the No Action Alternative - Continuation of Existing Management Alternative 1

Under present management, physical habitat may be impacted by recreational use in the project area.

Open access to all areas, with the exception of WSAs, in the project area may lead to degradation of water sources and habitat. Disturbance to wild horses and burros by OHV's may increase, particularly during the foaling period and the hot summer months when animals are more closely associated with watering sites.

Wild horses and burros may be impacted by the increasing number of people using the project area. Large scale events and weekend users are introducing the area to more people each year. During subsequent visits to the area, these individuals may explore

other areas in the Black Rock region which may result in an increased disturbance to wild horses and burros.

Management actions from the Buffalo Hills, Leadville, Soldier Meadows, and Blue Wing/Seven Troughs Allotments Multiple Use Decisions would be continued and modified if needed in the next allotment re-evaluations.

Consequences of Maximum Resource Protection
Alternative 2

Environmental consequences of this alternative on wild horses and burros would be the same as those from the proposed action.

Consequences of Maximum Resource Use
Alternative 3

Impacts from management actions in this alternative may not be beneficial to wild horses and burros.

Open access to all areas, with the exception of WSAs, in the project area may lead to degradation of water sources and habitat. Disturbance to wild horses and burros by OHV's may increase, particularly during the foaling period and the hot summer months when animals are more closely associated with watering sites.

Some physical habitat parameters may be protected by improvement and maintenance of access roads, but habitat destruction resulting from OHV use on unimproved roads during wet periods of the year may increase.

Lack of management resources for large events and increased visitation from marketing strategies could increase disturbance to wild horses and burros during the foaling period and the hot summer months when animals are more closely associated with watering sites

Increased emphasis on interpretation should educate the public on the history, habitat, and impacts by public land users on wild horses and burros in the project area. This should lead to a greater appreciation and a decrease in human impacts to wild horses and burros.

Opportunities to acquire private lands should increase the management opportunities for wild horses and burros.

Management actions from the Buffalo Hills, Leadville, Soldier Meadows, and Blue Wing/Seven Troughs Allotments Multiple Use Decisions would be continued and modified if needed in the next allotment re-evaluations.

CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

Cultural Resources Background

The following information is synthesized primarily from Smith et. al. (1983), McGuckian Jones (1980), and Lohse (1981). These documents should be consulted for more comprehensive information.

Numerous prehistoric archaeological sites with widely varying degrees of complexity, size, location, and densities have been identified within the management plan area. These include rock shelters, occupation sites with probable buried deposits; temporary camps; petroglyphs; hunting blinds; quarry sites; lithic scatters; and pebble mounds. The latter site type may be associated with prehistoric water harvesting, native plant manipulation, or water fowl procurement.

The Black Rock Desert contains evidence of some of the oldest prehistoric occupation in the area--dating to as early as 10,000 to 12,000 years ago. Artifact assemblages found in the Black Rock Desert have led to speculation that big game hunting sites may exist in the area. Large animal sites in proximity to artifacts which may be associated with early occupation of the area have also been found in the vicinity of the management area. These finds have generated considerable scientific interest in the area.

Historic events within the management area have helped to mold and change the course of American history on a national scale. Captain John C. Fremont and Kit Carson, on their 1843-44 exploring expedition, travelled south through the management area passing through High Rock Canyon, Fly Canyon, Soldier Meadows and the Black Rock Desert. Utilizing maps and information from the Fremont Expedition, the Applegate brothers blazed the Applegate Trail from Oregon through the area in 1846. Peter Lassen, in turn, incorporated the Applegate Trail into his 1848 Applegate-Lassen cutoff from the California Trail. This route followed the Applegate Trail north through the Black Rock Desert to Goose Lake and then branched off to the California goldfields. The route was erroneously advertised as a shortcut, luring nearly half of the 1849 gold seekers, as many as 20,000 people, along this desolate route. Hardships experienced by emigrants along the Applegate-Lassen Cutoff earned it the name, "The Death Route".

In addition to the Fremont and Applegate-Lassen routes, two cutoffs from the Applegate-Lassen Trail also traversed the Black Rock Desert. These were the 1852 and 1856 Nobles Routes. These routes reduced the length of the journey to California and provided additional water sources for travelers. Portions of the Applegate-Lassen Trail and 1856 Nobles Route were later used as freight routes. No physical traces of the Fremont expedition remain, but the route is well documented. Most of the Applegate-Lassen Trail in the management area has been superseded by 4 wheel drive vehicle trails and, in some places, graded roads. A few relatively unaltered trail remnants are still visible as are emigrant writings in Fly Canyon. The 1852 and 1856 Nobles Routes in the management area have been superseded by modern vehicular routes in most places. The portions of these historic routes which traverse the playa have been obliterated.

Campsites along the Applegate-Lassen Trail within the management area include Rabbithole Springs, Black Rock Hot Springs, Double Hot Springs (private land), and Mud Meadows. The Fly Canyon Wagon Slide, where the emigrants lowered their wagons down a steep precipice, is also an important feature of this trail. Noteworthy sites along the Fremont Route within the management area include Mud Meadows, Black Rock Springs, and Razorback (Trego) Mountain. Notable sites along the 1852 Nobles Route in the management area include Rabbithole Springs, and Black Rock Springs. Stops along the 1856 Nobles Route include Rabbithole Springs and Trego Springs. Great Boiling Springs (near Gerlach) and Granite Creek (north of Gerlach) were also stops along the 1852 and 1856 Nobles Route. Both of these sites are on private land just outside of the management plan boundary. Great Boiling Springs also served as a campsite for the Fremont Expedition.

Between 1859 and 1860 the (1856) Nobles Route was developed by F.W. Landers as part of the Honey Lake Wagon Road development project. Landers and his crew mapped the route and developed the road. They also dug out and expanded several of the springs including Rabbithole Springs and Trego Springs. At Rabbithole Springs the water supply was tapped and a split-stone culvert was set in cement to carry the water to a reservoir of solid masonry which held 80,000 gallons. At Trego Hot Springs a large reservoir was built and water in the springs diverted so that it would cool in the process of flowing to the tank. The Honey Lake Wagon Road superseded the old California and Oregon Trails during the 1860's.

Portions of the Nobles/Landers route were also incorporated into the 1862 Idaho Wagon Route which went from Chico, California to Ruby City Idaho. This route followed the Nobles Route to Granite Creek and then went north through Soldier Meadows enroute to Idaho. It received heavy use during the mining boom in Idaho in 1860's. In addition to freight wagons, a weekly saddle-train carrying mail and passengers travelled this route. Also along the route were connections which led to the Humboldt Range boomtowns during the period of greatest mining activity (1860s and '70's). During the 1860's Granite Creek functioned as a stage station for these routes. Completion of the Central Pacific Railroad as far east as the "Big Bend" of the Humboldt River in 1867 caused use of the Black Rock wagon routes to drop off dramatically.

Following the Civil War, the United States created many military outposts in the west to absorb the standing army and protect mail and freight routes in an expanding country. An outpost of Camp McGarry at present day Soldier Meadows Ranch and Camp McKee at Granite Springs (both located on private land) were two such military establishments. Several of the buildings from the old outpost at Soldier Meadows are still standing and have been incorporated into the present-day Soldier Meadows Ranch. Camp McKee was basically a tent city, but two major stone foundations still remain at the Camp McKee/Granite Creek Station site.

By the 1870's, huge numbers of cattle, and later sheep, were driven throughout the region. These were followed by homesteaders. Some tried to farm the bottoms and others were agents for large ranching operations. Their traces remain as wood and stone houses,

foundations, irrigation systems and fences scattered throughout the management area. Some of these are still in use by current ranching operations.

Historic mining features are another type of cultural resource in the plan area. The earliest known prospecting by whites in the plan area occurred in 1849 when James Hardin, a member of a wagon train passing along the Applegate Lassen Trail, collected ore samples which he believed to be lead, from the nearby Black Rock Range. Years later he had the ore assayed and found it to be very high in silver content. In 1858, he and a party of men tried unsuccessfully to relocate the lost silver source. A mill at Hardin City was built in the area in 1866 when it appeared that a silver ledge had been located (but nothing really ever came of it). Foundations of the small settlement of Hardin City still remain. Also near Paiute Peak in the Black Rock Range is the site where Peter Lassen and a companion, Edward Clapper, were murdered in 1859 while searching for the lost Hardin silver ledge.

Since these early mining attempts, prospecting for silver, gold, and opals has taken place in the plan area (See Affected Environment--Minerals). The remnants of these endeavors are prospects, shafts, adits, mining equipment, mining claim markers, small structures and foundations. Some of these mining ventures remain active to this day.

Between 1907 and 1909 the Western Pacific Railroad built a transcontinental line which passes east along the southern boundary of the management area. Gerlach and Sulphur were depots along this route. Gerlach was established in 1906 and named after Louis Gerlach, founder of the Gerlach Land and Cattle Company which owned nearby ranches (Carlson 1974:119).

Empire, just south of the management area was settled in 1922. The town was built by the Pacific Portland Cement Company for employees who worked in the nearby gypsum mine. An aerial tramway transported ore from the Selenite Range to the gypsum plant for processing.

During the World War II era, the Black Rock Desert served as a bombing range for the military and old military ordinance can still be found.

Existing Management

Management of cultural resources is mandated by a number of laws including the Antiquities Act of 1906, the National Historic Protection Act, the Archaeological Resources Protection Act, and the National Environmental Protection Act. Procedures under these laws and regulation are Standard Operating Procedures.

A Tri-State/District agreement between the Susanville, Lakeview, and Winnemucca Field Offices facilitates communication and cooperative efforts to manage and protect cultural resources in these three adjacent districts. The National Park Service has prepared a *Draft Comprehensive Management and Use Plan and Environmental Impact Statement:*

California and Pony Express National Historic Trails. This plan includes recommendations for the Applegate-Lassen Trail.

The portion of the Applegate-Lassen trail which passes through the Black Rock Desert is the longest existing segment of emigrant trail which the public can travel surrounded by virtually the same vistas witnessed by the gold seekers in 1849. In recent years two wagon trains have travelled along the trail, reenacting the historic journey. It is anticipated that this use would continue in the future, particularly with the 1849 sesquicentennial approaching. Numerous other groups and individuals have hiked, ridden, and/or driven portions of the trail. The BLM has made available to the public maps of the trail route and other historical information on the trail. A marker has been erected at the Lassen-Clapper Murder site where Peter Lassen, founder of the cutoff, and his companion, Edward Clapper, were murdered in 1859. In addition, Trails West and the Oregon California Trails Association (OCTA) have marked important points along the Fremont, Applegate-Lassen, and Nobles Routes.

A one mile corridor along the Applegate-Lassen Trail was listed on the National Register of Historic Places on December 18, 1978. The outpost of Fort McGarry at Soldier Meadows and the Lassen/Clapper murder site are also on the National Register of Historic Places.

The integrity of setting along the trail route was a critical element of the National Register listing. Although the National Register listing requires the BLM to take into account effects of federally authorized and/or funded actions on the National Register values of the trail (including the integrity of setting), this listing does not guarantee complete protection. A corridor along the trail is protected from geothermal surface occupancy (see Minerals--Affected Environment). However, there is no such protection from other minerals development. The trail, as well as its setting, is particularly vulnerable to notice-level (less than 5 acres) exploration activities. The BLM does not authorize these activities and therefore no environmental analysis is undertaken. Even in the case of authorized actions, after the effects on the National Register values of the trail are taken into account, an adverse affect on these values could be accepted and the proposed action could be permitted.

Because of the unique qualities of the setting along the Applegate-Lassen Trail, OCTA and others have advocated preservation of the viewshed of the trail. Land use plan decisions for lands actions (See Lands and Realty--Affected Environment) provide some protection for the viewshed of the Applegate-Lassen Trail.

Illegal collection and excavation of archaeological resources have long been a problem in the Black Rock Desert. Lack of law enforcement capabilities (as well as cultural resource staff) has seriously inhibited the BLM's ability to protect cultural resources from theft, vandalism, and inadvertent destruction. In recent times the Black Rock Desert has become increasingly popular as a recreation destination for both individuals and organized events, some with large numbers of participants. Increased use escalates the possibility of cultural resource damage.

Direct and indirect loss of significant portions of the resource base through erosion, looting and vandalism, livestock and wild horse trampling, is occurring at an unknown, but possibly significant rate. There is considerable physical evidence from off-highway vehicle (dirt bikes and all-terrain vehicles) in formerly untouched areas along the Applegate-Lassen Trail. Terrain surrounding each of several springs along the trail shows concentrated impact. Off-Highway vehicle use also threatens prehistoric sites.

Hot Springs in the management area are the focus of recreational use, both by casual users and participants of large events. In addition to the OHV activities noted above, uses include bathing and camping. Since hot springs in the planning area are important historic, prehistoric and Native American sites, recreation use potentially threatens these values. Black Rock Hot Spring has been subjected to unauthorized siphoning or piping of the water. Trenching in the area may have destroyed cultural resources. Trego Hot Springs has been subjected to mud removal for sculptures. Recreational rock-hounding in the Black Rock Range also threatens prehistoric sites since rockhounders sometimes fail to differentiate between natural specimens and cultural artifacts.

Another area of recreational impact, where collecting of artifacts and modern camping on cultural resources has been heavy, is the recreational popular Soldier Meadows. In this area several locations of hot spring flow channels have been dammed up for bathing. The Soldier Meadows Activity Plan (SMAP) includes recommendations for management of prehistoric, historic and Native American resources in the Soldier Meadows area, as well as recommendations for public education and interpretation of cultural resources.

Most of the management area has not been surveyed for cultural resources. Estimates of the significance of known sites and districts has been made from the less than 10% of the area that has been done.

Ethnography

The Black Rock Desert lies within the area traditionally used by the Northern Paiute or Paviotso. Ethnographer O.C. Stewart (1939, 1941) identified twenty-one Northern Paiute bands. The territories used by these groups were generally named after major food sources or other dominant physical characteristics of each specific area. Boundaries between these districts were usually delineated by mountain range crests and hilltops. However, the boundaries were somewhat vague and mutable and there appears to have been free band movement between territories (Stewart 1939:127; Fowler 1989;2; Fowler 1992:7-8). The northern portion of the management area falls within the area ethnographer O.C. Stewart (1939,1941) identified as being used by the Agaipaninadokado ("fish lake eaters) and/or Moadokado ("wild onion eaters") of Summit Lake. The southern portion lies within the area traditionally used by the Kamodokado (jack rabbit eaters) of Gerlach, Nevada. The Kamodokado area reportedly included the territory which others did not claim. The area of the Sawadokado (sagebrush mountain dwellers) of Winnemucca also extended into the southwest portion of the area. Paiutes from other areas are likely to have passed through the management area on their way to fish at Summit Lake or to hunt (Stewart 1939:135-137).

The Northern Paiute were hunting-gathering bands that generally travelled seasonal rounds in small family groups subsisting on a variety of plant foods, insects, small game, and fish. Game animals available to Native Americans in the management area included antelope, rabbits, big horn sheep, mule deer, and a variety of small mammals, reptiles and birds. Lahontan Cutthroat trout was procured at nearby Summit Lake. Lahontan Cutthroat trout, as well as cui ui, were also available at Pyramid Lake south of the management plan area. Antelope and rabbits were often hunted communally. Seeds and roots were the primary plant foods gathered. Plant and animal products were also utilized for clothing, shelter, and other functional and ceremonial articles. Medicinal plants were used for healing purposes. Lithic sources provided materials for tool manufacture. Some minerals were also used medicinally and/or ceremonially. A complete summary of plants and animals used by the Northern Paiute which occur in and near the management area, as well as other ethnographic information is provided in Lohse (1981).

Native American/White Interaction

Events occurring in and near the management plan area during mid-1800's had a dramatic affect on lives and culture of Native Americans who had traditionally inhabited this territory. Emigrant trains passing through the planning area brought the first impacts to the traditional lifeways of the Northern Paiute. Emigrant trains utilized water sources and associated vegetation and wildlife which were critical resources for the Northern Paiute. The Paiutes retreated to more secluded areas, occasionally appropriating a horse or other stock from the passing emigrants for consumption purposes. As the surrounding areas became settled, impacts on resources which the Indians were dependent upon became more widespread and it became increasingly difficult for them to pursue their traditional lifestyle. Some supplemented their hunting and gathering lifestyle by selling firewood, pine nuts, pelts, baskets, and other items, while others found employment at local ranches. Some Indians acquired horses and, forming mounted bands, continued their hunting and gathering lifestyle. Some of these Indians reportedly supplemented their supplies by rustling livestock and raiding settlements and passing freight wagons.

One group of Native Americans actually were among the gold seekers who travelled the Applegate-Lassen Trail to the California goldfields. Seeking to improve their fortunes, a number of Cherokee wagons departed from Oklahoma in 1849. In fact, the Applegate-Lassen Trail was referred to by some as the "Cherokee Cutoff". A waybill entitled "the Cherokee Guide" apparently originated with the Cherokees. The pamphlet provided directions and distances to various points along the trail and was referred to by some of the emigrant diarists. The Cherokees were respected by the other emigrants for their survival skills and their ability to interact peaceably with the Native Americans occupying the lands the wagon trains passed through (Fletcher 1995, Bruff 1949, Don Buck, personal communication).

The murder of Peter Lassen and Edward Clapper occurred near Paiute Peak on the west side of the Black Rock Range in 1859. Although the assailants were unknown, historical accounts and a monument at Lassen's grave in Susanville, California attributed the murder to Indians. The marker at the murder site and an interpretive kiosk at the Lassen Clapper

gravesite in Susanville now reflect the murder mystery. Historically however, this incident was one of several occurrences which were attributed to Native Americans and led to growing hostility between white settlers and Indians. Hostilities eventually escalated into the Pyramid Lake War, which occurred south of the management area in 1860.

During the early 1860's raids on freight wagons and stations on Nobles Route were attributed to mounted bands of Paiutes, labeled by some as "Bannock" Indians. The Black Rock Desert was the domain of one such mounted band led by a Paiute named Black Rock Tom. Black Rock Tom was distinguished by the distinctive white steed which he rode (Wheeler 1979: 106-107).

In 1865 and 1866 Indian and white hostilities intensified in and near the management plan area. Early in 1865 the murders of two white men on the Nobles Route in the Smoke Creek Desert were blamed on Indians. The cavalry led by Captain Wells responded by attacking an encampment of Paiutes at the south end of Winnemucca Lake. These were members of a Old "Chief" Winnemucca"s band (Wheeler 1978:99-101). This band frequented the Smoke Creek Desert (Stewart 1939:137) and apparently were blamed for these murders and other misdeeds. .Chief Winnemucca was off with a hunting party at the time of the attack and only women, children and elderly members of the band were present in the encampment. According to Sarah Winnemucca, daughter of Old Winnemucca, her mother and baby brother were among the 29 Paiutes massacred by the Calvary (Canfield 1983, Hopkins 1883).

In 1865, a furious battle ensued between Black Rock Tom's band and the cavalry in the Black Rock Range, probably in Paiute Canyon at the northeast end of the range. Although Black Rock Tom's band initially warded off the Calvary, in a second attempt the cavalry captured and killed most of the band. Black Tom himself escaped but subsequently was killed at Big Meadows (present day Lovelock). Another Paiute, Captain Sou of Unionville, actually assisted the cavalry in the Paiute Canyon battle with the hope that his cooperation would help end the hostilities between Indians and whites (Wheeler 1979:115-123).

The Fish Creek Valley Battle occurred on the east side of the Black Rock Range, probably in present day Battle Creek, in 1866. The battle, fought in a dense freezing fog was the last major Indian white conflict in the Black Rock Desert. In 1911 minor hostilities flared up near the management area when a group of Indians led by Shoshone Mike Dagget were accused of killing a group of stockmen in Little High Rock Canyon. The band was tracked across northwestern Nevada by a posse, where they were all killed or captured near Kelley Creek, north of Golconda.

Reservations and Colonies

Many contemporary Paiutes live on reservations, colonies, or rancharias outside of the management plan area boundaries. The closest reservation to the management plan area is the Summit Lake Paiute Reservation, located at Summit Lake, approximately 6 miles

north of the northern boundary of the management plan area. The reservation was established in 1913 and consists of approximately 11,000 acres, including the historical site of Fort McGarry. Pyramid Lake Reservation, established in 1874 is approximately 20 miles south of the management plan area.

Native American Coordination

Concerns from the Summit Lake Paiute Tribe, the Pyramid Lake Paiute Tribe, and the Lovelock Paiute Tribe were solicited in scoping letters and public meetings regarding the plan. Subsequently several Paiute Tribes were invited on a field trip of the planning area. Those invited included the Susanville Rancharia, Nevada Indian Environmental Coalition, Pyramid Lake Paiute Tribe, Cedarville Rancharia, Fort Bidwell Reservation, McDermitt Reservation, Lovelock Paiute Colony, Summit Lake Reservation, and Winnemucca Colony. The field trip took place on November 17, 1997. Present were representatives of the following tribes: Pyramid Lake Paiute Tribe, Summit Lake Paiute Tribe, Lovelock Paiute Tribe, and Walker Lake Paiute Tribe. The BLM subsequently sent letters of invitation to a meeting at the Winnemucca BLM Field office on April 21, 1998. The letters of invitation went out to the same tribes invited to the November field meeting as well as Walker Lake Paiute Tribe. Present at this meeting were a representative from the Summit Lake Tribe and two elders from the McDermitt Tribe. The purpose of this meeting was to discuss the proposed action and alternatives and to solicit concerns. A meeting for the same purpose was held with the Pyramid Lake Tribal Council May 1, 1998.

Native Americans consulted stated that all water was considered sacred. Hot springs in particular were identified as sacred areas where Native Americans bathe and pray for sickness to be taken away. One Native American stated that when obsidian was found in association with springs the place was considered to be particularly sacred. The mud from hot springs was also considered to have curative values. One of the representatives from the Lovelock Colony said that she believed that Trego Hot Springs was the hot springs her grandmother described stopping at to bathe and pray prior to hunting antelope. Lovelock Paiutes also indicated that their ancestors told them stories of traveling from Lovelock to Summit Lake to fish. Undoubtedly, they would have passed through the management area enroute to their destination.

During the tour, Native Americans noted medicinal plants growing at some of the springs in the management area. They expressed dismay at the amount of trash at some springs and concern that there were no toilets. It was suggested by one tour participant that camping at the springs could be controlled through a permit system with only a limited number of permits issued. One participant recommended that Tribal police might be able to assist with law enforcement needs.

Native Americans indicated that public education was needed. Video and brochures were recommended mediums for public education. It was stressed that public education information should take into account that the land the emigrants travelled through was the home of Native Americans whose lives were seriously impacted by this event.

Concern was expressed that access to sacred sites, including hot springs, might be closed by OHV closures. Summit Lake Tribe expressed concerns about archeological sites in the management area. They considered prehistoric sites to be remnants of their ancestry and were concerned about site vandalism and other impacts. They suggested that perhaps the Tribe could assist with funding for cultural resource inventories. Summit Lake Tribe expressed interest in cooperative management of the cultural resources in the area and suggested that perhaps the Tribe could assist with funding for inventory of the area.

Consequences of the Proposed Action

Cultural Resources

Establishing the area as an ACEC would afford cultural resource sites greater consideration and protection since a mining plan and an environmental analysis would be required for mining activity under five acres. It would also highlight the importance of preserving the Applegate-Lassen Trail viewshed. Site recordation and evaluation of sites would document important site information and enable the BLM to focus protection efforts on threatened National Register eligible sites.

Managing the Applegate-Lassen Trail viewshed to VRM Class II and restricting adverse impacts to other aspects of the environment would help to preserve the setting of the Applegate-Lassen Trail.

Managing trails and other sites for public use and interpreting at non-intrusive VRM Class II standards would enhance the enjoyment of the public while preserving the setting of the Applegate-Lassen Trail.

Monitor and patrol of cultural resource sites and public education efforts would reduce adverse impacts to cultural resource sites from unauthorized collection, excavation, and vandalism. Public education efforts would also enhance the public's understanding and appreciation of these resources. Tread Lightly and other public education efforts as well as volunteer efforts would help to reduce impacts to the viewshed and other cultural resources.

Posting of protective signs at Hardin City and interpreting the site would help protect the site and help retrieve the information potential of the site. Implementation of the treatment plan would retrieve the information potential of this site.

Managing some sites for conservation use would preserve scientific information for future use. Encouraging scientific use would augment knowledge of the area's cultural history.

Limiting OHV use would help to protect the viewshed of the Applegate-Lassen Trail as well as other cultural resource sites which are threatened by OHV use. Closing and rehabilitating casual use trails would return the landscape in these areas to its previous natural condition thereby enhancing the integrity of setting of the historic trails. Closing

the Coyote Spring and other dune mounds would have a similar impact. Closing intact historic trail traces to OHV use would help preserve these important remnants.

The proposed restrictions on permitted events may also limit indirect adverse impacts to cultural resources including the integrity of setting of the Applegate-Lassen Trail. Proposed toilets and VRM reclamation would preserve and beneficially impact the integrity of setting of the trail.

Acquisition of lands within the viewshed of the Applegate-Lassen trail would provide the BLM with management authority for these areas, helping to preserve the integrity of setting of the trail. Disposal of lands within the viewshed would not adversely impact cultural resources if impacts to cultural sites and the viewshed were avoided and/or mitigated through data recovery, conservation easements or other means. Restrictions on utility facilities and communication sites would preserve the integrity of setting of the Applegate-Lassen Trail.

Proposed reclamation, no surface occupancy, compliance with VRM standards, and other mitigation measures for locatable, salable, and leasable minerals would help to protect the viewshed and other cultural resources. However, geothermal drilling could still occur at Trego Springs. Drilling at Trego Springs as well as drilling in other areas outside the no surface occupancy corridor along the trail could adversely impact important historic hot springs campsites along the trail.

Although the proposed action would help protect cultural resource sites, short and long term adverse impacts could continue to occur from unauthorized OHV use and illegal collection/excavation activities. In the long term the proposed action would help to preserve the integrity of setting of the Applegate-Lassen Trail and other historic sites. However, there would be short-term adverse impacts from mining, realty, and recreation activities. Unauthorized OHV use could also adversely impact the integrity of setting in the long and the short term.

Consequences of Alternative 1
The No Action Alternative - Continuation of Existing Management
Cultural Resources

Monitor and patrol during big events and on holiday weekends would help prevent some damage to sites from recreation use and unauthorized collection/excavation. However, lack of inventory data would continue to inhibit the BLM's ability to focus monitoring efforts on National Register eligible sites. Unrestricted OHV use would continue to adversely impact the viewshed of the Applegate-Lassen Trail as well as other cultural resource sites. Lack of restrictions on size and/or number of authorized events could also potentially result in adverse impacts. Continued lack of toilets and restrictions on use of hot springs would result in continued adverse impacts to integrity of setting and cultural sites in hot springs area. Limited public outreach efforts would continue to help prevent damage to cultural resource sites located within the trail viewshed.

Acquisition of private lands would beneficially impact cultural resources since adverse impacts to cultural resource sites and the viewshed of the trail would be avoided. Disposal of lands within the viewshed could adversely impact the viewshed of the trail unless conservation easements or other protective covenants were agreed to. Land use plan decisions restricting rights-of-way north of the railroad tracks would continue to protect the integrity of setting of the Applegate-Lassen Trail.

The no surface occupancy stipulations for geothermal leasing contained in the current land use plan would continue to protect a corridor along the Applegate-Lassen Trail from geothermal drilling. However, geothermal development could still occur within the viewshed of the trail outside of the corridor, thereby adversely impacting the integrity of setting of the trail. Geothermal drilling could still occur at Trego Springs. Drilling at Trego Springs as well as drilling in other areas outside the no surface occupancy corridor along the trail could adversely impact important hot springs campsites along the trail.

Mining activities disturbing less than five acres would continue to occur without an environmental analysis or mining plan of operations, potentially adversely impacting the viewshed of the trail and other cultural resources. Locatable and salable minerals development could adversely impact the viewshed of the Applegate-Lassen Trail as well as the trail itself if development occurred within the trail corridor. If the proposed project cannot be relocated to avoid conflicts, historic sites such as Hardin City as well as prehistoric sites could be adversely impacted by minerals development. Some adverse impacts could be mitigated through reclamation, data recovery, or other treatment measures.

Short and long term adverse impacts to cultural resources would continue to occur from unrestricted OHV use and unauthorized excavation, collection, and notice level mining activity. Short and long term adverse impacts to the integrity of setting of the Applegate-Lassen Trail would occur from OHV use, litter, mining, realty actions, and recreation activities.

Consequences of Maximum Resource Protection
Alternative 2
Cultural Resources

Closing the area between the playa edge and the plan boundary and reclaiming all roads except playa access roads would beneficially impact the Applegate-Lassen Trail because it would return the viewshed of the trail to a more natural state. Denial of applications for large scale recreation event permits would protect cultural resources from indirect impacts from these events. Restricting impacts to the viewshed to VRM Class I would help preserve the integrity of setting of the Applegate-Lassen Trail.

Beneficial impacts could occur from the acquisition of lands included in the viewshed or which include cultural resource sites. No adverse impacts to cultural resources from disposal of lands including cultural resource sites or part of the viewshed or from commercial activities or rights-of-way would occur.

Cultural resource sites and the viewshed of the Applegate-Lassen Trail would be protected from adverse impacts from locatable minerals exploration and development because of the locatable minerals withdrawal. No adverse impacts would occur from saleable minerals because no sales with the exception of the Blue Pit would be allowed. The Blue Pit is an existing pit that cannot be seen from the Applegate-Lassen Trail and therefore does not impact the integrity of setting of the trail. Maintaining the visual setting at VRM Class I standards would avoid adverse impacts to trail setting

This alternative would have a beneficial impact on cultural resource sites and the setting of the Applegate Lassen Trail in the short and the long term. Some short term and long term adverse impacts could continue to occur from illegal OHV use and illegal collection and excavation.

Consequences of Maximum Resource Use
Alternative 3
Cultural Resources

Encouraging visitation would increase adverse impacts to cultural resource sites, the historic trails, and the viewshed of the trail. Impacts would occur from increases in unauthorized collection and excavation as well as from inadvertent disturbances resulting from recreational use. The Visitor Contact Station or Visitor Center would enhance the visitors experience and may help protect cultural resources. The area's cultural history would be explained and the importance of protecting the areas fragile cultural resources would be emphasized.

Acquiring private lands could beneficially impact cultural resources if cultural resource sites or a portion of the viewshed of the Applegate-Lassen Trail were included in the acquired land. Disposal of lands which include cultural resources or a portion of the viewshed of the Applegate-Lassen Trail could adversely impact cultural resources unless the impacts could be mitigated through data recovery, a conservation easement, or other means.

Allowing commercial activities and right of ways if all impacts could be mitigated would temporarily adversely impact the trail setting until these impacts were mitigated.

Utilizing VRM Class III as visual resource evaluation could result in adverse impacts to the integrity of setting of the Applegate Lassen Trail. OHV use would have the same impacts as would occur under the proposed action.

Allowing leasing but no surface occupancy along the trail would protect the trail itself from adverse impacts. However, geothermal development could still occur within the viewshed of the trail outside of the corridor, thereby adversely impacting the integrity of setting of the trail. Geothermal drilling could still occur at Trego Springs. Drilling at Trego Springs as well as drilling in other areas outside the no surface occupancy corridor along the trail could adversely impact important hot springs campsites along the trail. Allowing minerals development to occur if impacts are mitigatable to Class III visual

standards could result in adverse impacts to the Applegate-Lassen Trail and it's setting as well as other cultural resources.

Short and long term adverse impacts could result from increased visitation, the disposal of land, and mineral and geothermal activities. Affected resources would include cultural and Native American resources and the viewshed of the Applegate-Lassen Trail Commercial activities and right-of-ways could result in short term adverse impacts until mitigated. Unrestricted OHV use and illegal collection/excavation of archeological sites would also result in both long term and short term adverse impacts.

Consequences of the Proposed Action

Native American Concerns

Identification, monitor and patrol of Native American sites and public education efforts would afford these sites protection from destructive activities. Incorporating Native American perspectives and information into public education materials would broaden the public's understanding and appreciation of Native American history and natural and cultural resources in the area and help to protect them. ACEC designation of the plan area would afford Native American sites greater protection from notice level activities since a plan of operations would be required. Limiting OHV use and designating camp areas in the vicinity of springs would help protect these sites which are considered sacred by Native Americans. Proposed toilets and VRM reclamation would help control litter around springs. Proposed restrictions on permitted events would limit adverse impacts to these resources. Maintaining access to hot springs and other sacred sites would insure that Native Americans would be able to visit these sites. Beneficial impacts would occur if private lands including sacred sites were acquired by the BLM. If lands including sacred sites are disposed by the BLM, adverse impacts could occur. However, these impacts could be avoided through deletion of sacred sites from land disposals or by imposing conservation easements. Proposed avoidance, reclamation and other mitigation measures for locatable, salable, and leasable minerals and no surface occupancy measures for leasable minerals would help protect sacred sites. However geothermal drilling could still occur at Trego Springs. A potential result of any geothermal drilling is an adverse impact the flow of hot spring water, thereby adversely impacting sacred sites and medicinal plants in this area.

Adverse and beneficial impacts to Native American sites would be both short term and long term.

Consequences of Alternative 1
The No Action Alternative - Continuation of Existing Management
Native American Concerns

Unrestricted OHV use, permitted recreation event size, lack of restrictions on hot springs use, lack of sanitation facilities, limited public education, and monitoring and patroling efforts could all result in some adverse impacts to sacred sites. Beneficial impacts would

occur if private lands including sacred sites were acquired by the BLM. If lands including sacred sites are disposed by the BLM, adverse impacts could occur. However, these impacts could be avoided through deletion of sacred sites from land disposals or through imposing conservation easements.

The no surface occupancy stipulations for geothermal leasing within the one mile corridor of the Applegate-Lassen Trail would protect hot springs along the Applegate-Lassen Trail from development. However geothermal drilling could still occur at Trego Springs. This type of drilling, in and around the area could adversely impact the flow of hot spring water, thereby adversely impacting sacred sites and medicinal plants in this area. Adverse impacts to sacred sites could also occur from locatable mineral exploration and development activities. Although leasable and salable minerals exploration and development is discretionary, adverse impacts could occur if sacred sites are not avoided. If avoidance is not feasible, mitigation of impacts to sacred sites is often not possible. However, inclusion of plants used by Native Americans (particularly medicinal plants) in reclamation seed mixes would result in revegetation of these valued resources.

Adverse and beneficial impacts to Native American sites would be both short term and long term.

Consequences of Maximum Resource Protection
Alternative 2
Native American Concerns

Designating camping areas at Trego, Black Rock, and Soldier Meadows Hot Springs would keep camping impacts away from hot springs which are considered sacred by Native Americans. Requiring permits for camping at Trego, Black Rock, Hardin City, Double Hot, and Soldier Meadows Hot Springs would prevent adverse impacts from casual use and allow for control of the use of these valued resources. Beneficial impacts would occur if private lands including sacred sites were acquired by the BLM. No adverse impacts to sacred sites from disposal of land including sacred sites or from commercial activities or rights away would occur. Sacred sites would be protected from adverse impacts from leasable, salable and locatable minerals exploration and development because of the no leasing stipulations, the minerals withdrawal, and the restrictions on salable minerals.

Beneficial impacts to cultural resources would be both short term and long term. Despite the protective measures which would be undertaken in this alternative, some short and long term adverse impacts to Native American sites could occur if illegal OHV use and vandalism occurred.

Consequences of Maximum Resource Use
Alternative 3
Native American Concerns

Impacts from recreation would be the same as under the no action alternative, except that increased visitation would increase adverse impacts. Acquiring private lands could beneficially impact areas of Native American concern if sacred sites are included in acquisitions. Conversely, disposing of lands including sacred sites could adversely impact these sites if they were not deleted from the exchange.

The no surface occupancy stipulations for geothermal leasing would protect hot springs along the Applegate-Lassen Trail from development. However, geothermal drilling could still occur at Trego Springs. This type of drilling, in or near the area, could adversely impact the flow of hot spring water, thereby adversely impacting sacred sites and medicinal plants in this area.

Cumulative Impacts

Direct and indirect adverse impacts to cultural resources would continue to occur under each alternative. Under the Maximum Resource Protection Alternative, impacts should be minimized. Under the Maximum Resource Use Alternative, collection and vandalism may increase. Generally, increases in the number of visitors, off-highway vehicle use and other surface disturbing activities would slowly but cumulatively impact known and potential sites.

Direct and indirect adverse impacts to the viewshed of the Applegate-Lassen Trail would continue
under all alternatives. Adverse impacts from OHV use and mineral/geothermal exploration and development pose the greatest threats. Cumulative adverse impacts would be greatest under the Maximum Resource use alternative. Under the Maximum Resource Protection Alternative, the proposed mineral withdrawal, VRM Class I management standards, OHV closures, would minimize impacts to the viewshed of the Applegate-Lassen Trail. Public education proposals would inhibit adverse impacts under all alternatives to varying degrees depending upon the quality and quantity of the education efforts proposed.

Residual Adverse Impacts

Cultural Resources are non-renewable and residual adverse impacts would continue resulting in the loss of the resource. Natural and/or human impacts would continue even under the Maximum Resource Protection alternative.

Monitoring and Mitigation Measures

Significant cultural resources would be monitored. Mitigation would be undertaken as necessary for specific projects and at significant sites which cannot be successfully protected from the impacts of casual use.

PALEONTOLOGY

In preparation of a Unit Resource Analysis, paleontologist, David Lawler was contracted to review the literature, summarize the previously known paleontological resources and analyze potential for unknown resources.

The primary purpose of that report was to provide data on known paleontological resources so that the information might be used in the management of public lands. No systematic survey has ever been conducted for paleontological resources on the public lands of the management area.

Until recently, the earliest paleontological resources documented in the proposed management area were mammalian fossils found in the High Rock area. These were recovered from a late Miocene rock unit termed the High Rock sequence (Bonham 1969). This sequence contains mammalian and plant remains of Barstovian (late Miocene) age. Among the mammalian genera represented area; *Tephrocyon* and *Aelvrodon* (dog family), *Merychippus isonesus* (low-crowned, browsing horse), *Aphelops* (?) (camel), *Moropus* (?) (chalicothere), *Mastodon, Blastomeryx* and *Merycodus nevadensis* (early antelopes). The horse material is important because it is useful in correlation and dating of rock units (Lawler, 1978).

Also occurring in the northern portion of the proposed management area are widespread occurrences of petrified wood. Some of the most impressive are in the George W. Lund Petrified Forest (just outside the west boundary) and have been identified as *Sequoia.*

More recently, Miocene flora *Monocotyledonae* (reeds), and *Dicotyledonae* (seeds and twig) and fauna have been documented in the south portion of the management area also. *Gastropods* (fresh water snails), *Osteichthyles* (fish), *Clemyes* (turtle), cf. *Volpes (dog family), Dipoides* and cf. *Eucastor* (beaver), coprolites, *Lagamorpha* (rabbit), *Camelidae* (camel), *Hipparian* (horse), and *Gomphotheriidae* (elephant) were documented near the southern boundary (Hilton, 1991).

Invertebrate paleontology includes some of the most recent as well as the oldest specimens. Quaternary ostracods (a micro-invertebrate) occur in the relict lakebed of Lake Lahontan, of which the Black Rock Playa is a part (Lawler 1978). Ostracods from a near-surface locality outside the Black Rock Plan Area have been radiometrically dated at 19,700 +/- 650 years by Brocker and Kulp (1957) reported in Lawler (1978). The age of ostracods from the Black Rock Playa are suggested to be similar, assuming they lay in the same strata. Microscopic diatoms are also known to occur in the lake-beds.

Tertiary sedimentary rocks outcrop in the north end of the Calico Range south of High Rock Lake. The remainder of the Calico Mountains is mapped as Tertiary-undivided, by Willden (1964, plate 1). Most of the range is known to consist of volcanic rocks. It is possible that other sedimentary rocks outcrop within the range in areas that are not mapped in detail. A similar situation exists in the Black Rock Range. Tertiary sedimentary rocks outcropping in the northern end of the range just east of the proposed management plan boundary are documented to contain Miocene fossil leaves. (Debbie Bunn, Fossils for Fun, personal communication 1998).

Field reconnaissance of sedimentary units in both ranges could reveal other localities of mid-Miocene to Pliocene freshwater invertebrate, megafauna, and plant remains as have been documented at Lost Creek near Washoe County Highway 34 (plant remains), in Hays Canyon east of Duck Flat (plant remains), Big Basin on the east side of Long Valley (megafauna) (Bonham 1969), and the north end of Seven Troughs Range (plant remains) (Johnson 1977, pg 36). These sites surround the Black Rock Plan Area and are in the Tertiary sedimentary units which also occur in the Calico Mountains and Black Rock Range. There is potential for similar material to be found in the plan boundary.

Also found in proposed management area are two occurrences of Permian volcanic rocks which contain interbedded sedimentary material identified as the Happy Creek group (Willden 1964, pg. 34-36). In the Jackson Mountains, east of the Black Rock Plan Area, documented Permian fusilinids occur at the lower portion of a unit directly overlying the Happy Creek Group.

The Happy Creek metavolcanic rocks form two low hills at the margin of the Black Rock Playa at the southern end of the Calico Mountains (Johnson 1977, plate 1). No survey for interbedded sedimentary material in these metavolcanics is known.

The metavolcanics also form Black Rock, adjacent to the south end of the Black Rock Range (Gianella and Larson 1960; Willden 1964; Bonham 1969; Howe 1975). Black Rock is an isolated structural block of metavolcanics in contrast to fossil bearing sediments which occur as roof pendants in Tertiary intrusions in the area (Howe 1975, pg. 7). There are two fossiliferous limestone units which occur in the vertical to very steeply dipping mid-Permian section of andesitic tuffs and breccias of Black Rock (Gianella and Larson 1960; Howe 1975, pg. 1). Howe (1975, pg. 1) states that there are, "*..at least two genera of trilobites, several forms of spiriferid brachiopods, productid brachiopods, bivalve, fenestrate and ramose bryozoans, sponges and corals.*"

Known specimens occurring in the Black Rock section are casts and molds with little or no detail of internal diagnostic features (Howe 1975, pg. 3).

Willden (1964) states that the Black Rock correlates with the type section of the Happy Creek Group, 40 miles northeast in the Jackson Mountains. This correlation of Brachiopod genera *(Leptodus, Muirwoodia, Anidanthus* and several other brachiopods) indicates a mid-Permian age for the Black Rock section (Howe 1975, pg. 1).

Howe (1975, pg. 17) describes a possible correlation of the Black Rock fauna to the Standard North American Reference Section for the Permian in the Glass Mountains, Texas and compares certain brachiopods occurring at Black Rock to well documented sections in the Park City Formation, Utah (1975, pg. 23-25). Genera occurring in both the Black Rock and in the Park City Formation are:

Orbiculoides
Rhynchopora
Neospirifer
Phricodothyris
Crurythyris
Kochiproductus
Waagenconcha
Dielasma
Anidanthus
Muirwoodia
Derbyia

Of these, only *Muirwoodia, Anidanthus, and Kochiproductus* could be used in the correlation as the others have ranges that are too large for this purpose. The three Black Rock genera occur in the Rex Chert Member of the Park City Formation which correlates with the Coyote Butte Formation in Oregon. The fauna in the Coyote Butte Formation has been correlated to the Road Canyon Formation in the standard section at Glass Mountain, Texas. This connection makes the fossil fauna of the Black Rock section stratigraphically significant for the Great Basin.

None of these occurrences are registered as a U.S. Geological Survey Locality.

Important to the proposed management area are the occurrences of documented Miocene/Pliocene and Quaternary age paleontological sites around and near the boundary of the management area. These sites represent plant and animal communities living in the Black Rock area prior to and during the existence of Lake Lahontan. A portion of the relict lakebed of Lake Lahontan now forms the Black Rock Playa.

ENVIRONMENTAL CONSEQUENCES

A resource would be determined to be significant and therefore sensitive to planned or unplanned disturbance if one or all these factors exist (Firby, 1995).

1. the kind of fossil material, e.g., all vertebrate fossils...have significance,

2. uniqueness of the resource, e.g. the type area of a particular species

3. an assemblage of fossils which have particular value due to their joint presence

Potential direct impacts to paleontological resources could be from any proposed project resulting in surface disturbing activities in the immediate vicinity. Direct impacts would also include hobbyist collecting or unauthorized commercial collecting.

Potential indirect impacts could result from increased accessibility to fossil localities associated with increasing numbers of visitors and off-highway vehicle use.

Consequences of the Proposed Action

Direct impacts should decrease through the managed efforts to preserve and protect fossils when planning or permitting activities in the area of known paleontological locales. Indirect impacts to paleontological resources include off-highway vehicle use, increased accessibility, increased visitor use and other surface disturbing activities.

Vertebrate paleontology collection would be carried out under a current and valid permit the same as at present. Invertebrate fossils, leaf impressions, and petrified wood collection would continue as at present under current existing laws.

Consequences of the No Action Alternative
Alternative 1

Impacts to reported and potential fossil localities would continue the same; at present, paleontological resources would not be affected significantly under the current management policies.

Consequences of Maximum Resource Protection
Alternative 2

Paleontological resources would be protected to the maximum extent possible. Access would be limited and permitted activities would be reviewed with maximum consideration to resource protection.

Consequences of Maximum Resource Use
Alternative 3

Promotion of collection areas would result in an increased reduction of botanical and invertebrate fossils.

Cumulative Impacts

Direct or indirect adverse impacts to paleontological resources would continue to occur under each alternative. Under the Maximum Resource Protection Alternative, impacts should be minimized and under the Maximum Resource Use Alternative, collection and vandalism may increase. Generally, increases in the number of visitors, off-highway vehicle use and other surface disturbing activities would slowly but cumulatively impact known and potential sites.

Residual Adverse Effects

Paleontological resources are non-renewable and residual adverse effects would continue to result in the loss of the resource. Natural and/or human impacts would continue even under the Maximum Resource Protection Alternative.

Monitoring and Mitigation Measures

Limited monitoring of paleontological resources is recommended. Although strata containing fossils is usually buried, the known surface outcrops represent the existence of the resource. Although the specimens from these sites are not "world class", protection is still a priority in order to protect the remaining resource base. In the event new specimens are discovered, they would be evaluated for significance and appropriate mitigation measures would be developed.

RECREATION

In past years, resources were not being perceptibly impacted by recreation use nor were there public demands that justified a change in management objectives. In recent years public interest and use of resources in the proposed planning area has increased.

During the 1982 land use planning effort recreation was not considered a significant program and no major issues were addressed. Hunting was the predominant recreational use of the management area. Other uses included sightseeing, rock-hounding, and Off Highway Vehicle (OHV) use. The types of use and low use-levels created little demand for recreational facilities and intensive recreational management.

By the 1990's recreational use of the Black Rock Desert area had increased markedly. In the face of this increased use pressure, the recreation management decisions of 1982 proved to be both ineffective and insufficient. Recreational uses outpaced policy implementation and took on aspects which were not anticipated in the land use plan decisions. The publics use of the areas' resources, especially during periods of concentrated visitation, and the potential impacts to those resources, generated concerns among resource specialists, land managers, and the public at large. In response to the growing apprehension over resource degradation and destruction the Winnemucca Field Office decided to propose a revision to the current land use plans. The scope of the revision soon warranted a land use plan amendment and an Environmental Impact Statement in order to put into place a recreation management policy that would address the issues and concerns unique to this area of the Black Rock Desert.

Current short term management is aimed at providing safety information for visitors to the area and collecting information about visitor use. Such data would eventually be combined with long-term research to determine Appropriate Management Levels (AML).

Current Management Direction

During the last 10 to 15 years, the BLM has been approached by citizens who have expressed concerns over an increasing number of people coming to the Black Rock Desert region and the apparent increasing adverse impacts to resources. Many BLM resource specialists have also expressed concerns over an apparent increase in recreational use types and patterns. The trend is supported and increased by word-of-mouth advertising and unique events such as: land sailing, model rocketry, land speed record attempts, and a large festival known as Burning Man.

The latter three events have utilized the Internet extensively to communicate with their respective publics. This medium has focused national and international attention on the Black Rock Desert and its surrounding region, especially during the last ten years. Residents in the town of Gerlach, at the playa south end, report a fairly steady stream of visitors during the months when the playa is dry, late May through mid-October.

This proposed plan amendment, in its final form, should represent long-term methods which balance resource preservation and recreational pursuits. The concern which motivates this proposal is that contemporary and future recreational use and methods could very well adversely impact -- or even destroy -- those aspects of the Black Rock Desert that visitors currently enjoy.

Current Issues

As the BLM began researching and preparing the Black Rock Desert Management Plan Amendment and EIS, several issues have come to light which bear on the planning effort. Both existing management and proposed actions and prescriptions should be able to address and implement solutions to these issues.

1. BLM recreation policy has changed significantly since preparation of the current land use plans. Recreation 2000 policy places new emphasis on visitor satisfaction, enhancement of the recreational experience, and tourism development partnerships. The Proposed Plan represents an effort to implement this policy.

2. More frequent large scale events are being proposed on the Black Rock Desert playa. Large scale events could have a profound impact on the survivability of notable Black Rock Desert natural and cultural resources by introducing a greater visiting population.

3. The lack of BLM presence in the management area, together with increased visitor use over a broad spectrum of activities, has strained the Bureau's ability to protect resources in the area. Beginning Memorial Day weekend 1997 BLM increased its presence on the Black Rock through active volunteer coordination.

4. Visitors lack information about hazards of traveling in the area. They are usually uninformed about accessibility, availability of assistance and amenities, and the potential

for personal injury. Gerlach and Cedarville are the last towns before one enters the proposed management area from paved access. Travel into the proposed management area may extend into remote country over sixty miles from these towns. High Rock Canyon and the Black Rock Desert playa are usually unaccessible to vehicles for 6 months of the year. Several hot springs are too hot for bathing, none have hazard signing. In addition, there are several abandoned mines within the proposed management area that may pose a hazard to explorers.

5. The Black Rock Desert was designated in the Management Framework Plan as *a Special Recreation Management Area* (SRMA), west of Black Rock Hot Spring and south to its Gerlach termination, north of State Road 447. Bureau Policy requires that Recreation Area Management Plans (RAMP) be written for SRMAs, specifying policy, objectives, and planned actions in a comprehensive and systematic manner. This plan and EIS will substitute for the RAMP. A RAMP process includes an analysis of existing use, evaluation of recreation resource values and recreation experience opportunities, a facilities analysis, an economic effects analysis, and a visitation projection analysis.

6. Information on dispersed casual use in the proposed management area remains general. However it is clear that permitted events have grown in size and duration.

7. Private landholders within and adjacent to the management area operate businesses that depend on access to Black Rock Desert public lands.

Visitor Use Data Collection and Trends

There are many different recreational uses within the proposed management area. Hot springs such as Black Rock Springs, Double Hot Springs, Trego Springs, and several at Soldier Meadows are popular attractions. During the late summer and fall, all the mountainous areas and surrounding foothills are heavily used by hunters, including waterfowl hunting in the Soldier Meadows area. The playa is a popular location for group activities, including land-sailing, model rocketry, and cultural events. The playa region has also been the location of commercial activities, such as photography, filming, and special events, such as the world land speed record trials and historic wagon train re-enactments on the historic trails.

Statistics for visitor growth trends are derived from the Recreation Management Information System (RMIS), an annual recreation statistics-reporting data base. During past years, including the early '90s, RMIS data collection for the Black Rock Desert region was impaired by the vastness of the area and the manpower to cover it. During certain years when seasonals were available, more consistent use reporting occurred.

In an effort to determine visitor use trends and possible concomitant resource impacts, both beneficial and adverse, the Winnemucca recreation staff began to collect intensive visitor use data beginning Memorial Day weekend 1997. About six months later photomonitor points began to be installed. Presently approximately 50 have been placed with another 50 planned to be set in seventeen photomonitor zones by the winter of 1999.

These two efforts represent Limits of Acceptable Change (LAC) study preparation and initial monitoring. Once fully underway it is anticipated that the systematic LAC study will take at least three years to demonstrate significant findings, either beneficial or adverse. Winnemucca Field Office volunteers have been instrumental in this effort. While no comprehensive statistics are available to clarify visitor use, growth, or impact trends in the proposed management area, some preliminary data has been assembled.

In 1994, High Rock Canyon, at the northwest proposed planning area, averaged over 200 visitors on holiday weekends. The predominate uses observed were OHV driving, sightseeing, and historical appreciation. Recently the Black Rock Range and Calico Mountains have supported about 2,000 hunter days of use per year for deer and antelope hunters. Over the summer of 1991 more than 1,000 people participated in permitted events on the playa. By 1997 the number had grown to about 20,000 people who participated in permitted events, utilizing 50,000 visitor use days (a visitor day is all or part of a 24-hour period). Car-counts and observed visitor use data collection indicated, in 1997, that another 30,000 people, not including hunters, were involved in dispersed recreation within the proposed management area. These figures indicates that approximately 52,000 recreational visitors arrived at the proposed management area in 1997.

From 1991 to 1995 Special Recreation Permits (SRPs) averaged 8 annually. Fifteen commercial or competitive permits were issued in 1997. Permitted events were diverse in scope and size: Horse endurance rides, model rocketry launches, outfitting and guiding, landsailing, no-limits golf tournament, a 4-wheel-drive Applegate-Lassen Trail tour, and record-setting land speed competitions. Although the Burning Man festival was held on private property, BLM staff, volunteers and resources were involved due to temporary lands closures and fire danger.

	Table 3-4 PERMITTED EVENT, PARTICIPANT ATTENDANCE TRENDS								
EVENT	**1997**	**1996**	**1995**	**1994**	**1993**	**1992**	**1991**	**1990**	**TOTALS**
Burning Man	10000	8000	4000	2000	1000	600	250	800	**26,650**
Rockets	555	339	451	384	197	525	316	267	**3,030**
Landsail	100	96	70	100	84	90	71	36	**3,681**
Horse Trips	12	53	26	48	15	100	100	292	**646**
Golf	70	56	48	46	47	46	50	45	**408**
A-L 4wd	36	58	41	37	49	21	30	42	**314**
Jetcar	2020								**2,020**
Cattle drive		20							**20**
TOTALS	**12,793**	**8,622**	**4,636**	**2,619**	**1,392**	**1,382**	**817**	**1,482**	**36,769**

The apparent growth trend during the 1990's is one of the "red flags" that initiated this planning effort. During the major holidays in 1997 a concerted effort was initiated to increase BLM presence and visitor data use collection efforts, primarily through the Volunteer Program. Tables 3-4 and 3-5 illustrate 1990's growth trends.

Proposed Planning Area	Table 3-5 DISPERSED USE TRENDS								
	1997	1996	1995	1994	1993	1992	1991	1990	TOTAL
	17,820	12,310	5,506	9,677	4,838	9,100	2,419	1209	**62,879**

Visitor and Activity Profile

Visitor interviews during 1993-1995 resulted in the following visitor and activity profile:

The Black Rock Desert playa is the primary destination for the majority of dispersed recreation use visitors to the area. Most (86%) are repeat visitors, some visiting several times a year. OHV use is high (62%) for both pleasure and traveling. Visits are largely weekend-only or short trips, with a small percentage using the area as a vacation destination. An increasing number of Burning Man participants have made that event part of their annual vacation.

Table 3-6 presents, in descending order of popularity, the most common recreational activities:

Table 3-6 Dispersed Recreational Activity	
Activity	**% of Total**
Off-road vehicle riding (ATV/dirt bike)	62.0
Sightseeing	28.0
Hot springs for Viewing/bathing	24.9
Landsailing	17.8
Rockhounding	15.0
History	9.8
Mountain Biking	9.4
Target Shooting	7.0
Horseback Riding	7.0
Hiking	6.8
Wildlife watching/nature study	4.2
Photography	3.7
Golfing	3.3
Hang-gliding	0.2
Soaring (gliding)	0.1
Balloon Racing	0.1

The percentage may reflect a variety of activities occuring together.

Camping is not included as a seperate category in Table 3-6 because it occurs, in large, as a necessary part of most activites that occur in the area. The average group size is 3.5 people and length of stay is 3.8 days. The most popular camping areas in descending order of popularity are: The playa, Trego Springs, Black Rock Springs, High Rock Lake, Soldier Meadows, Double Hot Springs.

Use data for the entire year indicates that the majority of visitors (60.2%) are from California, primarily northern California. Nevadans comprise 32.9% of the visitors, with about 6.9% from other states. May and September are peak months due to the Memorial Day and Labor Day holiday weekends. A preliminary examination of the statistics from Memorial Day weekends, 1997 and 1998, and July 4 weekend, 1997, indicates that the majority of the visitors to the playa are Nevadans.

Consequences of the Proposed Action

Special Recreation Permit Management

The Special Recreation Permit Management approach of common pool allocation at current use levels would protect natural and cultural resources. The BLMs public education efforts would provide visitors with a better understanding of the area's non-renewable resources -- in relation to recreation event growth and new technological developments in the recreation industry.

The proposed action provides event definitions and management objectives in an effort to reduce or eliminate adverse impacts. Large-scale events would provide environmental documentation and cost recovery, thus lessening the economic impact to the tax payer. Cost recovery would also insure adequate staff monitoring and law enforcement at every large-scale event. It would create an increased long-term BLM presence to monitor and enforce preservation measures.

Large-scale events would be limited in the their size and growth. Given the common pool, it is likely that no more than two large-scale events would occur. Growth limitations associated with the common pool allocation could have a detrimental effect on regional economies. Until the Limits of Acceptable Change tolerances are determined, large-scale event organizers would not be able to expand event population beyond 1997 levels.

Public Use and Visitor Services

The proposed action would insure BLM's emphasis on its back-country use ethic of low-impact use as reflected in the *Tread Lightly!* and *Leave No Trace* programs. Establishing a permanent Visitor Services facility would be a positive impact on resource protection, through interpretation and customer service. Further, a beneficial impact to the local economy may occur with a center for visitor information. The facility may also be staffed through local hire. Such a facility may also serve as a focal point for a "friends" organization and interpretive research and development, and would be beneficial to regional economies.

The recreational population that uses OHVs for cross-country travel would be adversely impacted; they would be required to confine their activities to designated roads and within washes.

Recreational Facilities Development

Certain basic amenities such as toilets (minus their housing, i.e. vaults and risers with privacy screens only), inconspicuous signing, and, a visitor contact station in the Gerlach vicinity would provide visitors a more enhanced recreational experience. Better information and regional interpretation would be available to visitors.

Interpretation and Environmental Education

Interpretive facilities in the proposed planning area would provide a wide array of visitor environmental education opportunities which would serve to further involve the visitors as managers of unique resources. All facilities would be creatively designed to blend with various settings, insuring no visual intrusions.

Enforcement

A beneficial impact would be the formulation of supplemental rules of conduct that derive from mitigation measures, stipulations, public input, and other sources. This would provide enforcement aspects unique to the area and not generally covered in the Code of Federal Regulations.

Safety

Another benefit resulting from the proposed action would be a greater sense of public security and safety in the face of harsh high desert conditions. The importance of BLM presence would be reflected in public service and interagency cooperation on behalf of the visiting public. Volunteer safety would also be emphasized and training would occur more frequently.

Consequences of the No Action Alternative
Alternative 1

Under the No Action Alternative, no benefits as described in the proposed action or the other alternatives would occur. The recreation program would continue to conduct baseline visitor data use collection, environmental education, and involve volunteers in an effort to protect resources.

Special Recreation Permit Management

Applications for more events and larger, more complex events would occur and use would not be kept at proposed fixed levels. Large scale events could eventually exceed BLM's management capability to control. Staff workload would increase but funding goals to support additional staff may not occur. Cost recovery efforts would continue for large-scale events and attempts would be made through stipulation and cost recovery to provide adequate staff and volunteer incentive for event monitoring.

Public Use and Visitor Services

Environmental education would continue through operation of the roadside trailer-based Gerlach Visitor Contact Station. Because public education and visitor services would remain discretionary, the VCS might not always be in operation at critical times.

Recreational Facilities Development

Other than those proposed under the SMAP, facilities would probably be limited to hot spring hazard signing, signing the private-public boundary around Double Hot Springs, and signing of wilderness study areas by volunteer effort.

Enforcement

The Code of Federal Regulations would govern any protective actions implemented on an emergency basis. Enforcement would follow 43 CFR 8365 ,9260, and other regulations as applicable.

Consequences of Maximum Resource Protection
Alternative 2

Under this alternative the visiting public would be severely limited and restricted in recreational pursuits. The proposed management area would be more like a highly controlled park with very little multiple use occurring.

Special Recreation Permit Management

Large-scale events would cease to occur within the planning area. Traditional organizers and participants would be forced to relocate their events elsewhere in the Winnemucca District, state, or West. Traditional large-scale event applicants and their clientele would vigorously oppose the disallowance of their events. This would cause an adverse impact to these users.

Public Use and Visitor Services

A full service visitor center would be the focal point for public education efforts. Such a facility would be a tourist attraction and the benefits of regional geologic and historic interpretation or hazard cautions would occur. Recreational user groups would be severely curtailed in allowed activities and access.

Enforcement

An expanded law enforcement effort would result in numerous citations and possibly greater resource protection.

Consequences of Maximum Resource Use
Alternative 3

Under this alternative, benefits of public education would be severely curtailed and the proposed management area's natural and cultural resources would rapidly degrade. The area resources could be adversely impacted by intensive, excessive, and unregulated

visitor use. This would be detrimental to desired backcountry experiences and solitude of non-motorized recreational visitors.

Marketing strategies could result in creative partnerships, increased funding, full service amenities, and other unique recreational opportunities. Numerous large-scale events could occur, although safety and scheduling concerns could become a paramount concern. A substantially increased, possibly on-site and locally-hired staff could be an economic benefit to the local hire.

Workload would increase with increased permit applications, especially considering an intensive marketing strategy. This may result, however, in a permanent on-site staff that could service public requests and needs year round.

Public Use and Visitor Services

With intensive focus brought to the Black Rock through marketing strategies, funding for facilities and related services could increase. More vendor permits would be issued, with a possibility of creative partnerships, i.e. Disney Corporation, McDonalds.

Recreational Facilities Development

Constructing a quality full service interpretive visitor center may increase visitation and thus economically benefit local populations. With on-site presence, visitors would be aware of hazardous conditions; staff would be readily available to assist the public. A number of areas could be developed in various levels of camping experience, from primitive to full-service. Campgrounds often have the effect of providing a sense of security in a harsh desert environment.

Enforcement

In order to enforce environmental and human health and safety regulations in an intensive-use environment, a possibility exists that a greater law enforcement presence would be required.

Access and Off-Highway Vehicle Use

Our modern culture seeks out and uses desert regions for recreation -- a use pattern unique in history. The recreational machines utilized for this purpose get the user out and back in relative safety and comfort -- again a desert land use pattern unique to modern culture. The popularity of recreation vehicles (RVs) has increased greatly in the past decade. Motorcycles, dune buggies, ATV's or Quads, motor homes, sport utility vehicles, pickups, campers and passenger cars can all fit the RV classification. Instead of "off-road vehicles (ORV)," they are now known as "off highway vehicles (OHV)."

The Black Rock Desert region and its great playa may look like a place for all-out-cross-country travel. The reality is that many playa edge areas, especially the dune margins and

hot spring sites, are sensitive to vehicle use impacts. These areas are now showing signs of degradation that could become permanent. Most OHV users tend to stay on existing roads, however, those who do not are causing the development of adverse impacts.

The playa tends to be resilient and repairs itself from conventional vehicular impacts during the wet season. The primary concern is accelerated erosion through human activity, especially in edge areas.

There are three permanent trunk roads or trackways on the playa that are essentially 2-track roads. These are permanent because they link five major (of 21) access points and are thus extremely compacted and sunken due to cumulative vehicle use.

Edge Area Effects

The edge areas that surround the playa are an area of concern. These areas are comprised of parna (clay and silt) dunes on leeward aspects, and sand dunes on windward aspects. Edge areas form a transition zone from the playa edge to higher elevations and county roads: they lie within an area of the Lahontan lake-plain terraces. In the edge areas, dirt bike and ATV users are leaving existing roads for activities such as cross-country travel and "dune crashing." OHV operation in parna dunes is destabilizing these features, especially around hot springs where related camping activities and OHV operation are more intensive. Destabilization occurs as compacted or crusted soil is broken up, dune-stabilizing plants are crushed or uprooted, and the loosened and lofted fine soil accumulates in hot spring pools.

Noise, dust and visual impacts have been cited as the most objectionable characteristics of OHV use. These impacts may or may not have a detrimental effect on wildlife, plant life, water, air quality, and other resources. Noise, dust and visual impacts, however, are not as serious as the physical impacts to the dunes and fragile soils.

OHV Impacts in Arid Lands - Habitat

In addition to impacts already mentioned, intensive and continued OHV use has been demonstrated to result in significant adverse impacts to wildlife and habitat. Studies in the California Desert and in Nevada, Arizona, and New Mexico indicate that, despite a desert's tough appearance, it is a fragile environment which slowly rebounds from disturbances to component soils, water sources, vegetation, and wildlife. Thousands of years of natural development can be destroyed by several days of abuse.

A U.S. Fish and Wildlife Service study showed that about 60% of the invertebrates in some desert study areas are lost under even moderate OHV activity. OHV activity has been shown to adversely impact invertebrates by crushing them and their burrows and creating increased soil density, due to OHV tire impact, which makes digging new burrows more difficult. Loss of invertebrate populations has occurred in areas of moderate use (Iverson, et. al., 1981; Johnson, 1981; Adams, 1982; Wilshire, 1983; Anders, 1987; Schultz, 1988; La Pierre, 1992; Bilbo, 1992).

OHV Impacts in Arid Lands - Accelerated Erosion

Field experiments of OHV use in arid land soils revealed an increase in the amount and frequency of water runoff and erosion by decreasing soil porosity, infiltration capacity, and loss of vegetation cover. Effects are long-term and can result from even light OHV use. A field study in the Mojave Desert, California demonstrated that moderate OHV use affects soil bulk density and infiltration capacity, runoff and water erosion processes (Iverson, et. al., 1981).

Rates of recovery in desert terrain after OHV use and subsequent soil and vegetation disturbance is very slow. Analysis of 51 years of recovery from soil compaction at Wahmonie, Nevada, an abandoned town on the Nevada Military Test Site, showed that about 100 years is required for soil density, strength, and infiltration capacity to be restored in the absence of continued disturbance. Vegetation recovery is marked by invader species early in recovery, native species are very slow to return. Due to this slow recovery of soil characteristics and vegetation, accelerated soil erosion and water runoff may continue for a long time; accelerated soil loss may be the most long lasting and difficult condition to alleviate of all OHV use impacts (Iverson, et. al., 1981; Johnson, 1981; Adams, 1982; Wilshire, 1983; Anders, 1987; Schultz, 1988; La Pierre, 1992).

Many of the effects mentioned in these studies are occurring within the proposed management area in locations of intensive dirt bike and ATV use. Notable effects are observed at the destination hot spring sites of Trego, Black Rock Hot and Soldier Meadows. Trego Hot Springs has, and continues to receive, extremely intensive use; even to the point that the vegetative pattern has been markedly reduced for several acres in all directions. Playa access points are showing degradation due to an activity known as "mud-bogging" during the wet season.

ORV/OHV operations are rapidly breaking up soil and vegetation structure throughout the edge areas. One area, four miles northeast of Gerlach, is denuded of vegetation. Wind action and cumulative trailbike impacts have accelerated and aggravated soil crust loosening and erosion. Adverse OHV impacts that are evident include quarrying, displacement and surface sealing:

1. Quarrying -- sandy and gravelly soils in the area are susceptible to direct OHV wheel quarrying and, stripped of vegetation, have begun to show signs of rapid erosion in the form of rills and gullys.

2. Displacement -- Erosion rates of stripped soil along existing trails are apparently higher than in natural courses.

3. Surface Sealing -- Repeated compaction of clay-rich soils in some trail areas is causing strong surface seals to form, thereby reducing the infiltration of water. This, in turn, is leading to greater runoff which may be influencing erosion in various associated drainage systems.

In some areas vehicular use has compacted the soil so much that ponding now occurs where water previously percolated into the soil structure. Some hillside and slope trails are exhibiting deep ruts; resulting in the creation of parallel bypasses.

Impacts to Historic Trails

The hot springs located along the eastern playa margin follow a major faultline. The emigrants headed for these associated water sources, thus establishing a pattern of historic trails on and around the playa. Vegetation along this fault apparently established, stabilized, and encouraged parna dune growth. Over the years, two-track roads have become established around the edge areas. These roads overlay portions of historic trail segments, offer playa access, and provide for casual dispersed use, right-of-way, or other commercial access within edge areas.

The Applegate-Lassen National Historic Trail is routed within the planning boundary from Rabbithole Springs north to the jurisdictional boundary between the Winnemucca and Surprise Field Offices, where it enters High Rock Canyon. This trail is generally set in a pristine viewshed: intact from 150 years ago. Many OHV enthusiasts, however, follow the original traces and ruts, thus degrading these unique vestiges of historic emmigrations. In some cases contemporary 2-track roads either parallel or superimpose the original trail.

OHV Use Designations

Three OHV Use Designations from 43 Code of Federal Regulations, Part 8340, are used in recreational planning:

1. Open - All types of vehicle use is permitted at all times, anywhere in the area, subject to operating regulations and vehicle standards in BLM regulations.
2. Limited - Restrictions at certain times, in certain areas, and/or to certain vehicular use within the following categories: vehicle numbers, vehicle types, permitted or licensed use only, use on existing roads and trails, use on designated roads and trails, other restrictions as placed in effect.
3. Closed - Off-highway vehicle use is prohibited

The current OHV designation ***Open*** applies to the majority of the public lands administered by the Winnemucca Field Office. This designation puts approximately ten million acres at the discretionary use of OHV enthusiasts who wish to travel cross-country from one destination to another. The impacts upon the landscape by OHV users are either mitigated or aggravated by the back-country travel ethics of this type of recreationist.

Figure 6 presents the various OHV designations recommended in the Alternatives.

The national *Tread Lightly!* program, however, has been incorporated in the private sector since 1990. The program emphasizes back-country motorized use guidelines to aid in resource preservation. The *Tread Lightly!* Pledge is:

Travel only where motorized vehicles are permitted.
Respect the rights of others to enjoy their activities undisturbed.
Educate yourself by obtaining maps and regulations, comply with signs and barriers, and ask owner's permission to cross or use private property.
Avoid streams, meadows, muddy roads and trails, springs and riparian habitat, wildlife, livestock and steep hillsides.
Drive and travel responsibly to protect the environment and preserve opportunities to enjoy motorized vehicle use on public lands.

Indiscriminate OHV use in desert areas with fragile plants and unique natural and cultural resources has resulted in restrictions and closures in other areas of the country. The BLM recognizes that management of OHV recreation should apply protective and mitigating measures to edge areas and insure continued access to the playa and the unique resources of the Black Rock Desert. However, successful management would depend upon public participation in land conservation use in order to avoid strict land use limitations.

Road Management

Certain roads within the proposed management area are maintained by the BLM and the various counties. BLM policy is to develop and maintain roads which provide access to BLM personnel for resource management purposes. Other uses are considered incidental, unless needed for program-specific planned and funded projects. About half the roads in the proposed management area are maintained by the county and the other half by the BLM. Currently, Field Office personnel identify which roads are in need of maintenance from year-to-year, and this, combined with the experience of the BLM support services staff, dictates which roads would be maintained and improved.

The Winnemucca Field Office transportation plan involves evaluating which roads should be kept in the district road system, and which should be turned over to the counties or left unmaintained. The Surprise Field Office, as part of it's High Rock Canyon ACEC plan, has prescribed that the road through High Rock Canyon be kept in as primitive state as possible as a 4-wheel drive road.

Consequences of the Proposed Action

The proposed management direction of this plan amendment would provide support for Recreation and other programs in efforts to manage and monitor visitor use and potential impacts from that use.

A certain level of resistance to the proposed managment is anticipated, therefore a transition period of one year would be implemented for intensive education purposes. A

certain segment of users would be adversely impacted and would either continue their activity within the management area or relocate outside the proposed area boundary.

With very few exceptions, the visiting public has expressed a great desire to see BLM preserve the Black Rock Desert area, but at the same time allow continued recreational use. As access is improved, ghost roads (destinationless) would be rehabilitated, and the long term preservation and protection of scenic and natural resources for the benefit of visitors would be facilitated. The proposed action would be the basis for an expanded environmental education program that would be the mainstay of resource protection. By educating the public of the unique resources and scenery, BLM would invite visitors to participate as managers in concert with this protection and preservation initiative. The proposed action would further become the basis for new, updated publications which would further serve to educate the visiting public on resource protection.

Consequences of the No Action Alternative
Alternative 1

The recreation-related impacts described in the affected environment and No Action alternative would continue to increase, resulting in continued degradation of natural and cultural resources. Visitors desiring solitude and wide-area scenic views may see an increase in destinationless (ghost) roads. The experience of some visitors would be adversely impacted by intensive, increased, noisy motorized use.

Consequences of Maximum Resource Protection
Alternative 2

OHV enthusiasts would be limited in their ability to explore the area. Adverse impacts from OHV use would decrease as compliance with restrictions was observed. OHV users may also risk citation instead of complying with the new restrictions, therefore some adverse impacts would continue to occur.

Visitors may accept designated camping areas at Trego, Black Rock, and Soldier Meadows Hot Springs, but continued camping in nondesignated area can be expected to continue. This would result in additional new ghost roads and other noncompliant activity. Historic trails and other resources could continue to be adversely impacted but over time, adverse impacts should decrease.
No edge area roads within the proposed plan boundary would be considered for inclusion in the BLM transportation system. A base map would not be created to identify roads, nor would any road within the plan boundary be physically identified.

Consequences of Maximum Resource Use
Alternative 3

Funding would become available to market the Black Rock Desert and greatly improve access opportunities. Full service OHV amenities, either with or without respect to the pristine setting might be constructed. Large-scale OHV events would be encouraged

through marketing initiatives. Visitors desiring solitude and wide-area scenic views would see a decrease in this opportunity and an increase in destinationless roads. The experience of some visitors would be adversely impacted by intensive, increased, noisy motorized use.

VISUAL RESOURCE MANAGEMENT (VRM)

Bureau policy states that the visual resource must be considered throughout the land use planning process. A multi-step process results in the assignment of visual resource classes to all portions of the planning area. There are four visual management classes, with Classes I and II being the most valued, Class III representing a moderate value, and Class IV being of least value. Class I is assigned to all special areas where the current management situation requires maintaining a natural environment essentially unaltered by man. Minor visual modification is permitted in Class II areas but the predominant natural features of the landscape cannot be changed. Class III permits partial change of the existing landscape which may attract attention but should not dominate the view of the casual observer. Class 4 areas allow for activities which could result in major modification of the existing landscape. In all cases, however, a caveat exists that urges return to the original setting as much as possible.

Visual resources within the proposed management area have been assigned into two management classes based upon inventories completed in the late 1970's. The area around High Rock Canyon, High Rock Lake, and the Black Rock Playa has been assigned to VRM Class II. The remainder of the proposed management area has been assigned to Class IV (**Figure 7** presents the various VRM classifications proposed in the Alternatives. **Figure 4** presents existing land use plan VRM classifications without WSAs receiving VRM Class I designation).

Visual Resource management has received very little attention since the classifications were completed 15 years ago. The land use plan contains one decision regarding protection of visual degradation. BLM Manual standards apply to all projects.

The visual quality ratings, sensitivity ratings, and distance zone ratings in the present VRM Classification are out of date and there are inconsistencies between current classifications and actual scenic value.

Consequences of the Proposed Action

The proposed action would provide a valuable economic impact in that the scenery would be preserved, thus increasing potential visitor interest in the region. Local and regional businesses would in turn benefit from increases in casual visitation. At the same time, visitor and resource management in the proposed action would protect resources affected by visitation increase. The visual quality would be emphasized in new, updated publications and interpretive development.

An adverse impact could be the lessening of the regional viability for industrial production and access due to increased visual resource standards over larger areas. Visual resource management is a tool only and would not necessarily preclude industrial development.

Consequences of the No Action Alternative
Alternative 1

VRM classification as a management tool to define and preserve scenic vistas would continue but without the proposed management direction and objectives. Once a wilderness bill passes and those areas not recommended for wilderness designation, such as the Calico Range, it is probable that historic trail viewsheds would degrade due to land disturbance activities and creation of numerous ghost roads resulting from intensified OHV incursions into viewshed upper elevations.

Consequences of Maximum Resource Protection
Alternative 2

As all WSAs would retain visual resource management (VRM) Class I, both historic and wide-area scenic vistas would remain intact. This would be of positive impact to all recreational visitors, but would constitute an adverse impact on industries, such as mining. Industrial development would provide jobs and profit for area service-oriented businesses. Increased visitation would provide similar benefits to Gerlach and other surrounding populations.

Consequences of Maximum Resource Use
Alternative 3

With a VRM Class rating of III many opportunities for mineral development and other industry could develop. The recreational public would probably protest any non-recreational activities that threaten to interfere with recreational pursuits. Utility companies would not be burdened with restrictions such as burying and it is probable that a powerful cell site could be established.

WILDERNESS

Portions of seven Wilderness Study Areas (WSAs) lie within the planning area (**Figure 5**). Detailed descriptions of them can be found in Volumes III and VII, *Nevada BLM Statewide Wilderness Report* (October, 1991). They are listed in Table 3-7. WSAs are public land blocks larger than 5,000 acres, natural in character, and containing outstanding opportunities for solitude and/or primitive and unconfined recreation. They were designated as WSAs about 15 years ago and will retain that status until Congress designates them as wilderness areas or releases them from further consideration.

No action can be taken that would impair the suitability of any of these areas for inclusion into the National Wilderness Preservation System. Congress will make the final determination as to whether any of these areas will become wilderness. It is also possible

that lands not located within a wilderness study area could be designated as wilderness. Congress is not under any constraint to designate only those areas within the WSAs.

All activities within WSAs must meet the Interim Management Policy non-impairment standard for wilderness. All proposals must be carefully weighed against non-impairment standards before they are approved. In general, activities that protect natural values and do not impair wilderness suitability are permitted. Activities judged impairing to wilderness values must be modified to meet the standard or they would not be allowed. Within the proposed management area, BLM has evaluated proposed minerals exploration projects, wild horse gathers, reservoir construction and commercial recreational uses. Increased public use of the lands in and around WSAs increases the risk of adverse impacts to wilderness resources.

Two WSAs lie either adjacent or very close to the management area: Poodle Mountain, and Black Rock Desert WSAs, along with the Lahontan Cutthroat Trout Natural Area ISA (Instant Study Area). Posted signs mark the WSA boundaries, in many key locations, with instructions to stay on existing roads and trails.

The study process, which included completion of two environmental impact statements, examined uses of lands under wilderness management versus non-wilderness uses. The BLM recommendations were made using an extensive public input process. The wilderness recommendations for each WSA are summarized in Table 3-6. Until Congress acts upon the recommendations, BLM is required to maintain wilderness characteristics on all the land within WSA boundaries.

During the current planning process, Bureau policy regarding visual resource management (VRM) classifications applied to WSAs was clarified (Smith, Personal Communication, 1998). All WSAs are now VRM Class I, which is the same designation for actual wildernesses. Specifically, the BLM manual/handbook H-8410-1, *Visual Resource Inventory*, page 6, paragraph 1, states:

> ...Class I is assigned to those areas where a management decision has been made previously to maintain a natural landscape. This includes areas such as national wilderness areas,...and other congressionally and administratively designated areas where decisions have been made to preserve a natural landscape.

The Bureau of Land Management has interpreted this statement to include WSAs. This interpretation is not necessarily about visual values. Rather, it concerns maintaining a natural landscape to help preserve the Interim Management Policy objectives and to assist in preserving wilderness values until such time that Congress either designates WSAs as wilderness or releases them for other purposes.

Table **3-7 Wilderness Study Areas within the Proposed Management Area** WSA Name and Recommendation	Approximate Acreage of WSAs within Management Area
Calico Mountain, NV-020-019: 0 acres recommended for wilderness designation. 67,647 acres recommended for uses other than wilderness.	30,720
High Rock Lake, NV-020-007: 14,480 acres recommended for wilderness designation. 47,902 acres recommended for uses other than wilderness. The recommended portion, north of Box Canyon, including Fly Canyon, the Potholes, and rugged, colorful rimrock cliffs. These areas were recommended because of their distinct geology and scenic quality.	51,042
Pahute Peak NV-020-621: 0 acres recommended for wilderness designation. 57,529 acres are recommended for uses other than wilderness; about one half lie within the proposed management area.	26,910
North Black Rock Range, NV-020-622: 0 acres recommended. 30,191 acres are recommended for uses other than wilderness; about 80 percent lie within the proposed management area.	1,260
East Fork High Rock Canyon, CA-020-914: 29,102 acres recommended for wilderness designation. 23,537 acres recommended for uses other than wilderness. The recommendation would provide wilderness designation to the East Fork of High Rock Canyon and the surrounding uplands. This portion of the WSA contains regionally significant scenic, wildlife, cultural and historic values.	3,240
Little High Rock Canyon, CA-020-913: 17,183 acres recommended for wilderness designation. 33,768 acres recommended for uses other than wilderness. The recommended wilderness includes Little High Rock and McConnell canyons and the adjacent uplands and benches. The canyons have outstanding scenic, wildlife, and cultural/historic values.	160
Selenite Mountains NV-020-200: 0 acres recommended for wilderness designation. 32,041 acres are recommended for uses other than wilderness; a very small portion, the western most corner along State Road 447, lies within the proposed management area.	93
Total	113,425

Consequences of the Proposed Action

Direct impacts should decrease through the managed efforts to preserve and protect WSAs, especially under a recently mandated requirement that all WSAs be given a visual resource management classification of 1. Confusion has and will continue to exist as to what lands constitute WSAs and what areas are otherwise designated. This problem can be solved through an effort to sign the WSAs in key locations. Indirect impacts to WSA resources would include off-highway vehicle use, increased visitor use, and other surface disturbing activities.

Consequences of the No Action Alternative - Continuation of Existing Management Alternative 1

Impacts to reported WSAs would continue the same as at present. Through VRM Class I designation WSA resources would not be affected significantly under the current management policies.

Consequences of Maximum Resource Protection Alternative 2

WSA resources would be protected to the maximum extent possible. Access would be limited and permitted activities would be reviewed with maximum consideration to resource protection.

Consequences of Maximum Resource Use Alternative 3

Promotion of the Black Rock Desert region would result in increased trespass into WSAs which could result in a depletion of wilderness values and characteristics.

Cumulative Impacts

Direct or indirect adverse impacts to WSA resources would continue to occur under each alternative. Under the Maximum Resource Protection Alternative, impacts should be minimized and under the Maximum Resource Use Alternative, illegal intrusion and vandalism may increase. Generally, increases in the number of visitors, off-highway vehicle use, and other surface disturbing activities would slowly but cumulatively adversely impact WSA resources.

Residual Adverse Effects

WSA resources are non-renewable and residual adverse effects would continue, resulting in resource loss. Natural and/or human impacts would continue even under the Maximum Resource Protection Alternative.

Monitoring and Mitigation Measures

Increased monitoring of WSA resources is recommended. Although strata containing fossils is usually buried, the known surface outcrops represent the existence of the resource.

LOCATABLE MINERALS

Disposal of locatable minerals is not a discretionary action for the BLM. Locatable minerals include metallic minerals such as gold, silver, mercury, copper, lead, uranium, tungsten and nonmetallic minerals such as gypsum, diatomite, and precious opals.

Significant portions of the Black Rock Range and the Calico Mountains are located within WSA's which were established in the early 1980's (**Figure 5**). Location of mining claims has been open in the WSA's. However, development of claims has been subject to valid existing rights that existed prior to establishment of WSA's. This has effectively limited exploration and development in this area during the 1980's and 1990's when mineral exploration and development has increased in northern and northwestern Nevada, due in part to the higher prices of gold and the increased efficiency of mining and extraction methods.

Mining Claims

All public lands within the plan boundary are open to location of mining claims under the authority of the 1872 Mining Law. There have been a total of 1,198 mining claims staked in the plan area. As of this date 235 claims are open for a total of 4,700 acres claimed (**Figure 10**). The claims are located mostly in the southern and central Calico Mountains, along the southern and southeastern edges of the plan boundary, and in the central and southern Black Rock Range.

Mining Notices and Plans of Operations

Mining notices and plans of operations are administered under the 43 CFR 3809 Surface Management Regulations. Mining notices involve operations disturbing five acres or less. They are reviewed by resource specialists. However, they are not an approved action and therefore do not require NEPA analysis. Most, but not all, mining notices are associated with exploration activities. Since 1981, seven mining notices have been filed within the plan boundary and three of those are currently active. Two active opal mines in the Calico Mountains are conducted under mining notices (**Figure 10**).

Plans of operations are mining actions that disturb greater than five acres. They are bonded, require NEPA analysis prior to approval, and can be either exploration plans or mining plans. There are currently no open plans of operations within the plan boundary.

Wilderness Plans of Operations

Any surface disturbing activities beyond casual use proposed in WSA's are administered under the 43 CFR 3802 Regulations for Exploration and Mining, Wilderness Review Program and the Manual Handbook H-8550-1, *Interim Management Policy and Guidelines for Lands under Wilderness Review*. Exploration and development in WSA's are subject to Valid Existing Rights. Three wilderness plans of operation located at the south end of

the Calico Mountains are all closed. Of the two that were located in the Black Rock Range, one remains open, yet inactive; the other is closed.

Locatable Mineral Potential

Metallic Minerals

Both the United States Geological Survey (USGS) and the United States Bureau of Mines (USBM) have conducted studies and/or mineral assessments of the Winnemucca Field Office (Peters, et al, 1996) and more specifically the proposed Black Rock Desert Plan area (Koski, 1998; Miller, 1993).

The USGS has developed a three-part method for assessing mineral resources. 1) Mineral potential tract maps delineate areas mineral deposits may occur based on known geology and the mineral deposits associated with that geology. 2) Estimates are made of the number of deposits within each delineated tract. 3) Estimates are made of the amount of metal present by means of the applicable grade tonnage models available for each of the various types of deposits. Readers are directed to Peters (1996) for a detailed discussion of the mineral assessment methodology and the type of mineral deposits likely to occur in this region.

The 1998 assessment includes a quantitative assessment (Table 3-8), and mineral potential tract maps outlining no potential (non-permissive), low potential (permissive), medium potential (favorable), and high potential (prospective) areas for hot spring mercury, hot spring gold-silver, and low sulfide gold-quartz deposits in the plan area (Figure 11A). A favorable area was drawn for polymetallic vein deposits but no quantitative assessment was made for that deposit type.

Table 3-8 Mineral Resource Assessment Probability
Estimate of the number of deposits at the following probabilities for the Black Rock Desert Management Plan Area (from Koski, 1998)

	Estimated Number of Deposits		
Probabilities	**Hot Spring Mercury**	**Hot Spring Gold-Silver**	**Low sulfide gold-quartz vein**
90%	0	0	0
50%	0	0	1
10%	0	1	2
5%	1	2	2
1%	2	3	2

Other deposit types, such as porphyry copper, porphyry molybdenum, base metal skarns, tungsten skarns, and volcanogenic uranium, were judged by the USGS to have very low expectation that an undiscovered deposit exists in the plan area and were not discussed any further. However, mineral potential tract maps for those deposits are available from

the Peters (1996) assessment and are included in this section (Figure 11B). From the mineral potential maps digital GIS data was utilized to calculate the acreages (Table 3-9).

Table 3-9 Metallic mineral potential in the Black Rock Desert Planning Area. Based on digital GIS files from Peters, et al (1996) and Koski (1998).

	Potential in Acres			
Deposit Type	**High**	**Moderate**	**Low**	No
Placer gold	6074	37132	271567	151036
Hot spring (Au,Ag,Hg)	32484	215956	68851	148064
Massive sulfide	0	0	245871	219941
Polymetallic veins	0	68795	210698	186323
Sediment hosted	0	0	4260	461095
Skarn	0	14333	159305	292180
Uranium	0	198205	75154	2263
Tungsten	0	73776	99835	292207
Porphyry	0	2090	171551	292179
Low sulfide gold	0	13591	247957	204266

The estimate of the amount of mercury occurring within the plan area is approximately 9.2 metric tons (about 270 flasks). Estimates for the amount of metal occurring in the hot spring gold-silver deposits is approximately 20 metric tons (about 630,000 troy ounces) of gold and about 76 metric tons (about 2,400,00 troy ounces) of silver. The metal content of the low sulfide quartz-gold deposits is estimated to be about 0.01 metric tons (about 310 troy ounces) of gold and about 0.002 metric tons (about 50 troy ounces) of silver (Koski, 1998).

Based on the above estimates and discussion, and for purposes of analysis, it is assumed that one mineral deposit with approximately 3,000,000 troy ounces of gold and silver could occur within the planning area.

In an earlier study conducted by USBM ten "areas of development interest" (ADI's), for locatable minerals within the plan boundary were identified and discussed in detail (Miller, 1993). The ADI's are located in areas which have historical workings or recorded production, current operations, recent exploration activities, where samples taken indicate mineral anomalies, and/or there exists current or past mining claim activity (**Figure 10**). All of the ADI's lie within areas identified by USGS as having potential for the occurrence of metallic minerals. With the exception of the Black Rock Opal ADI, which is discussed in the next section, they are all discussed briefly below.

Copper Canyon

The Copper Canyon area is located near the base of Pahute Peak, along the western flank of the Black Rock Range (**Figure 10**). The presence of altered Mesozoic granitic and metamorphic rocks in the Copper Canyon area, combined with anomalous metal values indicate a potential in the area for porphyry, skarn, and base and precious metal replacement deposits, particularly of zinc (Noble, et. al., 1987). Zinc-bearing skarns at Pahute Peak may fit models in which distant magma bodies were the source of mineralization (summarized in Miller, 1993). Fluorite occurs approximately 2.5 miles south of Copper Canyon in a vein 2 to 4 feet wide and 300 feet long. A pervasive zone of hydrothermal alteration and anomalous metal concentrations appears to be localized along a Cenozoic age range from fault approximately 2 miles south of Copper Canyon, indicating potential for gold and silver hot spring deposits (Noble, et. al., 1987). The area is assessed as having a medium potential for the occurrence both of tungsten and hot spring deposits (Peters, 1996).

Donnelly

The area is identified by USGS as having high potential for the occurrence of hot-spring deposits and moderate potential for the occurrence of polymetallic vein and tungsten deposits (**Figure 10**)(Peters, 1996; Koski, 1998). The Donnelly area was active in the early 1900's and is said to have produced about $90,000 in gold between 1907 and 1938 (summarized in Miller, 1993). An abundance of quartz veins, silicified breccias, and stockworks in a diverse range of sizes occur and include high-grade and disseminated precious-metal mineralization. Coarse-grained granitic intrusives, slate, quartzite, and volcanic rocks crop out; all are mineralized locally.

Southern Calico Mountains

USGS indicates this as an area of high potential for hot spring deposits and medium potential for polymetallic vein deposits. Colorful, intense, and widespread brecciation, silicification, argillation, and iron-enrichment of volcanic rocks are evident in the southern Calico Mountains. Geology and geochemistry support classification of this area as one of hot-spring , sub-hot-spring, or porphyry types of mineralization (Miller, 1993). Current mining claims (**Figure 10**) are concentrated in an area where an exploration drilling program was conducted in the mid 1980's.

Cassidy

A medium tract for the occurrence of low sulfide gold-quartz veins is outlined near the area of the old Cassidy Mine, worked by the Cassetty Brothers during the early 1900's. A high potential tract for placer gold is centered on the Cassidy Mine. Interest in the Cassidy mine area will continue for high-grade and disseminated gold, and possibly polymetallic, porphyry gold, and epithermal deposits (Miller, 1993).

Soldier Meadows

Extensive chalcedonic silicification, argillization, and limonitic alteration occur widely in the Miocene volcanic rocks of this region at the north end of the plan area. USBM rock sample analyses from this area indicates possible hot-spring mineralization (Miller, 1993). A high potential tract for hot spring deposits is outlined at the very north end of Soldier Meadows basin and the remainder of Soldier Meadows basin lies within an area indicated to be moderate potential for the occurrence of hot spring deposits (Peters, 1996: Koski, 1998).

Double Hot Springs

The Double Hot and Black Rock Hot Springs are aligned along the north-trending Black Rock Fault on the southwest flank of the Black Rock Range. Hydrothermal alteration along this range front fault indicates the potential for hot spring deposits, and possibly sub-hot-spring and porphyry deposits. This area has been assessed as having medium potential for the occurrence of hot spring related deposits (Koski, 1998; Peters, et. al., 1996). Indications are that types of mineralization in the Double Hot Springs area are similar to those in the Copper Canyon area (Miller, 1993).

Trego Hot Springs

Trego Hot Spring is located along the southern plan boundary and is included in an area outlined as moderate potential for the occurrence of hot spring and tungsten deposits (Peters, 1996; Koski, 1998). Hot-spring gold mineralization along range-front and related faults are indicated by anomalous mercury (more than 50 ppm) in a USBM rock sample from the sinter at the spring. Tungsten skarns and anomalous tungsten also occur in the Trego Hot Springs area (Miller, 1993).

Pahsupp Mountain

Pahsupp Mountain lies immediately south of the plan area a few miles east of Trego Hot Springs and lies within an area outlined as having high potential for hot spring deposits and medium potential for tungsten deposits (**Figures 11A and 11B**)(Koski, 1998; Peters, et. al., 1996). Numerous mine workings and ruins of mining-related buildings occur at the north tip of Pahsupp Mountain. Small production has probably occurred, based on piles of crushed-quartz tailings. Mineralization occurs in quartz veins (Miller, 1993). Current mining claims (**Figure 10**) located in the area include those that extend into the southern portion of the plan area where a thin veneer of alluvium and Lake Lahontan beach terraces cover the bedrock.

Rabbithole/Barrel Springs

Gold placers, especially the Rosebud placers (outside of the plan area), occur here in extensive, thick alluvium along the wide valleys and in Tertiary gravels. Small amounts of titanium are also contained in area alluvium (Miller, 1993). Although there are no

current operations located near Rabbithole Spring, the area has been assessed medium to high potential for the occurrence of placer gold. Based on proximity to the Rosebud and Hycroft Mines located immediately east and northeast of Rabbithole, this area is included in a medium to high potential tract for the occurrence of hot spring metallic deposits (Peters, 1996: Koski, 1998).

Table 3-10 Industrial and non-metallic mineral potential in the Black Rock Desert Planning Area. Acreage calculations are based either on the Mineral Potential Maps or on the geologic units the mineral or commodity is associated with. Compiled from digital GIS data obtained from USGS (Peters, 1996: Koski, 1998) and the Geologic Map of Nevada (Stewart and Carlson, 1978).
* High potential for precious opal occurrences was digitized based on Miller's (1993) ADI.

	Potential in Acres					
Mineral/Commodity	**High**	**Geologic Unit or Mineral Potential Map**	**Moderate**	**Geologic Unit or Mineral Potential Map**	**Low**	**Geologic Unit or Mineral Potential Map**
High quality locatable clays	32484	High potential hot spring map	215956	Moderate potential hot spring map	68851	Low potential hot spring map
Diatomite	0	N/A	10049	Tts	1531	Ts3
Evaporites and brines	0	N/A	0	N/A	147760	Qp
Fluorite	0	N/A	73776	High potential tungsten map	173638	Moderate and low potential porphyry map
Lithium	0		157809	Qp,Tts	131067	Ta1,Ta2,Tb,Tba Tob,Tr2,Tr3,Tt 2 Ts3,Tt2,Tt3
Perlite and Pumice	0	N/A	0	N/A	84163	Ts3,Tts
Sulfur	0	N/A	0	N/A	36097	High potential Hot spring gold-silver
Zeolite	0	N/A	10049	Tts	1531	Ts3
Precious opal	13987	*	29472	Tb	111644	Ta1,Ta2,Tba, Tob,Tr2,Tr3, Ts3,Tt2,Tt3,Tts
Common opal, geodes, agates, jasper, chert	80761	Tb,Tr2,Tt2 Tr3,Tt3	85843	Ta1,Ta2,Tba, Tob,Ts3,Tts	0	N/A
Petrified wood	36897	Ta1,Ta2	18321	Tba,Ts3,Tts	39293	Tt2,Tt3

Please see Figure 8, Geologic Map of the Proposed Management Area, for a description of geologic units.

Industrial minerals, gems and semi precious stones, petrified wood

An assessment of the potential for the occurrences of these minerals in the plan area was developed among minerals specialist in the Winnemucca Field Office. The geologic setting of previously documented and published occurrences and investigations in the

region was noted and potential tracts were developed based on associations with geologic units. The acreages were calculated based on GIS digital data obtained from the USGS of the Geologic Map of Nevada (Stewart and Carlson, 1978)(See **Figure 8**). Table 3-10 indicates the potential in acres for occurrence of the various commodities and those showing the highest potential for occurrence or that actually occur within the plan area are discussed briefly below.

High quality locatable clays

High quality clays include montmorillinite, bentonite, and fullers earth deposits. These type of clays commonly occur in hydrothermally altered Miocene and Pliocene volcanic rocks (Papke, 1970). Such a deposit has been documented at Rosebud Canyon located immediately southeast of the plan boundary. Thus it seemed reasonable to utilize the hot spring potential maps as potential areas for the occurrence of the clays.

Fluorite

An occurrence of fluorite has been documented in the Black Rock Range south of Copper Canyon (Miller, 1993). Potential for the plan area is based on the USGS (Peters, et. al., 1996) tracts maps for tungsten and copper-molybdenum.

Lithium

Based on the anomalous occurrences of lithium noted in the east arm of the Black Rock Desert, and north of Gerlach on the playa (Nash, 1996), it is felt that the playa of the west arm has medium potential. Volcanic rocks and related sediments near calderas, ring fractures, moat sediments are also of medium potential, and other volcanic rocks are considered low potential. Those type of rocks occur primarily in the northern Black Rock Ranges and Calico Mountains.

Precious opal, gems and semi-precious stones

The Black Rock Opal ADI was outlined by Neumann and Close (1985, p. 9), and Noble and others (1988, p. 3, 6). Precious opal, present as small percentages of common opal, occurs as fillings in amygdaloidal basalts of Miocene age in a north-trending zone for 8 miles along the eastern flank of the Calico Mountains between Donnelly Creek and Willow Creek. Much of the this zone is located within WSA's (**Figures 5 and 10**). Two mines located outside of the WSA's are currently actively mining opal. The opal is extracted by hand using hammers, chisels, and pry bars to carefully break apart the basalts and remove the opal. The opal is mined by the owners, rockhounders, recreationists, mineral collectors, and jewelry makers.

Common opal, petrified wood, agate, jasper, chert, chalcedony, and geodes also occur abundantly, primarily in the Calico Mountains and Black Rock Range where rock-hounding and collection of these semi-precious rocks is a popular recreational activity.

A geode mine is in production on the east flank of the Black Rock Range, immediately outside of the plan area.

LEASABLE MINERALS

Leasable minerals with the potential of occurring in this area include geothermal, oil and gas, and sodium and potassium. Table 3-11 summarizes the leasable potential in the planning area. The leasing of these minerals is a discretionary action for the BLM.

Geothermal

Geothermal leasing and development is conducted under the authority of the 1970 Geothermal Steam Act and regulations contained in 43 CFR 3200. No new leases may be issued in WSA's or lands designated wilderness.

The apparent growth trend during the 1990's is one of the "red flags" that initiated this planning effort. During the major holidays in 1997 a concerted effort was initiated to increase BLM presence and visitor data use collection efforts, primarily through the Volunteer Program. Table 3-4 illustrates a 1990's growth trend based on vehicle counts. Other growth trends were recognized from field observations.The land use plan allows geothermal (and oil and gas) leasing within the entire area with restrictions of no surface occupancy applied to a mile either side of the Applegate Lassen Trail north from the Union Pacific railroad tracks to Black Rock. From Black Rock north to the mouth of High Rock Canyon, the restriction applies 1 mile to the west of the Trail and to the crest of the Black Rock Range to the east. The viewshed looking east from the mouth of High Rock Canyon also has the no surface occupancy restriction. The Desert Dace ACEC in Soldier Meadows also has the no surface occupancy restriction (see **Figure 12**).

Known Geothermal Resource Areas and Geothermal Leases

During the late 1970's and early 1980's large areas of the west arm of the Black Rock Desert were held under geothermal leases. There is currently one geothermal lease in the plan boundary totaling 560 acres. Six Known Geothermal Resource Areas (KGRA), Trego, Double Hot, Soldier Meadows, Gerlach Northeast, Fly Ranch, Gerlach, were identified in the region and leased competitively. Of those original six KGRA's only the Gerlach KGRA maintains the classification. The Gerlach KGRA encompasses 9,600 acres, of which 4,160 acres lie within the proposed plan boundary.

Geothermal Potential

Several large energy companies conducted exploration activities in the region during the mid-1970's. Since 1975 approximately 17 projects have been permitted for shallow temperature gradient holes within or adjacent to the plan area. A total of 157 holes were drilled ranging in depth from 250 to 3000 feet. Most of these were located in or near Gerlach KGRA. Others were concentrated in the Sulphur and Hualapai Flat areas, and several were spread out over the entire west arm of the Black Rock Desert. In Soldier

Meadows, 28 shallow temperature holes were drilled ranging in depth from 15 to 100 feet. Seventeen geophysical or other exploration projects have been permitted in the region, mostly in the Gerlach area. Studies conducted included seismic, magnetotelluric, gravity, resistivity, geologic, hydrologic, and geochemical. One deep well was drilled by Sundeco in the Gerlach area at Mud Springs in 1979. The well was drilled to approximately 5,800 feet and encountered a maximum temperature of 197 °F at 3,450 feet near the top of the granodiorite. In 1993 and 1994, San Emidio Resources, Inc. drilled two 3000' Observation Wells in the Gerlach KGRA.

The geothermal resources of the region were also the subject of intensive study by the USGS and other non-industry investigators during the 1970's and 1980's. Schaefer, et. al., (1983), and Welch and Preissler (1990) have summarized the geologic, geochemical, and geophysical studies that were conducted.

The Black Rock Desert is located at the western edge of the Battle Mountain heat-flow high, a region of higher than average heat flow centered on Battle Mountain in the northern Great Basin. The 5 major hot spring (geothermal) systems in the area (Figure Geothermal map) and their estimated reservoir temperatures (from Miller, 1993) are: Great Boiling Springs (352 °F); Trego Hot Spring (239°F); Black Rock Hot Spring (264 °F) and Double Hot Springs (261 °F), form a semi-continuous system approximately 7 miles long along the west edge of the southern Black Rock Range. Soldier Meadows Hot Springs complex (239 °F) is located at the north end of the plan area. Hardin City, located north of Double Hot Springs may be a northern surface expression of the Double Hot Spring reservoir; Fly Ranch Hot Spring area (226 °F), lies immediately to the west of the plan area in Hualapai Flat.

All of these geothermal systems are located on major range front faults, regional faults, regional lineament systems, or intersections of any of the above. It has been concluded that the geothermal systems are probably the result of deep circulation of groundwater in the basins, passing through rocks and sediments that contain stored heat due to a regional high heat flow (Welch and Preissler, 1990). The geothermal solutions then rise through permeable conduits within fault zones and discharge at the surface as hot springs.

The total energy outflow from the western arm of the Black Rock Desert is estimated to be approximately 30 megawatts (Mase and Sass, 1980). This calculation excludes the Soldier Meadows geothermal system and is based on heat flow data from temperature gradient holes. Additional assessment provided by Brook, et. al., (1978) indicates a potential for the Great Boiling Springs system to produce 32 megawatts of energy for 30 years. GeothermEx, Inc. (1992) an independent consultant, prepared an assessment for San Emidio Resources, Inc., a leasee in the Gerlach KGRA at Great Boiling Springs. It was their conclusion that "the most likely reserves lie in the range of 15 to 35 MW, and a reserves level of up to 90 MW is possible." A summary of geothermal energy resources in and near the plan boundary has been compiled by Miller (1993, Table 3).

Areas that have been previously classified as Prospectively Valuable for geothermal resources by the BLM (Hoops, 1991) are considered high potential for geothermal

resources and are shown on **Figure 12**. Approximately 201,384 acres fall into the high potential category. Those areas are located along major faults where hot springs issue at the surface, where in the past there was either competitive or non-competitive leasing interest, and where formerly there was a KGRA classification or where one exists now. All other areas within the plan, approximately 264,435 acres are considered to have moderate potential.

The earlier assessments (ie Brook et. al., 1978) were completed prior to the introduction of binary (heat exchange) technology. The introduction of such new technologies increases the opportunity to develop lower temperature resources, especially for electrical power generation. Distance to markets and availability and economics of other energy resources also affect the likelihood of development of the geothermal resources within the plan area. Development interest is likely to occur within the foreseeable future.

Based on the above data and information, it is assumed that there is the potential for the development of two 20 megawatt power plants within the Black Rock Desert Management Plan boundary.

Oil and Gas

Oil and gas leasing is a discretionary action. See the above section on geothermal energy for a discussion of the decisions in the land use plans.

Leases

There are currently no oil and gas leases in the plan area. During the late 1970's and early 1980's several oil and gas leases existed in the Black Rock Desert, especially in the areas east and southeast of the south end of the Black Rock Range. However, these have been terminated or cancelled.

Oil and gas potential

According to Barker (1996), deep Neogene basins in areas of high heat flow, and containing thick sections of Tertiary and Quaternary sediments in the Winnemucca Field Office are considered permissive for small to medium oil and gas discoveries. Based on Barker's maps and discussion, it is estimated that approximately 190,780 acres within the plan boundary is permissive for oil and gas.
There have been no gas discoveries to date within the plan boundary. Two shallow and one deep exploration holes have been drilled in the east arm of the Black Rock Desert in the vicinity of Sulphur, east of the plan boundary. Sun Exploration and Production Company drilled the King Lear Federal No. 1 located approximately 15 miles north of Sulphur in the east arm of the Black Rock Desert. This hole was drilled through a Tertiary sequence to 7,931 feet and had oil shows in core from 6,880 to 7,052 and gas 6,894 to 6,930 feet. One hole drilled in 1909 slightly northeast of Sulphur to a depth of 970 feet had a possible oil show at 845 to 875 feet but this was not confirmed. One other

shallow hole drilled in 1921 approximately 3 miles northeast of Sulphur to a depth of 800 feet had no reported shows (Miller, 1993; Murphy, 1993).

Sodium and Potassium

Sodium and potassium leasing and development is conducted under the authority of the Mineral Leasing act of 1920, as amended, and the regulations contained at 43 CFR 3500. Under the current land use plan that sodium and potassium leasing would not be allowed on the playa of the Black Rock Desert. There are currently no sodium or potassium leases within the plan boundary.

Sodium and potassium potential

Most of the lands in the Black Rock Desert basin are classified as valuable prospectively for sodium and potassium (Wayland, R. G., et. al., 1980). There are no known occurrences and no exploration activity known to date.

Table 3-11 Leasable mineral potential in the Black Rock Desert Planning Area.

	Potential in Acres		
Commodity	**High**	**Moderate**	**Low**
Geothermal	201,384	264,435	0
Oil and gas	0	0	190,780
Sodium and potassium	0	0	147,760

SALEABLE MINERALS

Disposal of saleable materials is a discretionary action. Mineral material disposals are conducted under the authority of the Materials Act of July 31, 1947, as amended, and regulations at 43 CFR 3600. Material site right-of-ways are granted to Nevada Department of Transportation under Title 23, Section 317 U.S.C. Mineral material disposals are not permitted in WSA's or when designated, wilderness areas.

Permits and Right-of-Ways

Three free use permits for sand and gravel, are currently authorized within the plan area (Figure Material Materials). Eight other free use permits are pending authorization. One 40 acre material site right-of-way lies within the plan boundary along the south end. Occasional sales to private individuals occur out of the Blue Pit south of Hualapai Flat. There are currently no rock sales within the plan boundary.

Several types of salable minerals are found within the plan area (**Figure 13**). Table 3-12 summarized the mineral materal potential in the planning area. The most common are sand, gravel, and borrow occurring between 3900 and 4200 elevation as shoreline features of ancient Lake Lahanton. Alluvial deposits are also common. The entire playa has high

potential for the occurance of common clay. Other products with the potential of occurring include decomposed granite, granitic decorative boulders, volcanic flat rock, other decorative rock, and common clay.

Production of saleable materials from the plan area is generally focussed along the Winnemucca High Road, the Soldier Meadows Road, and Washoe County Road 34. Sand, gravel, and borrow are utilized for road construction and maintenance. Just north and west of Gerlach outside the plan area is a deposit of decomposed granite which is utilized by Washoe County for maintenance of local roads and highways.

Table 3-12 Mineral material potential in the Black Rock Desert Planning Area. Acreage calculations based on Figure 13.

	Acres of Potential		
Commodity	**High**	**Moderate**	**Low**
Sand/gravel/borrow	82,046	75,084	168,824
Rock-landscape/decorative	0	138,656	0
Clay, low quality	170,026	0	0

REASONABLE FORESEEABLE MINERAL DEVELOPMENT SCENARIOS

The following projections of future minerals activities were developed in order to identify and analyze impacts associated with mineral development within the proposed plan area.

Locatable Minerals

Future interest is expected in all the "areas of development interest" (ADI's) discussed earlier. It is expected that the Southern Calico Mountains, Copper Canyon, Pahsupp Mountain, Rabbithole/Barrel Springs, Black Rock Opal, Soldier Meadows (northernmost area) and Donnelly ADI's will continue to be primary areas of developmental interest. The Cassidy Mine, Double Hot Springs, Trego Hot Springs, and Soldier Meadows (central and southern areas) ADI's will be of secondary developmental interest. Initial exploration activities would probably be concentrated in the mountains. Possibly, attention would be directed to valley bottom locations

Once the WSA's are released there would be initial accelerated activity in the areas of medium to high potential. Eventually the activity would taper off. Over the long term, small exploration or mining projects, conducted under mining notices, would probably increase to an average of two operations per year. Surface disturbance would affect an average of 5 acres per project so a total of 10 acres per year would be disturbed. Disturbance would consist primarily of access roads, drill pads and trenches.

Two of these projects would be the development of three small opal mines within the Black Rock Opal ADI. Each of these mines would develop one to two small open pits, less than one acre each. Mining would be expected to continue for up to 30 years. It is

assumed that each of these mines would have 1 to 2 small trailers occupying the sites for 6 to 12 months of the year.

It is expected that 2 exploration plans of operations would be conducted averaging 50 acres of disturbance each. This could equal up to 20 miles of access roads and associated drill pads and trenches per project. The projects would most likely be conducted in the mountains and the access roads and trenches would be visible as linear features. After final reclamation, it would take 5 to 10 years for vegetation to become established.

USGS (Koski, 1998) has predicted there is a 10 percent probability that a hot spring gold-silver deposit would occur in the plan area consisting of approximately 630,000 troy ounces gold, and 2,400,000 troy ounces silver. For analytic purposes, it is expected that one gold-silver mine of approximately 3,000,000 total ounces would be developed, presumably in one of the areas outlined as having high potential for the occurrence of hot spring deposits. It is assumed this mine would be developed in the mountains surrounding the plan area, would disturb approximately 400 to 500 acres and consist of an open pit heap leach operation with associated waste dumps, access roads, milling or processing facilities, and associated ancillary facilities. Reclamation would be concurrent with operations and upon final reclamation would take 5 to 10 years to establish vegetation.

No future developments are expected for industrial minerals.

Rock-hounding, especially in the Calico Mountains and the Black Rock Range, is expected to continue, and will increase with increasing visitor use.

Leasable Minerals

Geothermal

It is expected that exploration may occur in the plan area in the valley bottoms or near the foothills. Approximately 20 temperature gradient holes 300' to 500' feet deep would be drilled with an associated minimal surface disturbance of 1 acre total. Probably a 2 dimensional, possibly a 3 dimensional seismic study would be conducted. Surface disturbance associate with the exploration projects would be minimal, typified by crushed vegetation and soil compaction.

For analytic purposes, it is estimated that two 20 megawatt power plants would be developed with a projected life-span of 20 to 30 years each. One of these plants possibly would be constructed in the Gerlach area. The other plant may be constructed near the Double Hot Springs-Black Rock Hot Springs trend. The well-field facilities would consist of 5 production wells and 3 injection wells, of 2 acres disturbance each. There would be approximately 2 to 3 miles of pipelines disturbing approximately 3 acres of surface. Access roads would include a main road into the site of approximately 5 to 10 acres and roads along the pipelines to all the wells, consisting of 5 acres. The power generating facilities would consist of a 30 foot tall by 500 feet long by 30 feet wide structure with the generators on the ground and the cooling fans on the top. The sites would also have a

control building/office, a shop, and an emergency water tower. Approximately 5 to 10 acres would be disturbed. Total disturbance associated with each project would be approximately 35 to 50 acres for a total of 70 to 100 acres total.

Oil and Gas

Exploration for oil and gas would occur in plan area if favorable market conditions exist. Exploration activities would be conducted in the valley bottom. One or two geophysical studies would be conducted, probably 2 dimensional seismic lines. Disturbances associated with this would be minimal, disturbing soils and crushing vegetation. One exploration well would be drilled. Associated with this would be 2 acres of disturbance for the drill pad and 1 to 5 acres with the access road, depending on its location. It is not expected that any oil and gas development would occur.

Sodium and Potassium

Exploration or development of sodium and potassium is not expected in the future.

Saleable Minerals

In the future the sand, gravel, and borrow deposits located along the main roads through the plan (ie Winnemucca High Road and Soldier Meadows Road) would continue to be utilized by the county and BLM for road maintenance within the plan area. Three more pits would likely to be opened for these purposes. A total of 12 pits would exist, disturbing approximately 5 acres each. Free use permits and sales from the Blue Pit will continue to be issued to counties, BLM, and private individuals. Five sales a year are expected out of the Blue Pit. A major road construction project through the Gerlach area is expected in the near future and the Blue Pit may provide some of the product for this project. Another Nevada Department of Transportation site located at the very south end of the plan area may also be considered. It is highly unlikely that sand and gravel products produced from within the plan boundary would be used in larger distant markets. Interest in landscape or decorative rocks is continuing in the region and it is expected that 3 sales of 25 to 50 tons each would be made within the plan area. The rock sales would disturb less than 5 acres each.

Consequences: The Proposed Action

The proposed management boundary encompasses known occurrences of geothermal resources; precious opal; sand and gravel; areas of high, moderate and low potential for occurrence of certain metallic minerals; and moderate to low potential for the occurrence of industrial mineral resources. Possible future developments of these resources may be somewhat restricted due to mitigation measures that would be implemented in order to maintain the integrity of the environment, especially with regards to visual resources of the management area.

Mineral exploration and development may continue in the proposed ACEC; however, for locatable minerals, proposed operations of 5 acres or less that would normally be conducted under a mining notice pursuant to 43 CFR 3809 regulations would require a plan of operations to be submitted. An environmental assessment would be required, and a reclamation bond would need to be posted prior to approval. All resources would benefit from operations of 5 acres or less being subject to the NEPA process. Development of special mitigation measures for all approved and permitted minerals actions would be based on protecting the important values and resources of the ACEC. For all proposed actions these mitigation measures may constrain and limit the scope of operations to the extent that a resource may not be economical to extract.

Approved actions would include stipulations and mitigation measures that avoid impacts to riparian, spring, visual, and cultural resources as they relate to Native American concerns. Reclamation seed mixes would include native species.

Reclamation seed mixes would be certified weed free. Operators and permittees would be required to control noxious weeds.

New roads and road improvements would be allowed for minerals related exploration and development. To minimize impacts to the natural setting, new roads would be designed to blend in with the surrounding landscape. Operators would be encouraged to use existing roads or travel cross-country whenever possible.

Minerals actions would be required to reclaim the disturbances to VRM Class II standards and potential adverse impacts to the viewshed and scenic qualities would be diminished. Long term mining, utilization and exploitation operations of mineral resources would be required to maintain VRM Class II standards throughout the period of operations. Projects would be designed and engineered to blend in with the setting. This would include concurrent reclamation, shielding and directing lights, limiting or not allowing nighttime lights, coloring of facilities, and other innovative techniques. All concurrent and final reclamation measures would be contoured and colored to mimic and blend in with the natural pre-disturbance setting. Exploration operations are temporary and would not be required to maintain VRM Class II throughout the period of operations. Any staging or mobile facilities would be required to be removed at the termination of each phase of the project.

Utilities needed for large scale mineral and geothermal projects would be limited to the existing and proposed corridors.

The economic return of the operators of major and long term minerals actions could be adversely affected by extra monetary expenditures necessary to implement mitigation measures for maintaining and reclaiming projects to VRM Class II standards.

There would be no short or long term impact to the mineral resources.

Consequences of Alternative 1 : No Action - Continuation of Current Management

The consequences of this alternative are very similar to the Proposed Action. One exception would be that 43 CFR 3809 actions of 5 acres or less would continue to be processed as mining notices, rather than plans of operations. No NEPA analysis would be required and the projects would not be bonded.

The level of mitigation that would be required within the various current VRM classifications throughout the proposed management area would vary. Currently the WSA's are VRM Class I. Once the WSA's are released and the VRM classification go back to the MFP's, minerals actions will be mitigated to various VRM standards depending on where the proposed actions are located. Within the playa and nearby adjacent areas, the classification would be Class II. Assuming that geothermal power plants would be constructed near the bases of the mountains or near the edges of the playa, those actions would be economically constrained by a Class II visual standard. However there are places in the Calico Mountains, Black Rock Ranges, and Soldier Meadows areas where VRM Class IV would be the standard. Those locations are likely for the development of locatable mineral resources. Quite possibly there could be a geothermal power plant located within a Class II VRM zone.

There would be no short or long term impacts to the minerals program.

Consequences of Alternative 2 : Maximum Resource Protection

A proposed mineral withdrawal in the plan area would mean that no new mining claims could be located. Existing mining claims would be evaluated for valid existing rights. New exploration or mining projects would be authorized only if it could be shown they had valid existing rights. The economic benefits of projects that would not be authorized would not be realized. The viewshed and the pristine setting of the plan area would benefit by not having visible scars on the landscape.

Mineral material sales and free use permits would continue to be authorized out of the Blue Pit in order serve the needs of the local community. This would benefit the local communities of Gerlach and Hualapai Flat. Most of the mineral material pits developed within the plan area are already used for maintenance of the roads within the plan area, so eliminating those from the general public would not adversely affect the public needs. Possible sales of landscape or decorative rocks would be forgone.

Projected leasing, exploration, and development on 201,384 acres of high potential and 264,435 acres of moderate potential for of geothermal resources would not occur. The possible development of two geothermal power plants would not happen and the economic and energy benefits of those would not be realized. Potential leasing and exploration on 190,780 acres of low potential oil and gas and 147,760 sodium and potassium would not occur.

Information regarding the mineral resources which is typically generated during exploration and utilization projects will not be obtained. This is a long term effect and would adversely impact the potential to develop further knowledge of the area. A mineral withdrawal in the plan area would effectively eliminate the potential for any further mineral exploration or development, except for valid existing rights.

Consequences of Alternative 3 Maximum Resource Use

Most consequences would be the same as the No Action Alternative with regards to locatable minerals.. Locatable minerals actions would be managed the same except that all proposed actions would be required to mitigate and reclaim to VRM Class III standards. This would probably be less economically constraining than the VRM Class II of the Proposed Action.

This alternative would remove the No Surface Occupancy restriction from geothermal and oil and gas leases issued in the future on lands located one mile east of the Applegate-Lassen Trail to the crest of the Black Rock Range. Most of the planning area would continue to have leases issued with the No Surface Occupancy restriction. If companies are allowed to lease and occupy and develop the surface of the lands on the east side of the Applegate-Lassen Trail this would probably increase the opportunities for exploration and development of geothermal and oil and gas resources.

There would be no or short term impacts to minerals.

Cumulative impacts

There would be no cumulative impacts to the minerals program.

Irretrievable and irreversible impacts

There would be no irretrievable or irreversible impacts to the minerals program.

LANDS AND REALTY

The proposed management area encompasses approximately 465,798 acres, of which over 452,086 acres are public lands. The private lands consist primarily of small parcels, most of which are currently under agricultural production or are located near springs. The exception is the Soldier Meadows Ranch, which is primarily involved in the cattle industry, but has expanded into the Dude Ranch and Bed & Breakfast business. BLM recently acquired additional acreage, and a conservation easement on private lands to protect the habitat of the Desert Dace and Lahontan Cutthroat trout near Soldier Meadows. The conservation easement also preserves the natural character of private portions of the Applegate-Lassen Emigrant Trail, as well as the historic character of the ranch headquarters.

Currently, as the opportunity arises, the BLM considers the acquisition of private lands intermingled with public lands. The BLM would specifically pursue lands that contain high resource values within the Lahontan Cutthroat Trout Natural Area, and/or lands that would provide legal access to the Granite Range area, and to other areas that currently have limited or no legal access.

BLM currently makes lands available for agricultural disposal, with priority given to lands which would result in expansion of existing agricultural units or areas. All agricultural disposal actions must currently meet the criteria defined in section L. 3.3 of the land use plan. BLM currently reserves rights-of-ways for access roads prior to conveyance of public lands into private ownership.

As described in the land use plan for the area, the BLM has identified public lands to be retained in federal ownership to allow for the expansion of the community of Gerlach and also to protect the municipal hydrologic basin for the community of Gerlach.

Past and current authorized uses of public lands within the proposed management area, for commercial and non-commercial purposes include, but are not limited to: motion picture and commercial television filming, still photography, and commercial and recreational rocketry.

As outlined in the existing land use plan: "*...designated rights-of-way routes have been established along existing transportation and utility corridors within the proposed management area, with a specified width of 1.5 miles on each side of those corridors. Exceptions to this width requirement may be made on a case-by case basis following an environmental analysis of the specific proposal. All grants for above-ground powerline rights of way, within raptor areas, contain raptor protection stipulations. On the south side of the Black Rock Desert Playa, from Sulphur to Gerlach, transportation and utility routes are located within a designated corridor bounded one-quarter (1/4) mile north, and two and three quarter (2-3/4) miles south of the existing railroad tracks. Only underground utility facilities would be authorized north of the railroad tracks, in order to reduce visual impacts to the area. No utility facilities would be allowed to cross the playa of the Black Rock Desert. Future rights-of-way corridors would be evaluated on a case-by-case basis and should be consistent, if possible, with the corridors defined in the Western States corridor study.*"

Furthermore, that "*...communications sites can be authorized within the proposed management area, as long as they do not impact the visual integrity of the Applegate-Lassen Emigrant Trail and are in compliance with the Interim Management Policy and Guidelines outlined for the Wilderness Study Areas.*"

Consequences of the Proposed Action

The proposed action would limit the way that BLM processes land tenure adjustments to only land exchanges. Public land would not be made available for sale to the public and would not be sold under the Recreation and Public Purposes Act (R&PP) as amended (43

U.S.C. 869 *et seq.*), to state and local governments; and to qualified, nonprofit organizations, for recreation or public purposes . Limiting land tenure adjustments to land exchanges may hinder the BLM's attempt to block up public and private lands in the area. These combined factors would be considered when determining whether it was in the public's interest to acquire these lands. The acquisition of easements for access, and/or private lands would continue to be pursued through donation or purchase.

Impacts that would result from the proposed action are that leases or permits would not be issued for proposed activities unless they were determined to be minimal impact in nature and were in compliance with visual resource requirements. This area is used often by the Commercial Filming and Photography Industry, because of the unique setting. These industries bring significant revenue into the community of Gerlach, in the form of motel rental, gasoline purchases, and food purchases. Large scale projects that may cause significant "short term" impacts to the area may not be authorized. This would result in lost revenue to the community of Gerlach. Leases would not be considered unless they met the visual resource requirements.

The proposed action states that all utilities authorized within the proposed plan boundary would be buried underground and restricted to designated routes along established transportation and utility corridors. All types and categories of linear utilities would be impacted if they are required to be buried underground. The location of most private lands within the proposed plan area that may request service is fairly remote. Because of their location, the costs associated with burying some types of facilities, such as large electrical transmission lines and smaller electrical distribution lines of significant length, may be prohibitive enough to block any service from being brought into private lands. As all costs associated with permit processing, construction, and maintenance are ultimately passed on to the end consumer. All buried utilities require some type of vaulting that is above ground in order to access the cable for repairs and maintenance. This vaulting, if placed on public lands, would be required to meet visual resource requirements.

Any proposed site rights-of-way including communication sites would not be considered unless they met the visual resource requirements.

Consequences of the No Action Alternative
Alternative 1

Management would continue under existing law and regulations and the guidelines outlined in the existing MFPs.

Consequences of Maximum Resource Protection
Alternative 2

No public land, within the boundary, would be made available for disposal through sale or exchange. This would hinder any effort to block up private and public lands within the proposed plan area. Exchanges would be limited to private lands located within the proposed plan boundary and public lands located outside of that area. The acquisition of

easements for access and/or private lands would continue to be pursued through donation or purchase.

Leases or permits would not be issued for proposed activities unless they were determined to be minimal impact in nature and were in compliance with visual resource requirements. This area is used often, by the Commercial Filming and Photography Industry because of the unique setting. These industries brings significant revenue into the community of Gerlach in the form of motel rental, gasoline purchases, and food purchases. Large scale projects that may cause significant "short term" impacts to the area may not be authorized. This would result in lost revenue to the community of Gerlach. Leases would not be considered unless they met the visual resource requirements.

All utilities authorized within the proposed plan boundary would be buried underground and restricted to designated routes along established transportation and utility corridors. All types and categories of linear utilities would impacted be if they are required to be buried underground. The location of most private lands within the proposed plan area that may request service is fairly remote. Because of their location, the costs associated with burying some types of equipment, such as large electrical transmission lines and smaller electrical distribution lines of significant length, may be prohibitive enough to block any service from being brought into private lands, as all costs associated with permit processing, construction, and maintenance are ultimately passed on to the end consumer. All buried utilities require some type of vaulting that is above ground in order to access the cable for repairs and maintenance. This vaulting, if placed on public lands, would be required to meet visual resource requirements.

Any proposed site rights-of-ways, including communication sites, would not be considered unless they met the visual resource requirements.

Consequences of Maximum Resource Use
Alternative 3

Under this alternative, public lands within the boundary could be made available for disposal through sale or exchange. The acquisition of easements (for access) and/or private lands would continue to be pursued through donation or purchase.

Permits would be issued for proposed activities as long as they were in compliance with visual resource requirements. This area is used often by the Commercial Filming and Photography Industry because of the unique setting. These industries would continue to bring significant revenue into the community of Gerlach in the form of motel rental, gasoline purchases, and food purchases. Large scale projects and events that cause significant "short term and long term" impacts to the area may be authorized if impacts to the visual resources are mitigated to a Class III visual resource standard. Authorization of these types of projects may generate additional revenue for the community of Gerlach. Long term leases would be considered if they met the visual resource requirements.

All utilities authorized within the proposed plan boundary would be in compliance with Class III visual resource requirements. All types and categories of linear utilities would be encouraged to stay within designated transportation and utility corridors; however, alternate routes outside of the corridors could be considered. This could result in buried facilities, (such as pipelines, telecommunication lines, and/or electrical lines) crossing the bed of the Black Rock Desert Playa. This would also allow above ground facilities to be placed within the proposed plan boundary as long as they were subordinate to the existing landscape. The construction of overhead utility lines would be beneficial to the proponent because of the cost savings associated with overhead vs underground facilities. There would also be cost savings benefits as they relate to application processing. During the construction of overhead utility lines, on the ground cultural sites may be mitigated through avoidance by simply moving the utility line support poles to accommodate known sites.

Any proposed site rights-of-ways, including communication sites could be considered as long as they met Class III visual resource requirements.

Short, Long-Term and Cumulative Effects

No short term effects, long term effects, or cumulative impacts would result from the actions of these proposals.

FIRE MANAGEMENT

A re-examination of fire suppression policies and the role of fire in land management has occurred during the last 20 years. The fire suppression program has evolved into a management organization supporting the use of fire as a management tool as well as a method of suppressing wildfires. This emphasis should become more prominent in the years to come as the entire BLM fire management program goes through a reassessment based on the National Wildfire Policy Review of 1995. The new generation fire planning process would allow the use of fire to reach desired resource objectives. Fire management program objectives are primarily based upon national policy or occur as a result of projects initiated by other programs.

ECONOMIC PROFILE

Portions of the planning area lie within Humboldt, Pershing, and Washoe Counties, and the potential exists for each of these counties to experience economic effects as a result of management prescriptions for this plan. The principal economic activities conducted on these resource lands are recreation, agriculture, and mining. Appropriate detail for each of the three counties is presented here.

Locale and Access

Principal access to the Black Rock Desert is through the towns of Gerlach and Empire, which lie just outside the southwest boundary of the planning area, on State Route 447. Neither Gerlach nor Empire are incorporated. The population of Gerlach Township was estimated at 867 for 1997, and is projected to grow to no more than 891 persons by the year 2000. Almost all of these people reside in Gerlach or Empire. Other than in the towns, habitation in the area is on isolated ranches.

Gerlach has available some limited retail services; a motel, three restaurants, several bars, and a gas station. A tow-truck is available at the gas station. Empire is about 6 miles south of Gerlach, and serves as a residency for employees of the U.S. Gypsum mine and wallboard plant. There is a general store and gas station in Empire.

None of the services in Gerlach or Empire are available 24-hours-a-day. Although there is a medical clinic and a Washoe County Sheriff's station in Gerlach, the nearest full medical and emergency services are in the Reno-Sparks area, about 110 miles distant. Cellular phones are not always successfully used in the Black Rock Desert area as there are no towers closer than the Reno-Sparks area. There are several pay telephones available in Gerlach and Empire. There are no banks or ATMs (Automated Teller Machines)

Seventy-five miles south on Nevada State Highway 447, at its intersection with Interstate 80, is the town of Fernley. Nearly all services are available in Fernley, including a hospital. Fernley has the nearest American Automobile Association (AAA) towing service, banks and ATMs. Thirty miles west of Fernley is the Reno-Sparks metropolitan area with all major facilities and services. Medical air-lift service is available in Reno for remote assistance.

North of Gerlach, eighty-four miles on State Route 447, the nearest town with limited services is Cedarville, California. Major services are available in Alturas, 30 miles west of Cedarville. County Road 34, a fairly good unpaved road, leads north from Gerlach to Vya and from there to Cedarville, California or Denio, Nevada. Winnemucca offers complete services, but it is 98 miles east of Gerlach on an unpaved, very rough road. All other roads in the area are passable when dry, but are best driven in a high-clearance, 4-wheel drive vehicle. There are no services and few inhabitants along the back-country roads.

Humboldt County

Humboldt County, the 4th largest of the state's 17 counties, is rural and sparsely populated. With a total area of approximately 9,704 square miles, and an estimated 1996 population of 16,460 (Nevada State Demographer's Office, February, 1997), population density for the county is slightly less than 1.7 persons per square mile. The largest population center in the county, and its only incorporated city, is Winnemucca, with a 1996 population estimate of 7,890, which represents 48 percent of the county's population.

The Federal Government represents a significant presence in the county as illustrated by land ownership data. Approximately 79.9 percent of the county's 6,210,560 acres (4,964,568 acres) are under federal ownership. Federal Payments in Lieu of Taxes to Humboldt County for fiscal year 1997 amounted to $460,433.

Table 3-13 shows earnings by place of work and employment by major industrial sectors for Humboldt County in 1995. Total personal income for the county in 1995 is reported at $345,841,000; this includes earnings by place of work, personal contributions for social insurance, adjustments for residence, dividends, interest, rent, and transfer payments. Earnings by place of work constituted $298,760,000 of that total. Per capita personal income is estimated at $21,854 for 1995. This per capita personal income ranked 6th in the State and was 89.7 percent of the State average of $24,361, and 94.2 percent of the national average of $23,196.

Total employment is estimated at 9,420. The mining industry is the single most important employer and income producer for the county, employing 2,362 people and generating $123.5 million in income. This represents 25.1 percent of employment and 41.4 percent of income in the county. The service industries provide the second largest source of income and employment at an estimated $40.5 million and 2,183 jobs.

More recently, however, there has been a reduction in mining activity due to the decline in the international price for gold. Humboldt County unemployment was reported for the second quarter of 1998 at 650 persons, for an unemployment rate of 7.1 percent. This compares with data for the second quarter of 1997 which indicates 340 people unemployed and an unemployment rate of 3.9 percent. During this period, total

employment actually increased by 80 persons, but there were 390 more people in the labor force, leaving an additional 310 people in the labor force seeking employment. It is likely that these additional people in the labor force represent Humboldt County residents who had been employed by mining operations in adjacent counties.

Agriculture continues to be regarded as the foundation of the county's economic base. Humboldt County is one of the leading agricultural counties in Nevada. Total cash receipts from agricultural marketings in 1995 were reported as $50.9 million, with $14 million from livestock and livestock products and $36.9 million from crops. This was first in the state, with almost 17 percent of the state's total agricultural receipts.

Table 3-13 Humboldt County Earnings and Employment, by Major Industry, for 1995.

	EARNINGS		EMPLOYMENT	
INDUSTRIAL SECTOR	**$000**	**PERCENT OF TOTAL**	**NUMBER OF JOBS**	**PERCENT OF TOTAL**
Agriculture	8,875	3.0	368	3.9
Agriculture Services	2,736	0.9	255	2.7
Mining	123,547	41.4	2,362	25.1
Construction	19,729*	6.6	533*	5.7
Manufacturing	8,446	2.8	153	1.6
Transportation and Public Utilities	22,640	7.6	443	4.7
Wholesale and Retail Trade	32,993	11.0	1,672	17.7
Finance, Insurance, and Real Estate	2,987	1.0	275	2.9
Services	40,526*	13.6	2,183*	23.2
Government	36,281	12.1	1,176	12.5
TOTAL	298,760	100.0	9,420	100.0

*BLM estimates

Earnings include wages and salaries, other labor income, and proprietor income. Earnings represent the principle component of total income which is further comprised of dividends, interest, rent and transfer payments, less personal contributions for social insurance.

(Source: US Dept. of Commerce, Bureau of Economic Analysis, Regional Economic Information System, August, 1997)

The economy of Humboldt County remains tied to mining, however. A study conducted by the University of Nevada - Reno's Center for Economic Development reported that over 56 percent of total economic activity in Humboldt County is created by the gold mining industry. Thus, while direct employment by the mining industry accounts for less than one-third of the employment in the County, the industry provided over one-half of the economic activity and three-quarters of the income in the CountyTingley, et al.1993; BLM 1996; Tri-County Development Authority 1996).

The economic dependence on the mining industry makes the regional economy very vulnerable to external conditions such as fluctuations in world prices and demand. This potential risk has been noted by local development authorities. Overall Economic Development Plans have been developed for both Humboldt and Pershing Counties to provide direction and support in the development of other industries and economic activities in order to diversify the economy. Target industries for development include gaming and tourism, recreation, agriculture, and geothermal resources (BLM 1996; Tri-County Development Authority 1995).

Pershing County

Pershing County, too, is a sparsely populated and rural county. With a land area of 6,031 square miles, Pershing ranks as the 8th largest county in the state. But, its 1996 estimated population of 6,260 persons ranks 13th . And, while this equates to 1.03, or just slightly more than one person per square mile, almost 45 percent of Pershing's population, 2,790 persons, are concentrated in the incorporated city of Lovelock.

Table 3-14 Pershing County Earnings and Employment, by Major Industry, for 1995.

	EARNINGS		EMPLOYMENT	
INDUSTRIAL SECTOR	**$000**	**PERCENT OF TOTAL**	**NUMBER OF JOBS**	**PERCENT OF TOTAL**
Agriculture	1,626	2.6	176	7.8
Agriculture Services	315	0.5	18	0.8
Mining	33,479	52.8	722	31.9
Construction	1,022	1.6	41	1.8
Manufacturing	887	1.4	37	1.6
Transportation and Public Utilities	3,172	5.0	68	3.0
Wholesale and Retail Trade	5,591	8.8	433	19.2
Finance, Insurance, and Real Estate	389	0.6	41	1.8
Services	4,141	6.5	269	11.9
Government	12,845	20.2	457	20.2
TOTAL	63,467	100.0	2,262	100.0

Earnings include wages and salaries, other labor income, and proprietor income. Earnings represent the principle component of total income which is further comprised of dividends, interest, rent and transfer payments, less personal contributions for social insurance.

(Source: US Dept. of Commerce, Bureau of Economic Analysis, Regional Economic Information System, August, 1997)

Much of the land within the county is public land managed by the Federal Government. Approximately 2,929,129 acres, or 75.9 percent of the county's 3,859,840 acres are public land. The Bureau of Land Management (BLM) is responsible for management of 2,909,949 of those acres, while the Bureau of Reclamation administers 19,180 acres. Federal Payments in Lieu of Taxes to Pershing County for fiscal year 1997 amounted to $228,457.

Table 3-14 shows earnings by place of work and employment by major industrial sectors for Pershing County in 1995. Total personal income for the county in 1995 is reported at $81,341,000; this includes earnings by place of work, personal contributions for social

insurance, adjustments for residence, dividends, interest, rent, and transfer payments. Earnings by place of work constituted $63,467,000 of that total. In 1995, Pershing County had a per capita personal income of $18,415. This per capita personal income ranked 17th in the State, and was 75.6 percent of the State average of $24,361, and 79.4 percent of the national average of $23,196.

Historically, mining and agriculture have been the constant and most dependable economic activities in Pershing County. These industries were the county's original and primary source of income and continue to play an important role in the county's economy today.

Total employment is estimated at 2,262. Mining dominates the County economy, providing $33.5 million in income, which represents 52.8 percent of the county's income, and 722 jobs, or 31.9 percent of the county's employment. Government is the second largest employer and income producer, with 457 jobs (20.2 percent of the county economy) which generate $12.8 million in earnings.

While agriculture has become less important as other industrial sectors have expanded, many of the residents still regard agriculture as the solid, stable, and dependable bedrock of the economic base. Agriculture provided 176 jobs in 1995, which represented 7.8 percent of the county's employment. Cash receipts from marketings totaled $25.6 million, with $19.1 million from livestock and livestock products, and $6.5 million from crops. This was 5th in the state, with 8.5 percent of the state's total agricultural receipts. These marketings provided $1.6 million in income to the county.

Unemployment in Pershing County was reported for the second quarter of 1998 at 110 persons, for an unemployment rate of 4.3 percent. This compares with data for the second quarter of 1997 which indicates 100 people unemployed and an unemployment rate of 4.1 percent. During this period, total employment in the county actually increased by 80 persons, from 2,340 persons employed to 2,420 but there were an additional 90 people in the labor force. In Pershing County, too, it is likely that these additional people in the labor force represent Pershing County residents who had been employed by mining operations in adjacent counties.

With almost 53 percent of total county earnings directly generated by the mining industry, Pershing County, like Humboldt County, is strongly tied to the mining industry for its economic livelihood. As discussed above, both Counties are aware of the economic vulnerability of this large dependency on a single industry, and both Counties are seeking opportunities to diversify their economy.

Washoe County

As the second most populous county in the state, with an estimated population of 306,810 for 1996, Washoe County is regarded as an urban area. However, more than 95 percent of its population is concentrated in the southern portion of the county, in Reno, Sparks, Verdi, and Incline Village Townships. The remainder of the county, and the vast majority of its land area , is sparsely settled and rural in character. The County encompasses 6,608

square miles and is the 7th largest county in the state. Population density is calculated at 46.4 persons per square mile; however, this figure is deceptive; density is much greater in the Reno-Sparks metropolitan area and much lower in the balance of the county. Washoe County's population was forecasted to be 308,579 persons in 1997, and is forecasted to grow to 353,032 persons in the year 2017 (Nevada State Demographer's Office, 1997).

And, in Washoe County too, much of the land is public land managed by the Federal Government. Approximately 2,899,479 acres, or 68.6 percent of the county's 4,229,120 acres are public land. BLM manages about 2.6 million of those acres, while the U.S. Fish and Wildlife Service, the Forest Service, and the Bureau of Reclamation are responsible for the balance. Federal Payments in Lieu of Taxes to Washoe County for fiscal year 1997 amounted to $978,503 which was the highest in the state.

Table 3-15 shows earnings by place of work and employment by major industrial sectors, for Washoe County in 1995. Total personal income for the county in 1995 is reported at $8,110,107,000; this includes earnings by place of work, personal contributions for social insurance, adjustments for residence, dividends, interest, rent, and transfer payments. Earnings by place of work constituted $5,901,075,000 of that total. Per capita personal income is estimated at $27,866 for 1995. This per capita personal income ranked 2nd in the state, and was 114.4 percent of the state average of $24,361, and 120.1 percent of the national average of $23,196.

Total employment is estimated at 201,455 jobs. The service industries (hotels, gaming, tourism, entertainment, recreation) clearly dominate the economy creating 40.5 percent of the jobs, and 39.4 percent of the income for the county. Wholesale and retail trade is in a distant second place with 21.3 percent of the jobs, and 16.8 percent of the income. Agriculture in Washoe County has had better years than 1995, with earnings almost 3 times greater ($1,791,000) in 1994. Nevertheless, when viewed in terms of the entire county economy, both agriculture and mining are considerably less significant than in the other counties. Together, agriculture and mining produce less than 1 percent of Washoe County earnings and provide less than 1 percent of the jobs in the economy. This is an interesting consideration, for the mining industry's earnings and employment in Washoe County are greater than the earnings and employment the mining industry had generated in Pershing County for the same year; yet, in Pershing County the mining industry is the most significant contributor to the economy. So it is useful to recognize that, while the mining industry's earnings of $38.9 million in Washoe County may be less than 1 percent of the total earnings for the county, it remains an important contributor to the economic well-being and diversity that helps to sustain the county's growth.

Agriculture, too, is more important than a relative comparison might indicate. Cash receipts from marketings in 1995 totaled about $13.9 million. This ranked 7th in the state; ahead of many of the counties in Nevada that are traditionally regarded as agricultural counties. Cash receipts from livestock and livestock products yielded $7.3 million and cash receipts from crops produced $6.6 million. These cash receipts provided a total farm labor and proprietor's income of $589,000.

Total employment in Washoe County increased by 3,200 jobs, from June, 1997 to June, 1998. But the labor force increased by 3,800 during that same period, adding 600 people to the unemployment rolls. Consequently, the unemployment rate increased by 0.3 percent (from 3.8 percent to 4.1 percent in June, 1997). However, 4.1 percent is the lowest unemployment rate of all the counties in the state and is characteristic of a strong and healthy, growing economy.

Table 3-15 Washoe County Earnings and Employment, by Major Industry, for 1995.

	EARNINGS		EMPLOYMENT	
INDUSTRIAL SECTOR	**$000**	**PERCENT OF TOTAL**	**NUMBER OF JOBS**	**PERCENT OF TOTAL**
Agriculture	589	0	367	0.2
Agriculture Services	26,058	0.4	1,602	0.8
Mining	38,853	0.7	1,070	0.5
Construction	522,956	8.9	13,201	6.5
Manufacturing	466,826	7.9	13,358	6.6
Transportation and Public Utilities	466,279	7.9	12,043	6.0
Wholesale and Retail Trade	994,680	16.8	42,896	21.3
Finance, Insurance, and Real Estate	319,073	5.4	14,479	7.2
Services	2,323,685	39.4	81,528	40.5
Government	742,076	12.6	20,911	10.4
TOTAL	5,901,075	100.0	201,455	100.0

Earnings include wages and salaries, other labor income, and proprietor income. Earnings represent the principle component of total income which is further comprised of dividends, interest, rent and transfer payments, less personal contributions for social insurance.

(Source: US Dept. of Commerce, Bureau of Economic Analysis, Regional Economic Information System, August, 1997)

Affected Sectors

Recreation economics and the revenues that may derive from potential minerals development are the principle economic activities that may be affected by management prescriptions for this plan. Visual Resource Management requirements may impose some constraints on the granting of rights-of-way for electric power lines and on some commercial activities that are permitted through the Lands Program. Payments in Lieu of Taxes to the counties will not be affected.

Agricultural activities and revenues will not be affected by this plan. While portions of four livestock grazing allotments are within the area covered by this plan, they will

continue to be managed under the existing Multiple Use Decisions, with no further management stipulations resulting from this plan.

Recreation

Expenditures for recreation in the planning area contribute to the regional economy through the purchase of lodging, services, equipment, fuel, and food. Based on data developed by the Nevada Department of Wildlife for hunting expenditures, on data prepared by the US Fish and Wildlife Service on wildlife and wildlife-associated recreation expenditures, and on data gathered and evaluated by the US Forest Service for their National Forest Service Benefit Values, these expenditures and the value of the recreation experience itself can be estimated.

Total recreation visits to the planning area, excluding Special Recreation Permits, are estimated at 20,986 for fiscal year 1997. This is based on data gathered for specific sites and professional estimates for dispersed use. The number of hours spent pursuing different recreation activities on these visits is translated into User Days. These total visits of 20,986 yield an estimated total of 52,230 User Days.

For this total of 52,230 User Days, 15,271 are estimated for camping, 1,980 for upland bird hunting, 2,998 for small game hunting, 1,053 for deer hunting, 795 for antelope hunting, and 30,133 for all other recreation activities.

Expenditures associated with camping are estimated at $23.75 per day. Expenditures for upland bird hunting are estimated at $28.03 per day; small game hunting at $28.03 per day; deer hunting at $78.83 per day; antelope hunting at $78.83 per day; and all other recreation activities at $23.75 per day. All estimates are in 1997 dollars.

Applying these expenditure estimates to the estimated number of days for each activity gives us a total estimate of $1,363,556 (1997 dollars) for expenditures associated with recreational activities in the planning area. This is about $26.11 for each person, per day. And, this estimate of approximately $1.4 million does not include visits associated with Special Recreation Permits.

In fiscal year 1997, BLM issued Special Recreation Permits for seven events. These included a land sailing event, rocket launching, a golf tournament, an organized OHV trip, the land speed record event, a horseback riding tour, and an outfitter and guide. Fees received by BLM for the Special Recreation Permits totaled $11,529.25. There were 2,414 persons attending these events, either as participants or spectators. The land speed record event drew 2,020 people, itself, for 5 days, or 10,100User Days. Total User Days are estimated at 11,379. Applying the conservative expenditure estimate of $23.75 per day (for all other recreation activities) to the 11,379 User Days yields an additional recreation associated expenditure estimate of $270,251.

Estimated recreation-associated expenditures generated by the planning area in 1997, then, totaled $1,633,807 or $1.6 million. Informal data indicates that 60 - 70 percent of the

casual use recreation participants in the area reside in the Reno-Sparks metropolitan area; and many of the other participants pass through the Reno-Sparks area en route to the Black Rock Desert. It may be expected, therefore, that the majority of these expenditures occur in Washoe County -- either in Gerlach, Empire, Reno, or Sparks.

And this particular year, 1997, did not include the Burning Man Festival, which was held on private land that year. The Burning Man Festival will return to the Black Rock Desert's public land in 1998. Organizers of the event expect up to 15,000 participants in 1998, with the event scheduled for 7 days -- however, it is expected that the majority of participants would be on the site for only 3 days. This would yield an activity estimate ranging from 45,000 to 105,000 User Days. The Burning Man organization estimates that participants will spend $300,000 in Gerlach and Empire (about $20.00 per person) and $3,000,000 in Reno and Sparks (about $200.00 per person). BLM received $45,000 in permit fees for the 1998 Burning Man Festival. These fees were calculated on a cost-recovery basis.

The participation history of the Burning Man Festival is interesting in that the number of participants has practically doubled on an annual basis. The first year that BLM issued a Special Recreation permit for the event was 1991 -- there were 250 participants. In 1992, the number of participants grew to 600; 1993 -- 1,000; 1994 -- 2,000; 1995 -- 4,000; 1996 -- 8,000. In 1997 the Festival was located on private land in the area and 10,000 people participated. As mentioned above, the Festival returns to public land in 1998 with up to 15,000 participants expected. So, it is clear that even remote public land sites that become popular with the recreationists can generate some unusually high recreation participation numbers.

The value of the free public land recreation experience, itself, to the recreationist is referred to as a Willingness-to-Pay value and represents what economists refer to as Consumer Surplus. This is a value over and above the recreationist's expenditures and represents what the recreation experience would be worth to the recreation consumer if it were necessary to pay for it. It is a surplus value, a value obtained without additional cost. Estimates of Willingness-to-Pay values are available from a number of sources, and they are almost always based on questionnaires or interviews with recreationists and statistical sampling and estimation techniques.

Based on the US Forest Service's National Forest Service Benefit Values, the value of recreation on the public lands in the planning area in 1997 is estimated at $914,567. This is the total amount that the recreationists would have been willing to pay for the recreation activity if a fee for participation were required. Participants in the organized recreation events who obtain Special Recreation Permits have paid a fee for that activity, so the User Days spent participating in the organized events are excluded from the estimate.

Mining

Currently there is very little minerals activity in the planning area and no reported production in commercial quantities. There are 235 mining claims, totaling 4,700 acres with 3 mining notices currently active including two opal mines.

There is one geothermal lease within the plan boundary, and some interest has been expressed with relatively recent exploration activity. Three free-use permits for sand and gravel are utilized for road construction and maintenance. No oil and gas leases are currently in effect. Previous oil and gas leases that had been established in the Black Rock Desert have been canceled.

However, based on a broadly favorable potential for hot-spring gold deposits, industrial minerals, gems, and semi-precious stones, and a high potential for geothermal energy development, it is hypothesized, in the Reasonably Foreseeable Minerals Development Scenarios, that some minerals development, with viable economic production could occur during the life of the plan. The economic potential of hypothetical minerals development is discussed in the No Action Alternative, Alternative 1.

Consequences of the Proposed Action

Recreation

The establishment of a Common Pool method for permit allocation will limit all large-scale events, combined, to a maximum permitted use of 50,000 user days annually. The further limitation of all large-scale events to 85 percent of the Common Pool would limit individual large scale events to 42,500 user days annually. And, individual large scale events will be limited to 10,000 people. At the present time these constraints would affect only the Burning Man event, which is expecting up to 15,000 participants in 1998, with an estimated 45,000 to 105,000 user days. In the future, this event would be required to limit the number of participants and/or reduce the number of days scheduled for the event, or seek an alternative location. The future potential loss of 5,000 participants and up to 62,500 user days (or more if participation in this event should continue to grow) could reduce potential expenditures in the Gerlach-Empire area by up to $100,000 and in Reno-Sparks by up to $1 million. Should the organizers of the event decide to use an alternative location, all local expenditures deriving from the event could be lost.

However, if future Burning Man events were scheduled for 10,000 people for 4 user days, for a maximum of 40,000 user days, local and regional expenditures deriving from participation in this event could be expected to continue at estimated levels of about $200,000 in Gerlach-Empire, and $2 million in Reno-Sparks.

Reimbursement on a cost-recovery basis will ensure that federal expenditures necessitated for planning and managing large-scale events will be fully reimbursed. Cost recovery will also provide compensation for the costs imposed upon public health, public safety, law enforcement and medical services provided by the counties.

Casual recreation use, including Off-Highway Vehicle recreation, will not be affected and may be expected to increase to the levels discussed in the No Action Alternative. Indeed, the proposed development of a Visitor Contact Station and other recreational facilities, which will provide assistance, information, interpretive services and environmental education, and an increased sense of public safety and security, should serve to enhance the recreation experience for many of the visiting public. Such improved facilities, together with the proposed increase in publicity and the distribution of public information through the media and to schools and organizations, may have the effect of moderately encouraging casual recreation visitation beyond currently projected levels, with comparable growth in expenditures and income in the Gerlach-Empire area. In addition, the local employment of an attendant for the Visitor Contact Station will provide an additional job and income of about $15-20,000 in the local area.

Limiting Off-Highway Vehicle recreation to designated roads and washes outside of the playa, and restricting access to the playa except by way of existing roads and access points will constrain unlimited travel and exploration via OHVs, but this is not expected to adversely affect OHV visitor use and recreation, and will have no effect on expenditures in the local area.

Locatable Minerals

The gold mining operation would be required to bear extra costs in order to conform to VRM Class II standards. Under the No Action Alternative, it is expected that the operation would probably be located within an area where VRM Class IV standards would apply.

Both the commercial gold mining operation and the small private opal mines would be subject to special stipulations and mitigation measures. These additional requirements could entail such suffi ient extra costs and administrative burdens that exploration or development plans co ld be abandoned.

Major gold mining co npanies are quite accustomed to the preparation of mining plans of operations and enviro mental assessments. But these requirements could have a discouraging effect on smaller or higher risk based operations. However, in all such situations, the decisio to proceed would be based on estimated returns over costs. For larger operations, enta ling major investment and the expected long-term returns, such additional costs are us ially incidental, not prohibitive, and may be found to exist, in one form or another, in m st mineral exploration and development areas.

Leasable Minerals

Geothermal exploration and development, and oil exploration, would be less likely to occur under this Alternative. The application of special mitigation measures to protect the important values and resources of the ACEC could increase costs and discourage investment. The "No Surface Occupancy" restrictions would impose additional operating difficulties and increase costs in those areas where they are imposed. Again, these costs

would not be prohibitive, but are most likely to have a discouraging effect. The potential for an additional 24 jobs in the local area and the associated incomes, including the possibility of 18 local hires, would not be eliminated, but would be reduced. Companies would make their investment decisions based on expected returns, taking into consideration the extra costs that might be entailed.

Saleable Minerals

No significant economic impact is anticipated. Some material sites presently pending approval may not be authorized. But specific, and necessary, pits could be identified and authorized, and VRM Class II standards maintained.

The public lands outside of the planning area also contain abundant supplies of sand and gravel, so it is highly likely that, if necessary, alternative sources could be found. Transportation costs could be affected if haul-distance is increased. It is estimated that transportation costs increase about 25 percent for each doubling of the haul-distance (Mine Cost Services, 1998).

Lands and Realty

Through the Lands Program, BLM issues permits for commercial motion pictures and commercial still photography. For commercial motion pictures, fees range from $150 to $750 per day. The rate schedule for commercial still photography ranges from $50 to $250 per day. The fees are based upon the number of people (cast, crew, observers, etc.) present on the site, and apply for each full and partial day of occupancy.

Permit fees for projects that are beyond the scope of normal filming or photography are addressed on a negotiated fee basis. Such projects may include those that require extensive monitoring, those that inflict abnormal impact or surface disturbance, and those that provide benefits to the programs of the Secretary of the Interior.

In addition to the permit fees paid to BLM, expenditures might occur in the local area for fuel, food, entertainment, and lodging. However, most often these crews consist of relatively few people preparing photo layouts or photographs for advertisements in magazines, or video taping for television commercials. They are generally well equipped and professionally prepared, using their own motor homes for temporary quarters, and provisioned with ample supplies of food and other necessities. Fuel, of course, is a very necessary commodity which would be most often purchased in the local area. No information is available regarding the extent of expenditures that might occur locally. But, while such expenditures certainly contribute to the local economy, the incidence of these commercial activities are few, and the majority of their local expenditures are probably only incidental. A major filming effort for a commercial motion picture, of course, would be quite another matter. Local expenditures in that case could be quite substantial.

In recent years there have been only two or three such permits issued per year. There have also probably been several of these photo-expeditions that were unaware of the permit requirement and simply availed themselves of the public lands as any recreationist might do. A stronger management presence, which is provided for by this alternative, will assure, to a greater degree, that the necessary fees for commercial use of the public lands are collected.

These crews rarely create unusual surface disturbance, or contribute noticeably to environmental degradation. Nor do they generally conflict with Visual Resource Management requirements. If any such adverse effects were necessary for, or were to result from, the purposes of the commercial activity, BLM's active management presence would assure that the appropriate fees are collected and arrangements are made for the necessary mitigation.

It is unlikely that any but the most potentially damaging or destructive of these temporary activities would not be permitted. And those permits that might be denied would only be in those cases where adequate and effective mitigation could not be accomplished. So, permitting for commercial filming and photography may be expected to continue as it has in the past, with no adverse effect on local revenues.

Another concern is the additional costs that could be engendered from the requirement that electrical transmission and distribution lines must be placed underground. It is expected that these costs could be prohibitive for the provision of electricity to private lands within the management planning area. However, the question appears to be moot.

Current costs of providing electricity in these rural areas range upward from $60,000 per mile. At this cost, electricity provided by gasoline generators or solar panels is already more cost effective. While requiring that electrical lines be buried underground could increase costs by two to five times as much, such needs are clearly not a consideration. Because commercial mining operations do require connection to a commercial power source, the development of an operating mine in the proximate area of any of these private lands would render their connection to commercial power lines much more feasible.

Consequences of the No Action Alternative
Alternative 1

Recreation

Under this alternative, which represents a continuation of present management, participation rates for both casual recreation use and Special Recreation Permit events may be expected to expand. No restrictions will be placed on Off-Highway Vehicle use, and all areas will remain open to OHV travel. Casual recreation participation will continue to increase as a result of normal population growth, particularly in the Reno-Sparks metropolitan area. Participation in Special Recreation Permit events will grow in response to expanded publicity in the news media and communication on the Internet. More events

and more participation may be expected as knowledge of the unique qualities of the Black Rock Desert Playa, and its particular suitability for specific types or recreation, become increasingly well known. The public has already demonstrated a growing interest as a result of publicity associated with the Burning Man event and the land speed record event. This publicity has been national and international in scope.

Based on forecasted population growth for the Reno-Sparks Metropolitan Area, casual recreation visits may be expected to increase to about 24,000 visits by the year 2017. This would produce about 60,000 user days with associated expenditures estimated at about $1.6 million. Willingness-to-Pay value, the value (or worth) of the experience to the recreationists, is estimated at $1.1 million (all estimates are in 1997 dollars).

It is impossible to project with any accuracy the total demand that might ensue for participation in Special Recreation Permit events. Publicity and the public's interest and enthusiasm will have a greater effect on participation than that which might be attributable to an expanding population. However, it is reasonable to assume that a most conservative estimate of growth in this activity would be at least equal to the expected increase in participation rates for casual-use recreation. Based on this premise, participation in Special Recreation Permit events (not including the Burning Man Festival) should reach a minimum of 2,800 persons, with about 13,000 user days, and generate about $309,000 in expenditures.

The Burning Man Festival should increase to a minimum estimate of 17,000 people, for 51,000 to 119,000 user days. Local expenditures deriving from this event may be expected at about $340,000 in Gerlach-Empire, and about $3.4 million in Reno-Sparks.

The expansion of Special Recreation Permit events is sure to increase demand for public services. It will be important to fully assess potential requirements and assure that cost-recovery agreements are adequate to provide complete reimbursement for services provided by the county governments, and for federal planning and management services.

In the long-term, as all types of recreation participation increase in the planning area, some deterioration and degradation of resources conditions may be expected. This will increase management costs for resource maintenance and protection.

There would not be a position available for a permanent full-time employee at the Visitor Contact Station. This would result in the loss of one potential job, with income of about $15 - 20,000 in the local area.

Locatable Minerals

A Reasonably Foreseeable Minerals Development Scenario has been prepared to describe potential mineral resource development. This scenario assumes that present management prescriptions will continue and existing regulations and policy will be unchanged. It serves to forecast the kind and degree of minerals development that might reasonably be expected to occur under the No Action Alternative, and serves as a benchmark against

which the effects of management prescriptions under the other Alternatives may be compared.

It is expected that three small opal mines would be developed. Opal mines in this area are not likely to be developed by an established company. Such mines are most likely to be operated by a private individual, possibly with a partner, or as a family operation. The opal is extracted by hand using hammers, chisels, and pry bars to carefully break apart the basalts and remove the opal. Overburden is removed with picks and shovels. Occasionally a backhoe or a bobcat may be rented when it is necessary to remove large quantities of earth. These smaller operators sometimes purchase used earth-moving equipment in order to have it readily available.

Work may be conducted on a full-time or a part-time basis, and it is generally seasonal, avoiding the colder months. Operators usually have other employment and conduct their mining operation as a supplement to their regular income, as an avocation, or as a recreational activity.

Earnings are not likely to be high, but some commercial sales could result, with a potential income of up to $25-30,000 per year. Operators are likely to have a permanent residence outside of the local area, so the additional income will not provide much benefit to the local economy. Local expenditures, too, will be small, as these operators usually remain on site while working the mine, with temporary quarters in a trailer located at the mine site, or in a truck with a camper shell. All necessary supplies are usually brought in for the duration of the expected stay. Local purchases may consist of incidental groceries, an occasional restaurant meal, local entertainment, and gasoline. County revenues from Net Proceeds of Mine Tax would be insignificant.

Based on the probability of a hot-spring gold deposit consisting of an estimated 630,000 troy ounces of gold and 2.4 million troy ounces of silver, it is also forecasted that development of one gold and silver mining operation would occur. The mine would be a typical open pit heap-leach operation.

The grade of the ore is not known, but for purposes of analysis an estimate of 2.4 grams of gold per ton has been determined to be reasonable. It is further assumed that the operation would achieve a 90 percent recovery rate for the precious metals. Annual production would be about 2.2 million grams of gold, with an 8-year operating life.

Exploration to determine the extent and quality of the orebody would begin about 1 year before site preparation and construction, and continue at a less intensive level throughout the operating life of the mine. No direct local employment may be expected to result from the exploration activities. Usually an exploration company is contracted for the work However, indirect local income and employment may result from field crew expenditures for food and lodging, gasoline and tire purchases, and vehicle maintenance. Industry sources estimate local expenses for the field crews to be $200-$300 per day.

Site preparation and construction should take about 3 - 4 years, with operations beginning within the last year of the construction phase. Total construction employment is estimated at 115 people, with wages of about $3.7 million annually. This employment level may be expected to create additional employment and income in the local area estimated at 44 more jobs with $920,000 in wages. The operational phase, expected to last 8 years, will employ an estimated 104 persons with total annual wages estimated at $4.7 million. Based on multiplier and economic impact analysis (Dobra 1988, 1989), this may be expected to create an additional 74 jobs in the local area, and 52 more jobs in the Reno Metropolitan area, with additional wages estimated at $7.3 million. Tax revenue from Net Proceeds of Mines would accrue to the state and to the county within which the mine is located; the amount of that tax revenue would depend on the prevailing price of gold at that time, and the assessment rate of the host county. Taxes would also be paid for sales, use, and property taxes.

It is expected that the majority of the construction and operations employees would reside in the Fernley area, where housing and services, and community infrastructure are adequate to accommodate the additional population, and access via highway can provide a reasonably comfortable commute. However, it is likely that some employees would reside in Washoe County and commute from Reno and Sparks. Some others might commute from Winnemucca.

Leasable Minerals

The development of two 20 megawatt geothermal power plants within the planning area would be a positive short and long-term benefit to the counties wherein they may be located, and to the local and regional economies. Tax revenues would be enhanced and short and long-term employment opportunities would be created.

Geothermal exploration activities would be very similar to those conducted for oil and gas, as discussed below. While it is likely that no local employment would result, field crew expenditures in the local communities are estimated to range from $200-$500 per day, throughout the exploration period.

Once a suitable location is established, well drilling is initiated and construction is begun. It may be expected that commercial operation would begin about 9 months after project construction is started. Final construction will continue for about another 3 months while commercial production is in effect.

Each of the projects would consist of drilling, testing, construction and operation of geothermal production wells; construction and operation of production, injection, and discharge pipeline systems and surface facilities related to the geothermal wellfield; and the construction and operation of a 20 megawatt binary electrical generation facility and transmission lines.

The power generation facilities are likely to include a generator-turbine building to house interconnected modular binary generating units, a control room and office building, a

powerhouse and switchgear building, an electrical substation, biphase separators, direct contact spring condensers, a cooling tower, an evaporation pond, a vent stack, pumps, pipelines, and ancillary equipment and machinery. A service yard might be located on site, or perhaps in Gerlach.

The projects would most likely be located in a VRM Class II viewshed, but could successfully be mitigated to meet those requirements at some additional cost. Land contouring, screening with the use of native vegetation, and painting to minimize impacts to visual resources could be utilized.

It is expected that the electric power generated would be sold to the Sierra Pacific Power Company. Both operations would pay sales, use, and property taxes, and Net Proceeds from Mines taxes.

Costs for construction of the power plants and development of the wellfields are estimated at about $35 million, for each project. The construction workforce would probably consist of about 150 workers at the peak of activity, with about 100 persons employed throughout the 12 month construction period on each job site. Because of the technical nature of the facilities, it is expected that no more than 60 percent of the construction contracts would be subcontracted to local firms. This would provide an estimated 90 construction jobs for the local communities, for each project. An additional economic benefit would derive from incoming construction workers who would be housed and provisioned within the local economies, probably taking up temporary residence in Gerlach, Fernley, or Winnemucca.

Operation of the power plants and wellfields would probably require 12 permanent employees for each facility; 8 operators and helpers, 2 maintenance personnel, a foreman, and a supervisor. As much as 7 or 8 of these employees might be local hires. Total salaries for each operation are estimated at $534,000. Should both of these operations come on line, then, there would be 14 -16 new jobs for local employees, and additional salaries totaling about $1.1 million annually.

Additional workers may be required over the life of the projects for periodic activities such as reworking a well, pulling a pump, or repairing a turbine. The projects each have a predicted 20-30 year economic life.

Oil and gas exploration is also hypothesized for the planning area under this No Action Alternative. But very little, if any, direct local employment results from oil and gas exploration and development. All of the work entails considerable investment, planning, and preparation, and requires employees with specialized education, skills, and experience. Some of the workforce are regular full-time company employees, primarily supervisory; others may be consultants or contract-hires employed through the exploration companies' established sources.

However, very real, but small, indirect local income and employment may result from field crew expenditures for food and lodging, gasoline and tire purchases, and vehicle

maintenance. Industry sources estimate daily local expenditures of geological field crews to be $200-$300 per day.

Geological exploration usually occurs during a three-month summer field season, and may, on average consist of three crews of from one to three geologists, each, doing general field and site specific evaluation.

Geophysical exploration may occur throughout the year, and consists of two distinct data gathering and analysis phases. The first, seismic acquisition, generally requires a crew of from 15 to 20 people, who will intensively work in the local area for two to three weeks. The second phase, gravity and magnetic acquisitions, involves a smaller crew, generally two men, and requires three to four months in the field. From time to time, the magnetic survey crew may need to hire a local pilot and aircraft. Expenditures in the local community are estimated to average about $500 per day.

Exploratory drilling is conducted as a 24-hour per day operation, and generally requires two crews of five men each (1 driller, 3 assistants, and 1 "mud logger"), plus a support group consisting of a "tool pusher" and a company supervisor. The exploratory drilling crew, too, are non-local hires brought in with the equipment. These crews may or may not require local food and lodging, depending on the location and conditions of the particular operation. Expenditures for food and lodging are estimated by industrial sources at $500 per day for each crew.

Drilling a well may take anywhere from 3 weeks to (in extreme cases) 3 months to complete; with 1 in 10 to 1 in 16 wildcat wells successfully producing significant amounts of oil and gas. It is not expected that any oil and gas development would occur over the life of this plan.

However, should a well prove successful and development occur, the development, or production, phase generally employs two people who remain on-site on a 24-hour basis. One of these employees, the Pumper, may be hired locally; the other, the sales representative (or bookkeeper), is ordinarily a company representative.

The majority of all equipment needs for the above operational phases are purchased non-locally from regional equipment suppliers to the industry, located in Bakersfield, California; Vernal, Utah; Denver, Colorado; or Rock Springs or Evanston, Wyoming. Incidental tool and equipment requirements may, of course, be purchased locally.

In the event of a producing well, royalties to the Federal Government are 12 ½ percent of gross (priced at the well-head), with 50 percent of these proceeds distributed to the State. The State would also receive Taxes from Net Proceeds of Mines, sales and use tax, while the County would collect a tax on possessory interest.

Generally, for the reclamation effort, the operators would employ temporary local labor and custom workers who possess the necessary heavy equipment to conduct the reclamation work attendant to abandonment of a site. Estimated costs for reclamation

range from $4,000 to $10,000 per well pad.

The population, direct income, and employment effects of oil and gas operations in the local area, then, may be seen to be moderate, and insignificant in terms of the local economy. Local expenditures for food, lodging, entertainment, vehicle maintenance, gasoline, incidental tools, equipment, and supplies are also not sufficient to represent a significant contribution to the local economy; but do represent a part of the everyday transfer of goods and services that contribute to the regions economic health and viability. To individual operators of motels, restaurants, gas stations, etc., such expenditures may represent an important increment of their incomes.

Saleable Minerals

Saleable minerals (sand, gravel, and borrow) are distributed widely throughout the planning area. Three free-use permits for sand and gravel are currently authorized, with eight additional free-use permits pending. Free-use permits are provided for public purposes and are utilized by the State, Counties, and BLM for road construction and maintenance.

Community pits and free-use permits are usually separate pits, but free-use operations may, from time-to-time, utilize community pits. Local community use is assessed at 50 cents per ton. Five sales per year are expected from one pit within the planning area.

Three private sales for landscape or decorative rock are anticipated within the area covered by this plan. Private operations are conducted on a contract of sale basis, for which BLM receives a royalty on production. Contracts of sale are issued for a specific amount of materials to be extracted within a specified period of time.

The State receives 4 percent of the revenues from sand and gravel sales for the State School Fund. The balance of the monies are utilized to cover the costs of reclamation of the pits. Revenues from sales of sand and gravel are relatively small and are primarily assessed for the purposes of reclamation. The principal value of these commodities obtains from the cost of labor and equipment for extraction and transportation, and the haul-distance to the location of use. Close proximity of the source pits to the site of application can represent considerable cost savings to the State and County governments, to private operations, and to BLM.

The No Action Alternative would have no effect on current extraction and use of these commodities.

Lands and Realty

No adverse economic effects. Permitting for commercial photography and filming, and rights-of-way for power lines would continue as at present, under existing management direction.

Consequences of Maximum Resource Protection
Alternative 2

Recreation

The elimination of all large scale events would result in the immediate loss of an estimated $540,000 in annual recreation expenditures and revenues in the local area, plus the additional $3 million that organizers of the Burning Man Festival estimate would be spent on lodging, food, and entertainment in the Reno-Sparks area.

Restrictions on free travel and access for OHV recreation may create dissatisfaction on the part of OHV enthusiasts who may seek alternative areas without such restrictions where they might move more freely about the area and enjoy a less restrained OHV recreation experience. This would result in fewer user days and reduced expenditures in the local area.

The present character of casual, solitudinous, and undisturbed recreation, with few restraints on access and use would not be encouraged. Recreationists currently using the area, who are accustomed to fewer constraints and prefer a more independent, self-reliant form of recreation, would be discouraged. Visitor use and expenditures may decline, or at best remain at about present levels as recreationists new to the area, who wish to explore the Black Rock Desert, replace the recreationists who have abandoned this location.

Construction of a Visitor Center would provide short-term employment for a construction crew.
The full-service Visitor Center would create one permanent full-time job, employing a locally hired attendant with a salary of about $15-20,000.

Locatable Minerals

A minerals withdrawal throughout the entire planning area, together with VRM Class I requirements would effectively eliminate the potential for development of the commercial gold mining operation and the private opal mines. All potential economic benefits would be foregone.

Leasable Minerals

All possibility for the potential economic benefits of additional income and employment, as discussed in the No Action Alternative, would be eliminated. Geothermal power plants would not be constructed, and oil exploration would not occur.

Saleable Minerals

Effects under this Alternative would be essentially the same as the Proposed Action. Except for the Blue Pit, minerals materials pits within the plan area would be closed and

pending authorizations would not be approved. Revenues from sale of landscape and decorative rock, though small, would be lost.

Lands and Realty

Economic effects under this alternative would be similar to those discussed in the Proposed Action. Only those commercial filming and photographic activities that would create adverse impacts to natural and cultural resources in the planning area, or those that would involve surface disturbance, would not be permitted. Class I VRM standards would apply. Above ground utility lines would not be allowed. Economic effects would not be significant.

Consequences of Maximum Resource Use
Alternative 3

Recreation

Visitor use and recreation would be promoted and encouraged under this alternative. An intensive marketing strategy could substantially increase recreation visitation. Opportunities for access and Off Highway Vehicle use, including dirt bikes and ATVs, would be enhanced, which would certainly result in increased use. While no specific estimates of potential recreation visitation are available, user days and expenditure levels associated with both casual use recreation and Special Recreation Permit events may be expected to expand well beyond those which are projected in the No Action Alternative.

However, management costs for resource maintenance and protection and provision of assistance to visitors are also likely to increase substantially. Increased requirements for public services and assistance from the casual use visitor, and particularly from participants in Special Recreation Permit events, could impose unusually high demands on the counties. Cost recovery agreements would have to be rigorously applied and enforced. While tax revenues from increased sales of restaurant meals, lodging, fuel, services, and commercial merchandise would provide some additional revenue enhancement to the counties, it is probable that these additional revenues would not be sufficient to cover the cost for the increased public service requirements. Eventually visitor-use fees may have to be collected to offset operational costs.

Total Willingness-to-Pay values should also increase as a result of the increased numbers of recreation visitors. However, individual Willingness-to-Pay values would probably eventually decline as increased numbers of visitors and excessive use would diminish the quality of the individual recreation experience.

Construction of a Visitor Center and other recreational facilities would provide short-term employment for construction crews in the local area, also benefitting local retail trade and services. At least one permanent full-time job, and perhaps more, would be created in the local area to assist in provision of necessary services at the Visitor Center. Each job would provide local area income of about $15-20,000 annually.

Locatable Minerals

Economic effects would be the same as those discussed in the No Action Alternative. The potential for minerals development opportunities would be generally enhanced as a result of cost savings which could be realized from the less rigorous requirements of VRM Class III standards. However, the potential gold mining operation, which probably would have been located in a VRM Class IV area, would have to bear the extra costs associated with the higher Visual Resources Management requirements. Such costs would not be of sufficient magnitude to discourage development.

Leasable Minerals

The likelihood of geothermal development and oil exploration would be increased. The less rigorous VRM Class III requirements, and the reduction of the possibility of special stipulations and mitigation measures could represent substantial cost savings. The potential for realization of the income and employment effects outlined in the No Action Alternative would be improved.

Saleable Minerals

No adverse economic effect would result from this Alternative. Implementation of VRM Class III standards where VRM Class IV is presently in effect would be of insignificant consequence. Sales and free-use of sand and gravel resources would continue as at present. Sales of landscape and decorative rock could occur. And, the 8 free-use permits now pending authorization would probably be approved.

Lands and Realty

No adverse economic effects. Permitting for commercial photography and filming would continue as at present. Above ground power lines consistent with VRM Class III standards would be allowed.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The Proposed Action or other alternatives could result in the irreversible commitment of resources (e.g., the loss of future options for resource development or management, especially of nonrenewable resources, such as minerals and cultural resources) or the irretrievable commitment of resources (e.g., the lost production of renewable natural resources).

Table 3-16. Irreversible and Irretrievable Commitment of Resources.

Resource	Irreversible Impact	Irretrievable Impact	Explanation
Soils	No	No	OHV control would decrease soil losses.
Fish and Wildlife	No	No	Habitat destruction would not be allowed.
Wild Horses	No	No	Would be managed according to the Multiple Use Decision.
Cultural Resource	No	Yes	Possible loss of integrity of setting along the viewshed, due to development. Native American concerns.
Paleontology	No	No	Potential losses would be mitigated.
Recreation	Yes	Yes	Organized event restrictions, access limitations.
Wilderness	No	No	Continue to be managed in accordance with IMP.
Minerals	Yes	Yes	ACEC and mineral withdrawl. Mineral material sales restriction.
Lands	Yes	Yes	No above ground facilities. Corridor restrictions.

ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Due to the variability of uses, the basic requirements for energy for each of the alternatives cannot be accurately determined. It is estimated that Alternative 3 (Maximum Resource Use) would potentially use the most energy based on fewer restrictions. Alternative 2 (Maximum Resource Protection) would use the least based on restricted activities. The Proposed Action and Alternative 1 (No Action) would require levels of energy between these two alternatives.

Chapter 4

CHAPTER 4

CONSULTATION AND COORDINATION

INTRODUCTION

This chapter summarizes the consultation, and coordination activities conducted during the preparation of the Draft Black Rock Desert Management Plan EIS. Comments on the Draft EIS and responses will be included in this chapter in the Final EIS.

The EIS was prepared buy an interdisciplinary team of specialists from the Winnemucca Field Office, and the Nevada State Office. Technical review and support were provided by individuals from BLM and other federal and state agencies.

Preparation of the EIS began in February of 1998. In the course of preparing this document, formal and informal efforts have been made to involve the public, a variety of special interest groups and organizations, and other federal, state and local agencies.

PUBLIC PARTICIPATION SUMMARY

During the spring of 1997, a decision was made to initiate the preparation of a management plan for the Black Rock Desert area. Letters were mailed to known affected interest and notices announcing public meetings were placed in local newspapers. During July and August, 1997, five public meetings were held, Sacramento and Cederville, California and Reno, Gerlach, and Lovelock, Nevada. The BLM received nearly 800 comments and letters from these public meetings which addressed the management of the Black Rock Desert.

In February, 1998, the BLM determined that the scope of the plan necessitated the preparation of an EIS. A Notice of Intent was printed in the **Federal Register**. An internal team was formed that began working immediately on the EIS document.

In July, 1998 inquires were sent out to individuals, organizations and groups who had indicated an interest in activities concerning the Black Rock Desert to determine if they were interested in receiving a copy of the EIS. The inquiry was mailed to approximately 420 individuals, organizations and groups, with approximately 210 indicating they were interested.

Public Meetings

The public meetings were held to gather public input and identify issues. The meeting in Sacramento, California drew heavy interest from the 4-Wheeled Drive Clubs, Off-Highway Vehicle users, wind sailors, and rocketeers. The remaining meetings drew a varied interest from preserving/protecting the trail and viewshed, resource degradation, protecting cultural resources, human health and safety, large scale events management, to name but a few.

CONSULTATION

Concerns from the Summit Lake Paiute Tribe, the Pyramid Lake Paiute Tribe, and the Lovelock Paiute Tribe were solicited in scoping letters and public meetings regarding the plan. Subsequently several Paiute Tribes were invited on a field trip of the planning area. Those invited included the Susanville Rancharia, Nevada Indian Environmental Coalition, Pyramid Lake Paiute Tribe, Cedarville Rancharia, Fort Bidwell Reservation, McDermitt Reservation, Lovelock Paiute Colony, Summit Lake Reservation, and Winnemucca Colony. The field trip took place on November 17, 1997. Present were representatives of the following tribes: Pyramid Lake Paiute Tribe, Summit Lake Paiute Tribe, Lovelock Paiute Tribe, and Walker Lake Paiute Tribe. The BLM subsequently sent letters of invitation to a meeting a the Winnemucca BLM Field office on April 21, 1998. The letters of invitation went out to the same tribes invited to the November field meeting as well as Walker Lake Paiute Tribe. Present at this meeting were a representative from the Summit Lake Tribe and two elders from the McDermitt Tribe. The purpose of this meeting was to discuss the proposed action and alternatives and to solicit concerns. A meeting for the same purpose was held with the Pyramid Lake Tribal Council May 1, 1998.

COORDINATION

Coordination efforts for consistency with other Federal, state and local plans has been on-going throughout the effort. The public meetings were attended by representatives from local and state entities. In addition, briefings were conducted for Humboldt, Pershing and Washoe counties in June, 1998.

Coordinations with the local Sierra Front-Northwestern Great Basin Area Resource Advisory Council have been ongoing. The Council was briefed in early April, 1998 and input was provided. They were also provided an internal copy of the preliminary draft for review in July, 1998.

Coordination with the Susanville Field Office has been on-going to ensure plan consistency, to the extent possible, with similar planning efforts in their district.

LIST OF AGENCY CONTACTS

During the preparation of the EIS, the BLM communicated with and received input from various federal, state, and local agencies and private organizations. The following sections list these contacts.

Federal Government Agencies

California State Office, BLM
Susanville District Office, California, BLM
Oregon State Office, BLM
Vale District Office, Oregon, BLM
Bureau of Indian Affairs
U.S. Fish and Wildlife Service
U.S. Geological Survey

State Government Agencies

Nevada State Clearinghouse
Nevada Division of Conservation Districts
Nevada Division of Environmental Protection
Nevada Division of Minerals
Nevada Division of State Lands
Nevada Division of State Parks
Nevada Division of Wildlife
Nevada Commission for the Preservation of Wild Horses

Local Governments

Humboldt County Commission
Pershing County Commission
Pershing County Sheriff's Office
Washoe County Commission
Washoe County Sheriff's Office
Gerlach General Improvement District

Tribal Governments

Lovelock Paiute Colony
Fort McDermitt Tribal Council
Winnemucca Tribal Council
Pyramid Lake Paiute Tribe
Summit Lake Paiute Tribe
Walker Lake Paiute Tribe
Cederville Rancheria
Susanville Rancheria
Nevada Indian Environmental Coalition

Nongovernmental Organizations

American Motorcyclist Association
Commission on Tourism

Nongovernmental Organizations (Continued)

Nature Conservancy
California Association of 4-WD Clubs, Inc.
California 4-WD Clubs, Inc.
Desert Research

Congressional

Honorable Richard Bryan
Honorable Harry Reid
Honorable John Ensign
Honorable James Gibbons

EIS Availability

Copies of the EIS are available for public inspection at the following places:

Bureau of Land Management
Washington Office of Public Affairs
18th Street, N.W.
Washington, D.C. 20240

Bureau of Land Management
Nevada State Office

1340 Financial Blvd.
Reno, Nevada 89502-7147

Bureau of Land Management
Winnemucca Field Office
5100 E. Winnemucca Blvd.
Winnemucca, Nevada 89445

Humboldt County Library
85 E. 5th Street
Winnemucca, Nevada 89445

Pershing County Public Library
1125 Central Avenue
Lovelock, Nevada

Washoe County Public Library
301 S. Center
Reno, Nevada 89520

EIS Availability (Continued)

Washoe County Branch Library
555 E. Sunset Blvd.
Gerlach, Nevada 89412

Lyon County Library
321 Old Dayton Valley Road
Dayton, Nevada

Carson City Library
900 N. Roop Street
Carson City, Nevada 89701

University of Nevada-Reno
Getchell Library
Government Publication Dept.
Reno, Nevada 89507

Sacramento City College Library
3835 Freeport Blvd.
Sacramento, California 95822

Susanville Library District
1618 Main Street
Susanville, California 96130

Chapter 5

CHAPTER 5

LIST OF PREPARERS AND REVIEWERS

Table 5-1. List of Preparers

NAME	DISCIPLINE	QUALIFICATIONS
Arn Berglund	Wildlife	B.S. Wildlife-Fisheries 6 years BLM
Mike Bilbo	Recreation	B.S. Park Administration 8 years BLM
Delores Cates	Geology & Minerals	B.S. Geology 10 years BLM
Mary Figarelle	Lands	B.S. Business 13 years BLM
Rod Herrick	Geology & Minerals	M.S. Geology 16 years BLM
Peggy McGuickan	Cultural	M.A. Anthropology 21 Years
Paul Myers	Socioeconomic	B.S. Economics 18 years BLM
Gerald Moritz	Project Manager	M.S. Range 24 years BLM
Tara Montgomery	GIS	M.S. Geography 3 years BLM
Steven Neidig	Writer/Editor	B.S. Geology 2 Years BLM
Ron Pearson	Range	B.S. Soils 12 Years BLM
Tom Seley	Wild Horse & Burro	B.S. Agricultural 22 Years BLM
Regina Smith	Paleoentology	B.A. Anthropology 20 Years BLM

Table 5-2. List of Reviews

Name	Agency	Responsibility
Les Boni	Winnemucca Field Office	Overall Content
Craig Drake	Winnemucca Field Office	Hydrology
Pete Christensen	Winnemucca Field Office	Overall Content
Mike Zielinski	Winnemucca Field Office	Soils
Brian Amme	Nevada State Office	NEPS/Planning
Pat Barker	Nevada State Office	Cultural/ Paleoentology
Rich Hoops	Nevada State Office	Fluid Minerals
Steve Smith	Nevada State Office	Wilderness
Larry Stewart	Nevada State Office	Minerals
Margaret Wolf	Nevada State Office	Recreation

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LIST OF ACRONYMS

Bureau of Land Management Acronyms

AAA	American Automobile Association
ACEC	Area of Critical Environmental Concern
ADI	Areas of Development Interest
Ag	Silver
AML	Appropriate Management Level
AMS	Analysis of the Management Situation
ARPA	Archaeological Resource Protection Act
ATM	Automated Teller Machine
ATV	All Terrain Vehicle
Au	Gold
AUM	Animal Unit Month
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
cfs	cubic feet per second
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act (of 1976)
FR	Federal Register
FTE	Full Time Equivalent
GIS	Geographic Information System
HA	Herd Area
Hg	Mercury
HMA	Herd Management Area
HMP	Habitat Management Plan
IMR	Intermountain Research
ISA	Instant Study Area
KGRA	Known Geothermal Resource Area
MFP	Management Framework Plan
MOU	Memorandum Of Understanding
MUD	Multiple Use Decision
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
NCA	National Conservation Area
NDOW	Nevada Division Of Wildlife
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act (of 1966)
NORA	Notice of Realty Action
NPS	National Park Service
OCTA	Oregon California Trails Association
OHV	Off Highway Vehicle

LIST OF ACRONYMS

ORV	Off-Road Vehicle
pH	Potential of Hydrogen
PL	Public Law
PLIC	Public Lands information Center
ppm	parts per million
RAMP	Recreational Area Management Plan
RFD	Reasonable Forseeable Development
RMP	Resource Management Plan
SGMFP	Sonoma Gerlach Management Framework Plan
SHPO	State Historic Preservation Officer
SMA	Special Management Area
SMAP	Soldier Meadows Activity Plan
SRMA	Special Recreation Management Area
SRP	Special Recreation Permit
SUV	Sport Utility Vehicle
T&E	Threatened & Endangered
TNC	The Nature Conservancy
USBM	U.S Bureau of MInes
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VCS	Visitor Contact Station
VRM	Visual Resource Management
WSA	Wilderness Study Area

GLOSSARY

fauna - the wildlife or animals of a specified region or time.

flora - the plant life of a specified region or time.

fossil - a remnant or trace of an organism of a past geological age, such as a skeleton or leaf imprint.

fossiliferous - containing fossils.

interbed - a bed, typically thin, of one kind of rock material occurring between or alternating with beds of another kind.

invertebrate - having no backbone or spine.

megafauna - large extinct fauna, generally from the late Quaternary period

metavolcanics - an informal term for volcanic rocks that show evidence of having been subjected to mineralogical, chemical or structural change.

Miocene - a unit of geologic time in the middle Tertiary period extending from approximately 24 million to 5 million years ago.

paleontology - the study of fossils and ancient life forms.

Pliocene - a unit of geologic time in the late Tertiary period extending from approximately 5 million to 1.6 million years ago.

Quaternary - a unit in geologic time extending from the present to approximately 2 million years ago.

sedimentary rock - a layered rock resulting from the consolidation of sediment.

Tertiary - the first period of Cenozoic Era, spanning the time between 65 and 2 million years ago.

vertebrate - having a backbone or spine.

INDEX

SIERRA FRONT-NORTHWESTERN GREAT BASIN AREA

PREAMBLE

The Standards and Guidelines for livestock grazing on Bureau of Land Management lands are written to accomplish the four fundamentals of rangeland health, insofar as they are affected by livestock grazing practices. Those fundamentals are:

- Watersheds are properly functioning;
- Ecological processes are in order;
- Water quality complies with state standards; and
- Habitats of protected species are in order.

Other uses can affect the health of the land, and guidelines for these currently exist or will be developed as needed. In addition, implementation of livestock grazing guidelines must be coordinated with other uses of the land, and collectively these uses should not detract from the goal of achieving public land health.

Standards, indicators and guidelines will be implemented through standard public land management practices as defined in the Nevada Rangeland Monitoring Handbook and the other documents listed in Appendix A [of this appendix].

Standards; The goal to be achieved.

Indicators: Indicators are observations or measurements of physical, chemical or biological factors that should be used to evaluate site conditions or trends, appropriate to the potential of the site. Indicators assist in determining whether Standards are met or Guidelines followed.

Guidelines: Guidelines are livestock management practices (e.g. tools, methods, strategies and techniques) designed to achieve healthy public lands as defined by Standards and portrayed by Indicators. Guidelines are designed to provide direction, yet offer flexibility for local implementation through activity plans and grazing permits. Activity plans may add specificity to the Guidelines based on local goals and objectives as provided for in adopted manuals, handbooks and policy. Not all Guidelines fit all circumstances. Monitoring and site specific evaluation will determine if the Standards are being met or the trend on a particular site is toward desired objectives, and if the correct Guidelines are being applied. The BLM Authorized Officer, in consultation with public land users, will identify and document acceptable or unavoidable exceptions on a case-by-case basis.

STANDARDS FOR RANGELAND HEALTH

STANDARD 1. SOILS:

Soil processes will be appropriate to soil types, climate and land form.
As indicated by:

* Surface litter is appropriate to the potential of the site;

* Soil crusting formations in shrub interspaces, and soil compaction are minimal or not in evidence, allowing for appropriate infiltration of water;

* Hydrologic cycle, nutrient cycle and energy flow are adequate for the vegetative communities;

*Plant communities are diverse and vigorous, and there is evidence of recruitment; and

*Basal and canopy cover (vegetative) is appropriate for site potential.

STANDARD *2.* RIPARIAN/WETLANDS:

Riparian/Wetland systems are in properly functioning condition.
As indicated by:

* Sinuosity, width/depth ratio and gradient are adequate to dissipate streamflow without excessive erosion or deposition;

* Riparian vegetation is adequate to dissipate high flow energy and protect banks from excessive erosion; and

* Plant species diversity is appropriate to riparian-wetland systems.

STANDARD *3.* WATER QUALITY:

Water quality criteria in Nevada or California State Law shall be achieved or maintained.
As indicated by:

* Chemical constituents do not exceed the water quality standards;

* Physical constituents do not exceed the water quality standards;

* Biological constituents do not exceed the water quality standards; and

* The water quality of all water bodies, including ground water located on or influenced by BLM lands will meet or exceed the applicable Nevada or California water quality standards. Water quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and antidegradation requirements set forth under State law, and as found in Section 303(c) of the Clean Water Act.

STANDARD 4. PLANT AND ANIMAL HABITAT:

Populations and communities of native plant species and habitats for native animal species are healthy, productive and diverse.

As indicated by:

* Good representation of life forms and numbers of species;

* Good diversity of height, size, and distribution of plants;

* Number of wood stalks, seed stalks, and seed production adequate for stand maintenance; and

* Vegetative mosaic, vegetative corridors for wildlife, and minimal habitat fragmentation.

STANDARD 5. SPECIAL STATUS SPECIES HABITAT:

Habitat conditions meet the life cycle requirements of special status species.
As indicated by:

* Habitat areas are large enough to support viable populations of special status species;

* Special status plant and animal numbers and ages appear to ensure stable populations;

* Good diversity of height, size, and distribution of plants;

* Number of wood stalks, seed stalks, and seed production adequate for stand maintenance; and

* Vegetative mosaic, vegetative corridors for wildlife, and minimal habitat fragmentation.

GUIDELINES FOR GRAZING MANAGEMENT:

1. Waters must be free from high temperature, biocides, organisms pathogenic to human beings, toxic, corrosive or other deleterious substances attributable to domestic or industrial waste or other controllable sources at levels or combinations to interfere with any beneficial use of the water. Compliance with the provisions of this subsection may be determined in accordance with methods of testing prescribed by the State. If used as an indicator, survival of test organisms must not be significantly less in test water than in control water.

2. Grazing management practices should be planned and implemented to meet water quality provisions in either California State water law or Nevada Administrative Code Section 445A.120-121 as applicable.

3. Management practices within allotments will maintain or promote stream channel morphology, appropriate soil organisms; adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils; and the hydrologic cycle, nutrient cycle and energy flow.

4- After a range fire or other natural catastrophic event, vegetation should be returned to the native species as rapidly as possible, to afford forage and habitat for native animals. If a nurse crop is needed to protect the land from erosion, all native nurse crops should be used first.

5. Treated areas will be rested from livestoclc grazing for two growing seasons or until seedlings are established or the vegetative response has achieved objective levels. Wild horse and burros removed from Herd Management Areas will be restored after rehabilitation objectives have been met.

6. Alternative solutions (e.g. reseeding, funding, labor, equipment use or rental) to facilitate fire rehabilitation, may be included in cooperative agreements involving qualified groups and individuals who want to participate.

7. Appropriate livestock grazing treatments will be implemented to control the frequency, duration, and level of grazing use. Where livestock grazing is authorized, grazing systems will provide within any one grazing year one or more of the following treatments:

a. Rest or deferment from livestock grazing on a specified area as appropriate to meet Standards.

b. Systematic rotation of deferred use and/or rest from livestock grazing among two or more units.

c. Continuous, season-long use where it has been demonstrated to be consistent with achieving identified standards. Once season long use is determined to be unacceptable, an alternative system will be developed and implemented before termination of season long use, prior to the next grazing season.

d. Excluding further livestock grazing within the affected use area through appropriate techniques when utilization objectives are reached.

8. Conservation of Federal threatened or endangered, proposed, species of concern (formally Category One and Two) and other special status species is promoted by the restoration and maintenance of their habitats.

9. Salt and/or supplements will be placed at least 1/4 mile from live waters (springs/ streams) and outside of associated riparian areas, permanent livestock watering facilities, wet or dry meadows, and aspen stands. Also salt should not be placed in known historic properties.

10. Night bedding of sheep will be located at least 1/4 mile from live waters, streams, springs, seeps, associated riparian areas, wet or dry meadows, and aspen stands.

11. Encourage the use of prescribed and natural fires, meeting prescription objectives, for the restoration and maintenance of healthy rangelands.

12. Departure from traditional grazing management practices may be authorized by BLM to achieve Standards on a case by case experimental basis for rangeland restoration and rehabilitation.

13. The best available science and technology will be utilized in monitoring and assessing the condition of rangelands from the pasture to the BLM District level.

14. Recognizing State Water Law requirements, wildlife and wild horses/burros within their herd areas will have access to surface water they customarily use.

15. Design of water facilities will incorporate features to insure safe access and escape for small animals and birds.

16. The development of springs and seeps or other projects affecting water and associated resources shall be designed to maintain the associated riparian area and assure the attainment of Standards.

17. Grazing management practices shall be planned and implemented to allow for habitat requirements of wildlife and wild horses and burros within Herd Management Areas.

18. Implement aggressive action to reduce the invasion of exotic plant species into native plant comm
Control the spread of noxious weeds through various methods such as, grazing management, fire manage
and other vegetative management practices.

19. Riparian structural developments (i.e., gabions, dams, etc.) designed to achieve improvement in riparian and wetland conditions shall only be implemented in conjunction with changes in existing grazing management practices, where grazing is a significant factor contributing to a riparian condition needing such attention. Where grazing is not a significant factor causing a riparian condition needing attention, structural developments designed to achieve improvement in riparian and wetland conditions may be implemented independent of changes in existing grazing management practices.

20. The utilization, monitoring and evaluation process will be used as a tool to promote healthy rangelands and achieve standards.

21. Implement grazing management practices that sustain biological diversity across the landscape.

22. To prevent transmission of disease between domestic and bighorn sheep, adopt and implement the "Guidelines for Domestic Sheep Management in Bighorn Sheep Habitats" contained in Mountain *Sheep Ecosystem* Management *Strategy in the 11* Western States and Alaska.
23. Rangeland management plans will consider listings of known historic properties and new eligible properties as they become known.

APPENDIX A

Nevada Rangeland Monitoring Handbook, 1984. *Mountain Sheep Ecosystem Management Strategy in 11 Western States and Alaska,* 1995. *Riparian Area Management Technical Reference 1*737-9, 1993. *BLM Riparian-Wetland Initiative/or the 1990's Riparian Area Management Technical Reference 1*737-1 *1,* 1994. "National Environmental Policy Act Quarterly Update", Volume I, Number 2. "Programmatic Agreement Among BLM, SHPO and ACHP", August 24, 1990.

STANDARD AND GUIDELINES IMPLEMENTATION PROCESS

It is a requirement that grazing permits and leases shall contain terms and conditions that ensure conformance with the approved Standards and Guidelines.

The implementation process for Standards and Guidelines will occur under two separate processes as described below:

1. During the supervision and/or monitoring of an allotment, if it is determined that the existing terms and conditions of a grazing permit are not in conformance with the approved Standards and-Guidelines and that livestock grazing was determined to be a significant factor in the nonattainment of a standard, then as soon as possible, or no later than the start of the next grazing year, the terms and conditions of the permit/lease will be modified to ensure that the grazing management practices or the levels of the grazing use will be in conformance with the Standards and/or Guidelines.

The modification of the terms and conditions of the permit/lease will be implemented by agreement and/or by decision.

2. The allotment evaluation process will continue to be the process used to determine if existing multiple uses for allotments are meeting or making progress towards meeting land use plan objectives, allotment specific objectives, Range-land Program Summary objectives and land use plan decisions, in addition to the Standards and Guidelines for grazing administration.

Additionally, allotment specific objectives may have to be developed or amended, objectives in the land use plans further quantified at the allotment specific level, and terms and conditions of permits changed or revised to reflect the Standards and Guidelines. Allotment evaluations will continue to be completed based on district priorities.

a.The allotment evaluation consists of or involves:

1) The evaluation of current grazing use by all users (livestock, wild horses, wildlife) based on monitoring data analysis and interpretation;

2) Recommendations to change or adjust grazing systems;

3) Recommendations to change or adjust stocking levels; and

4) Establishment of stocking levels for wild horses.

b. The allotment evaluation also serves as the basis for either issuing multiple use decisions, agreements, or a no change determination. Multiple use decisions are prepared subsequent to

completion of land use plans and are based on the attainment or nonattainment of objectives established in the land use plans and allotment evaluations.

During the evaluation process, the existing terms and conditions of a permit will be evaluated to determine if they are in conformance with the approved Standards and Guidelines. If it is determined that the existing terms and conditions are not in conformance and that livestock grazing was a significant factor in the non-attainment, then as soon as possible or no later than the start of the next grazing year, the terms and conditions of the permit/lease will be modified to ensure that the grazing management practices or the levels of grazing use will be in conformance.

At the conclusion of the evaluation process, the multiple use decision process will continue to be used to establish:

1) The terms and conditions of the grazing permits;

2) The appropriate management level for wild horses and burros that occur within the allotment; and

3) Any recommendations for wildlife populations or habitat management actions required if it is determined that these actions are necessary.

The preamble to the final regulations contains additional information regarding implementation. The following preamble language is found on page 9956 of the Federal Register notice:

". . . The Department intends that failing to comply with a standard in an isolated area would not necessarily result in corrective action.

"The Department recognizes that it will sometimes be a long-term process to restore rangelands to proper functioning condition. The Department intends that Standards and Guidelines will result in a balance of sustainable development and multiple use along with progress towards attaining healthy, properly functioning rangelands. For that reason, wording has been adopted in the final rule that will require the authorized officer to take appropriate action upon determining that existing grazing management practices are failing to ensure appropriate progress toward the fulfillment of standards . . ."

"In some areas, it may take many years to achieve healthy rangelands, as evidenced by the fundamentals, established standards, and guidelines. The Department recognizes, that in some cases, trends may be hard to even document in the first year. The Department will use a variety of data, including monitoring records, assessments, and knowledge of the locale to assist in making the "significant progress" determination."

The acceptance of progress toward reaching the desired end state is also addressed in the regulatory text in 43 CFR 4180.1 Fundamentals of Rangeland Health which includes the "making significant progress toward" language in each of the four fundamentals.

The concept of "making progress toward" is a specific consideration when determining a course of action during implementation. Determining whether a standard is being met is a distinctly different concept from determining whether progress is being made toward or away from the standard. Determining a course of action is then dependent on a variety of factors, one of which is whether progress is being made toward the standard.

regard to actions, it is the BLM's policy and intent to work in a collaborative manner to achieve aintain the Standards necessary for healthy, productive rangelands. It is not the policy or intent e BLM to arbitrarily and immediately remove all livestock from an entire allotment based solely inding a range site that is not meeting a standard. As a practical matter the BLM has neither :y, intent, desire nor capability to arbitrarily remove all livestock where acceptable progress is g made toward meeting the Standards.

NEVADA STATE OFFICE
State Director: Ann Morgan
Associate State Director: Jean Rivers-Council
850 Harvard Way (89502-2055) PO Box 12000
Reno, Nevada 89520-0006
7:30 am to 4:15 pm weekdays 702-785-6400 · FAX (702) 785-6411

National Wild Horse &. Burro Center at Palomino Valley
P.O. Box 3270
Sparks, Nevada 89432-3272
702-475-2222 · FAX (702) 475-2053

BATTLE MOUNTAIN FIELD OFFICE
District Manager: Jerry Smith
50 Bastian Rd.
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Tonopah Field Station Manager: Ron Huntsinger
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PO Box 911
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CARSON CITY FIELD OFFICE
District Manager: John Singlaub
1535 Hot Springs Road
Carson City, Nevada 89706-0638
7:30 am to 5:00 pm weekdays 702-885-6000 · FAX (702) 885-6147

ELKO FIELD OFFICE
District Manager: Helen Hankins
3900 E. Idaho St.
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ELY FIELD OFFICE
District Manager: Gene Kolkman
702 North Industrial Way
HC33 Box 33500
Ely, Nevada 89301-9402
7:30 am to 4:30 pm weekdays 702-289-1800 · FAX (702) 289-1910

Caliente Field Station
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LAS VEGAS FIELD OFFICE
District Manager: Mike Dwyer
4765 W. Vegas Drive
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WINNEMUCCA FIELD OFFICE
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Approved Feb. 12, 1997 BLM/NV/PT-97/013+4000

APPENDIX B

ACEC NOMINATION EVALUATION

An area under consideration for ACEC status must meet certain criteria of relevance and importance, as established and defined in 43 CFR 1610.7-2.

Name: **Black Rock Desert ACEC**
Location: Black Rock Desert's west arm
Size: 452,086 acres
Nominated by: BLM Winnemucca Field Office

Rationale:The west arm of the Black Rock Desert contains exceptional prehistoric, historic, cultural, and scenic values. The Black Rock Desert playa, with its lake-plain terrace margins, is part of the largest dry lake bed in North America: a unique vast landform which forms the focus of a scenic landscape. Within the proposed ACEC are over 110,000 acres of WSA lands, comprising nearly one-fourth of the proposed planning area. Through this landscape pass segments of the National Historic Trail System: the Applegate-Lassen Trail, the Nobles Route, and the John Fremont Exploration Route. The Applegate-Lassen Trail, a cut-off from the California Emigrant Trail, is listed on the National Register of Historic Places. Its integrity of setting was a primary qualifying characteristic for listing. In addition to the historic trails, the region is known to have prehistoric sites which display aboriginal use of the area. The environment has the potential for discovery of Western Pluvial Lakes Tradition sites, which are some of the earliest human occupations in the Great Basin.

This area of the Black Rock Desert is being considered for special management attention based on recreational impacts to natural and cultural resources.

RELEVANCE

1. Significant historic, cultural or scenic value?

The Applegate-Lassen Trail, Nobles Route, and 1843-44 John C. Fremont Exploration Route pass through the area. Many traces of the overland emigrants are visible, including wagon wheel ruts and carvings and paintings on the rocks. The US military also left unique traces in this area such as Camp McGarry, Camp McKee and major transportation routes linking the gold fields of the late 1800's. Representative relics of the homestead era occur along the trail corridor and throughout the proposed management area. The area allows public access and visitation to modern western American enterprises including mining, ranching, and rural outdoor recreation. Important historic sites within the area include Hardin City, the Lassen Clapper Murder site, and camp sites along the emigrant trail. A historic military outpost is also at Soldier Meadows (on private land but covered by a conservation agreement. Prehistoric archeological sites dating to as early as 10,000 years and Native American sacred sites also exist in the area.

The area has few modern intrusions and is fairly unaltered from the time Native Americans occupied this area and explorers and emigrants first passed through this land. The viewshed of the Applegate-Lassen Trail is considered to be an important cultural value.

Scenic values abound within the proposed management plan area.The vast flat alkali playa of the Black Rock Desert is juxtaposed by the high relief of the surrounding mountains: the Black Rock Range, the Granite Range, the Calico Mountains, and the Jackson Mountains. Scenic vistas abound: the colorful Calico Range; the Black Rock (the promontory from which the desert takes its name); Paiute Peak; Big Mountain; the steaming hot springs which punctuate the edge areas; the multi-hued pastels of the badlands secreted deep in the flanks of the Black Rock Range; and the cavernous Fly Canyon potholes, to name a few. During off-peak visitor days, a visitor may experience the solitude, beauty, and stillness of the desert without contact for hours or even days.

2. Fish and wildlife resource?

The Soldier Meadow project area is unique for its combination of natural and cultural resources. The hot spring complexes within the area provide the only known habitat for a federally listed threatened fish species, desert dace (*Eremichthys acros*). The spring complexes and 50 feet of the bank on either side of them have been designated as critical habitat (50 CFR 50304). The Endangered Species Act of 1973 as amended (ESA) directs federal agencies to seek to conserve endangered and threatened species and to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of critical habitats. At the time of the writing of this document the Recovery Plan for the Rare Species of Soldier Meadows has been finalized (USFWS, 1997).

The area is also one of the few habitats for the plant, basalt cinquefoil (*Potentilla basaltica*), a federally listed species of concern and Nevada BLM sensitive species. Recent investigations of the hot springs in the area have also revealed the presence of several species of hydrobiid snails.

These resources are addressed by the SMAP.

IMPORTANCE

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

The Applegate-Lassen Trail, John C. Fremont Exploration Route, and the Nobles route were all extremely important in the exploration, opening, and settlement of the west as well as in the history of transportation. Nearly half of all the 1849 Gold Rush traffic travelled this route.

The portion of the Applegate Lassen Trail which passes through the proposed ACEC area is the longest segment of emigrant trail in the far west which can be followed through an

environment which has changed very little. This allows the visitor to experience the area as explorers and emigrants experienced it.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, unique, endangered, threatened or vulnerable to adverse change?

The Applegate-Lassen trail and the viewshed of the trail are vulnerable and threatened by increased recreation use as well as potential commercial development.

Irreplaceable cultural resource sites occur within the proposed management plan area.

The habitat of the desert dace is located within the proposed management plan area. This area provides the only known habitat for a federally listed threatened fish species, desert dace (*Eremichthys acros*). The area is also one of the few habitats for the plant, basalt cinquefoil (*Potentilla basaltica*), a federally listed species of concern and Nevada BLM sensitive species.

3. Has qualities which warrant highlighting in order to satisfy public management concerns or to carry out the mandates of FLPMA?

The Applegate-Lassen Trail is listed on the National Register of Historic Places and has been designated a National Historic Trail.

4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare: None known.

5. Poses a significant threat to human life and safety or to property? Not known.

RECOMMENDATION

The area meets the relevance and importance criteria and special management attention is needed to protect and conserve the cultural and scenic values. The Proposed Action and Alternative Two contain provisions for special management attention.

Soldier Meadows ACEC Expansion

(This information is extracted from the SMAP Document)

The Soldier Meadow project area is unique for its combination of natural and cultural resources. The area affected by the proposed action is located in Humboldt County at the northern end of the west arm of the Black Rock Desert, approximately 75 miles north of Gerlach, Nevada and 10 miles south of the Summit Lake Reservation. The project area is approximately 35,000 acres in size.

The hot spring complexes within the area provide the only known habitat for a federally listed threatened fish species, Desert Dace (*Eremichthys acros*). The spring complexes and 50 feet of the bank on either side of them have been designated as critical habitat (50 CFR 50304). The Endangered Species Act of 1973 as amended (ESA) directs federal agencies to seek to conserve endangered and threatened species and to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of critical habitats. At the time of the writing of this document the Recovery Plan for the Rare Species of Soldier Meadows has been finalized (USFWS, 1997).

The area is also one of the few habitats for the plant, Basalt Cinquefoil (*Potentilla basaltica*), a federally listed species of concern and Nevada BLM sensitive species. Recent investigations of the hot springs in the area have also revealed the presence of several species of hydrobiid snails.

A total of 307.22 acres of public land surrounding some of the dace habitat has been designated the Soldier Meadow Desert Dace Area of Critical Environmental Concern (ACEC) and is also designated a Research Natural Area (RNA). This area was designated an ACEC to highlight the area where special management attention is needed to protect and prevent irreparable damage to, important biological, cultural and historic resources. A research natural area is an area which contains natural resource values of scientific interest and is managed primarily for research and educational purposes.

The area is also significant for its prehistoric and historic cultural resource sites. It is believed that humans have utilized the hot springs and associated resources for at least the last 10,000 to 12,000 years. Much of the opportunity to study the cultural history of the area has been lost due to illegal exploitation of these resources. Native Americans have also expressed concerns about protection of the cultural and natural resources in Soldier Meadows.

Estimated recreational use in the area is about 4,000 12 hour visitor days a year and has shown a significant increase over the last five years. With the increase in northern Nevada's population, the loss of areas of solitude near urban development and restrictions on off road vehicle use near these areas recreational use in the Soldier Meadows area will probably continue to increase. In addition there has been an overall increase in large permitted events in the Black Rock Desert, including the Burning Man Festival, wagon train reenactments, recreational rocket launchings, land sailing regattas and land speed trials, that have lead to large groups of people from outside of the northern Nevada area "discovering" the area.

Most of the recreation use in the area is in the proximity of the springs and outflows that support populations of desert dace. It is believed that visitor use is starting to create adverse impacts to special status species, their habitats and cultural resources in the area.

Livestock grazing has occurred in the area since the late 1800's, and the study area lies within the Hot Springs Pasture which provides a portion of the winter pasture for the Soldier Meadows Allotment. The area also provides habitat for wild horses and burros and includes part of three Herd Management Areas (HMA's), Black Rock Range-West, Warm Springs Canyon and Calico Mountains. There have been no studies to assess the impact of livestock and wild horse and burro grazing on the special status species and cultural resources in the area.

At this time there are no active mining claims or leases in the area but the potential exists for the occurance and extraction of locatable and leasable minerals. Salable mineral resources are being extracted presently.

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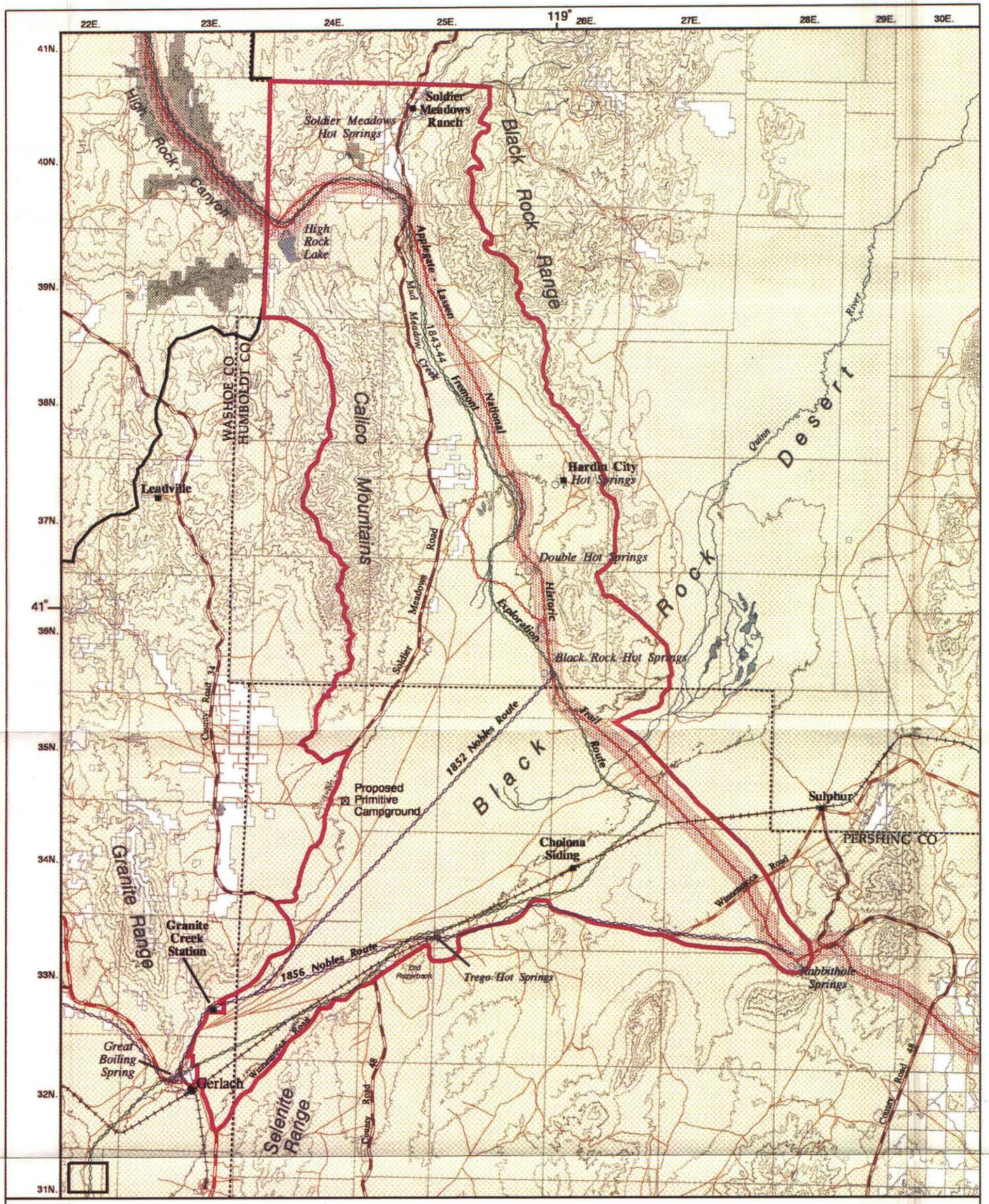


Figure 1

Proposed Management Area

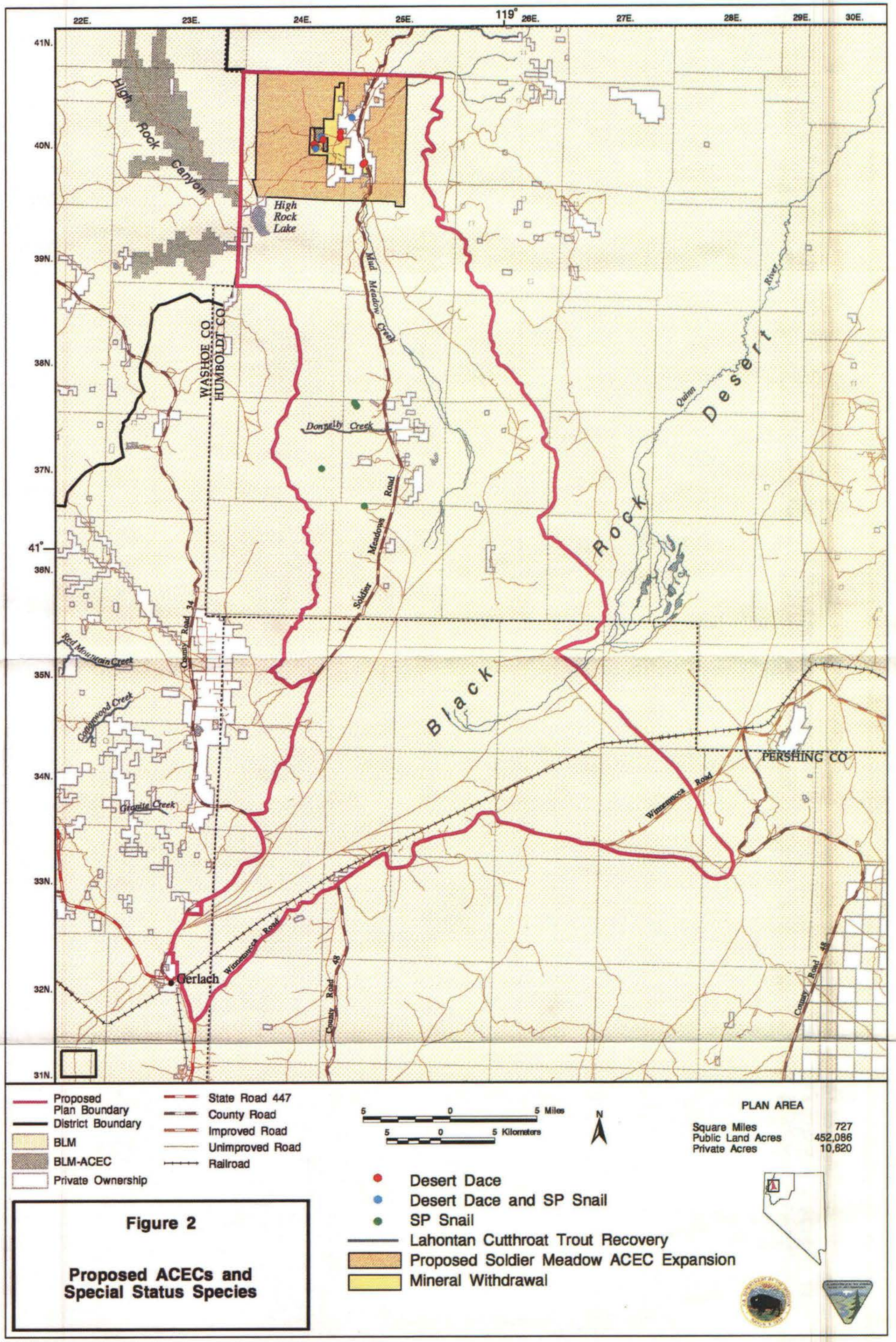


Figure 2

Proposed ACECs and Special Status Species

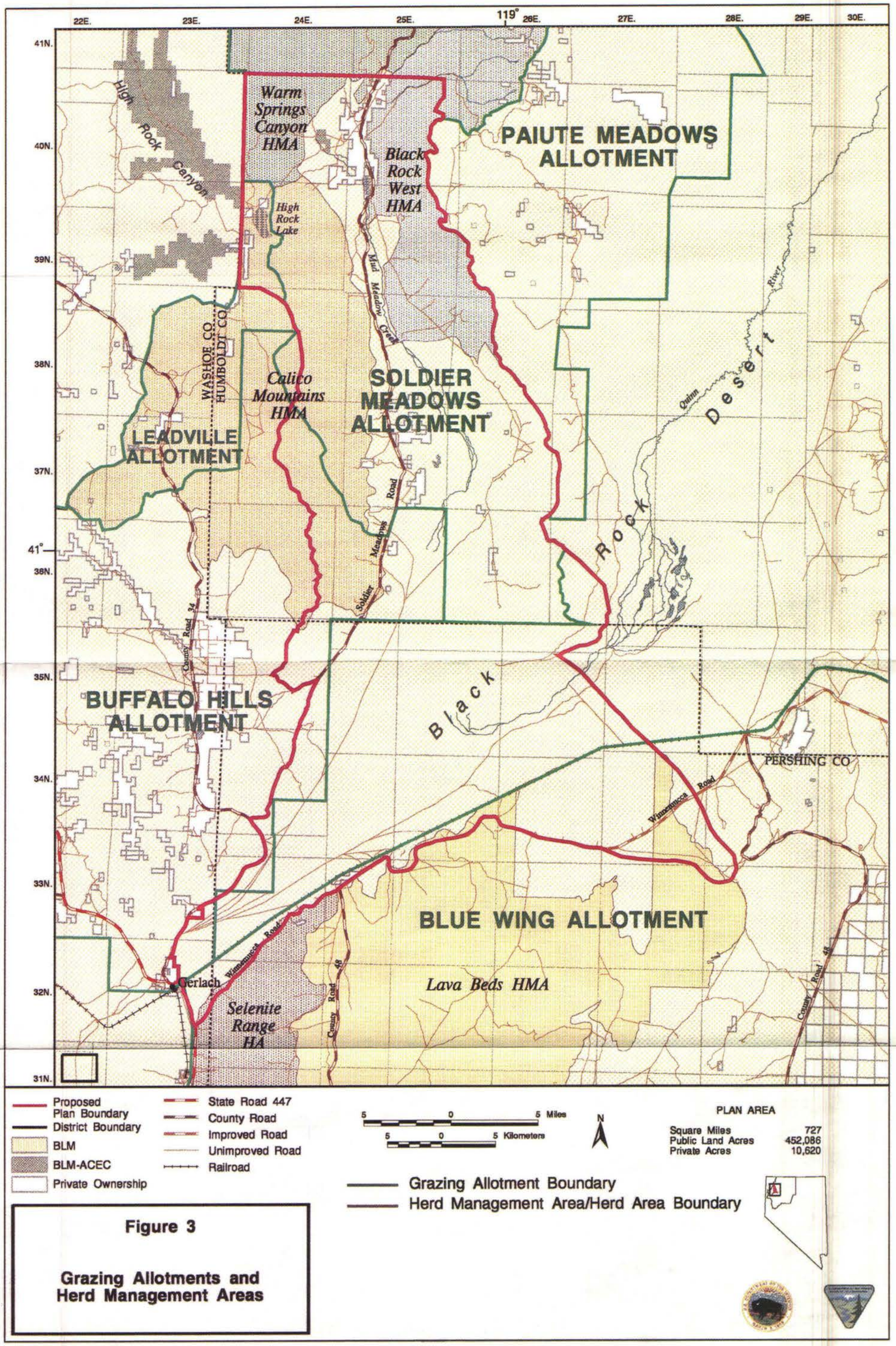


Figure 3

Grazing Allotments and Herd Management Areas

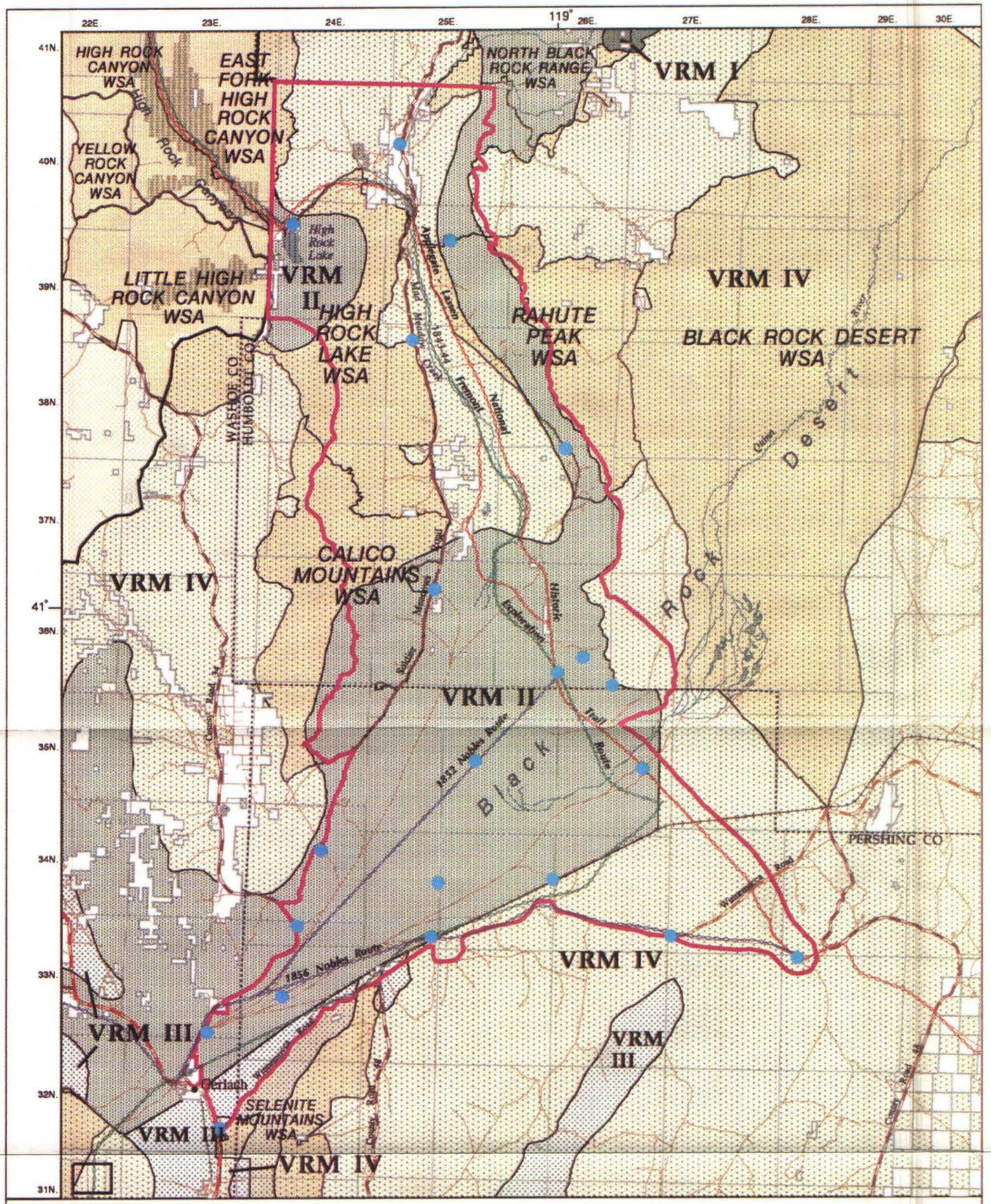


Figure 4

Existing VRM Designation not reflecting WSA VRM Status

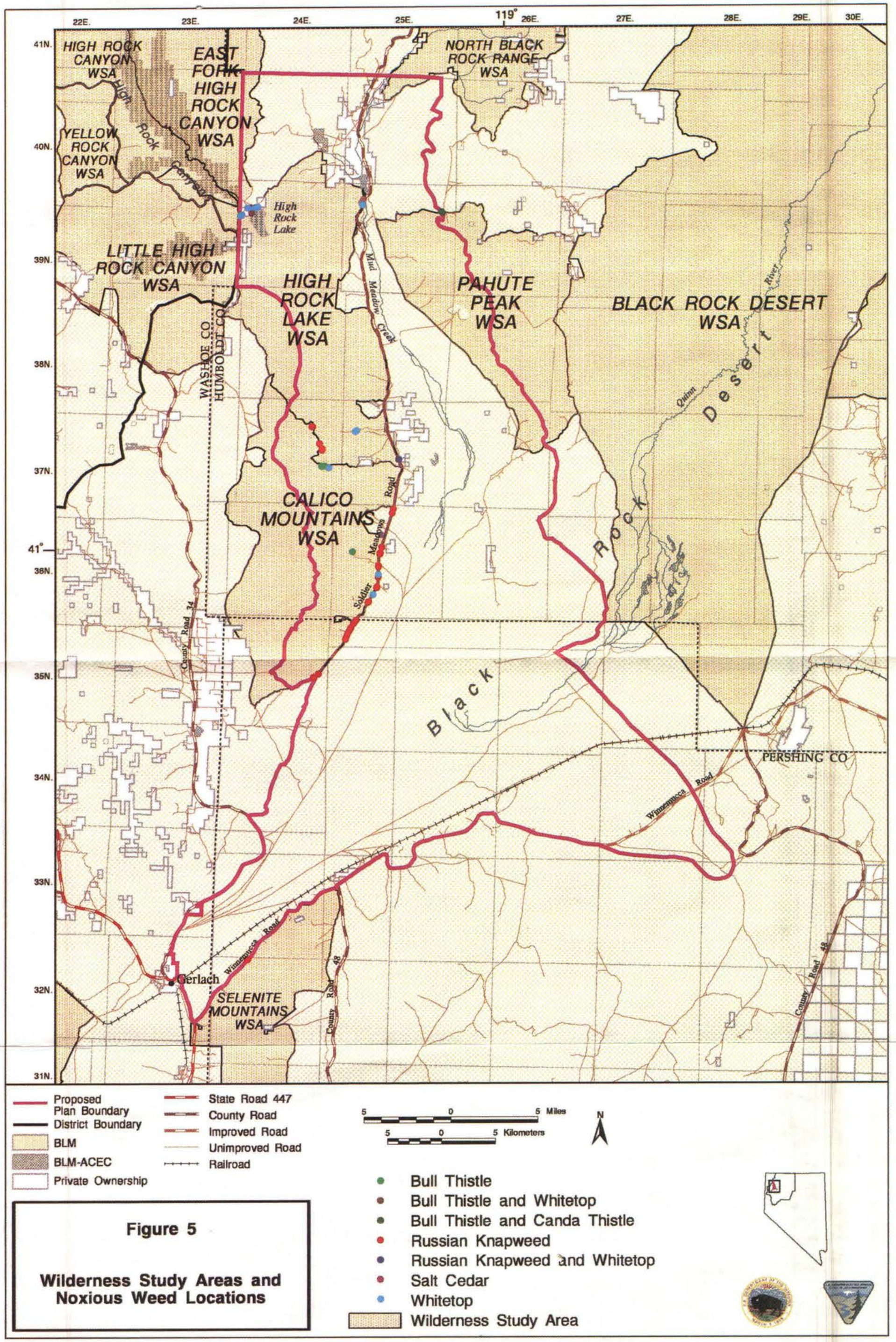
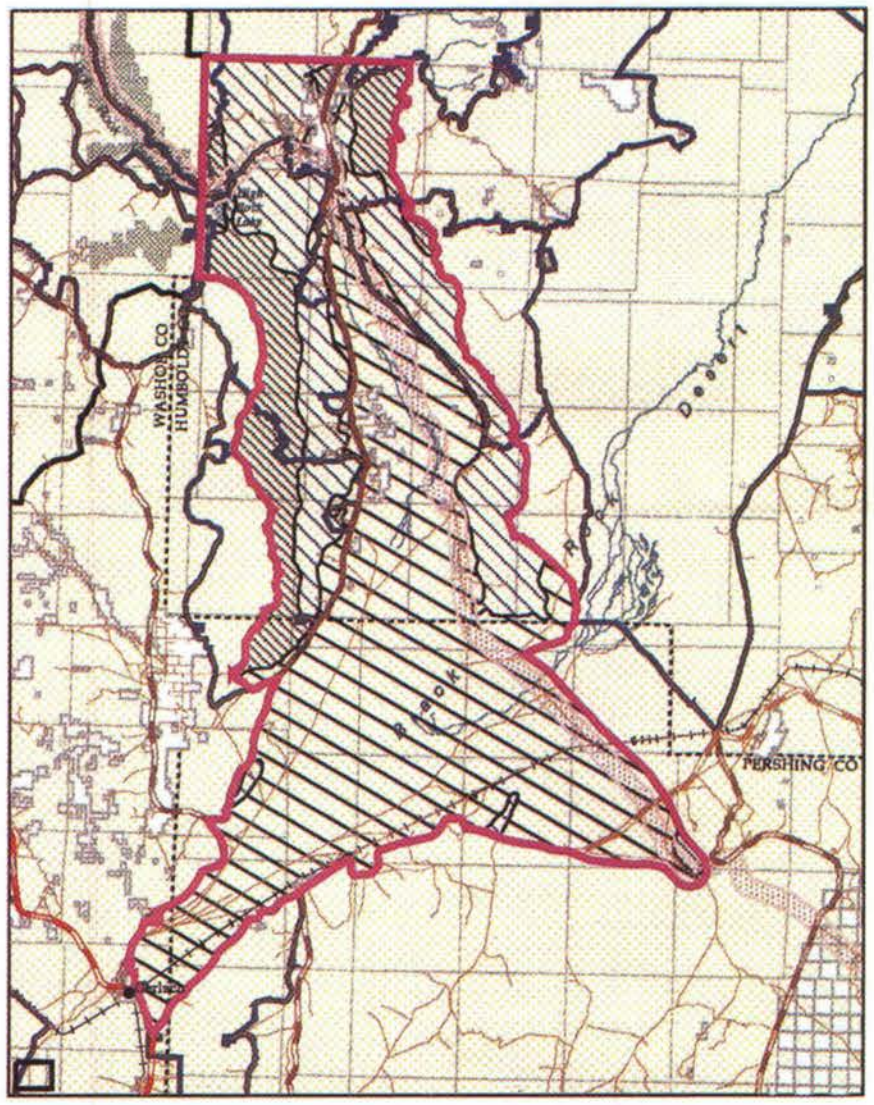


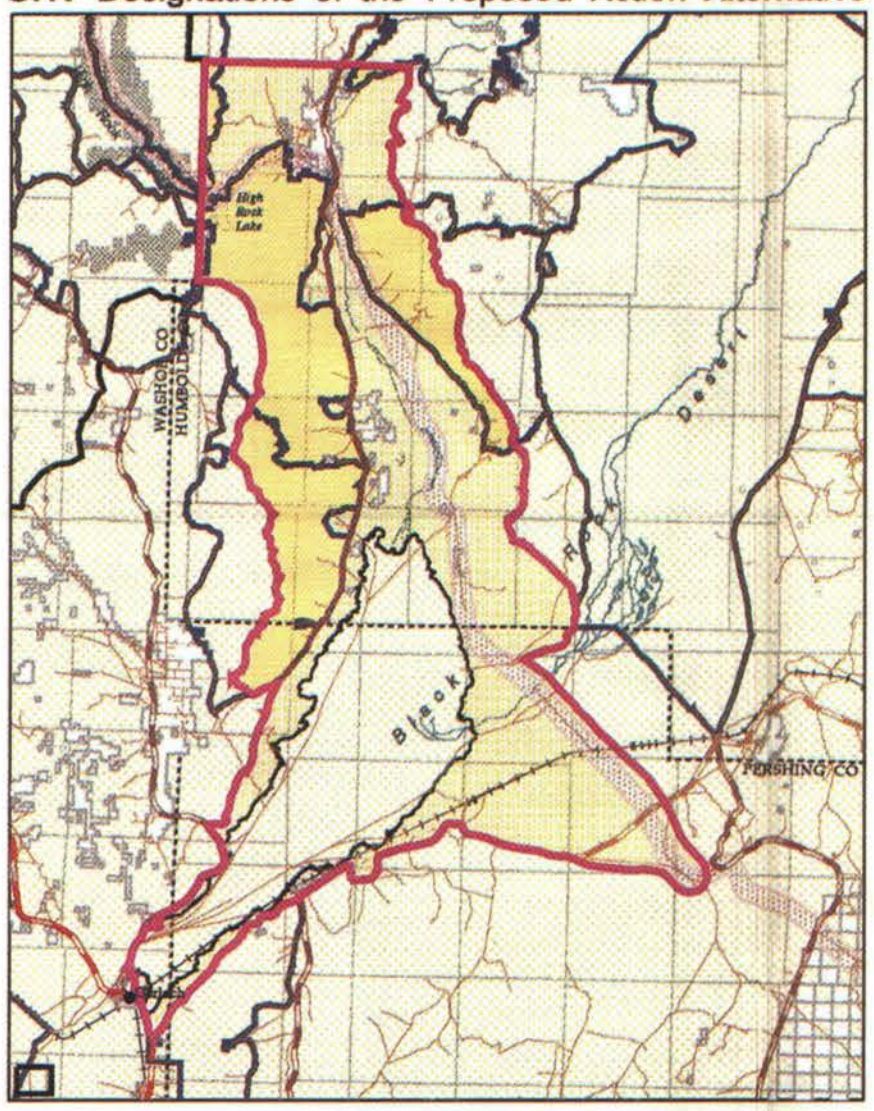
Figure 5

Wilderness Study Areas and Noxious Weed Locations

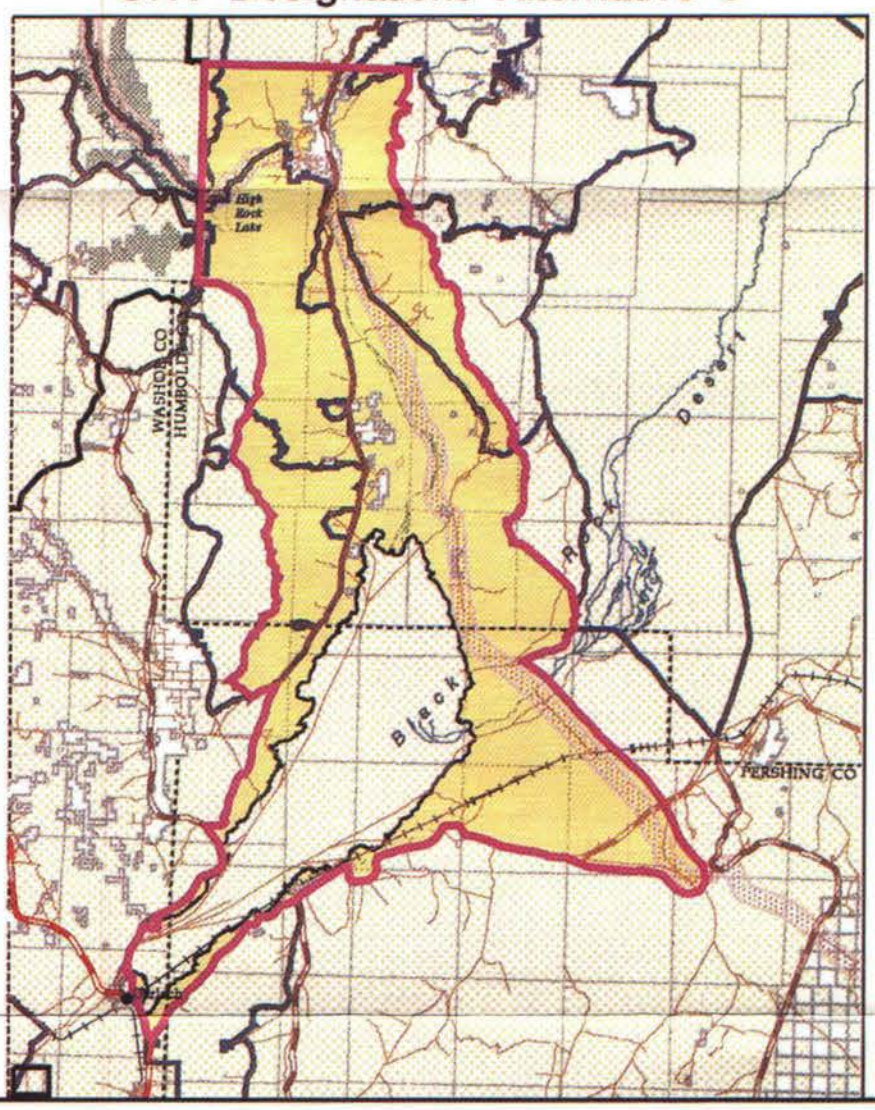
Soil Erosion Hazard



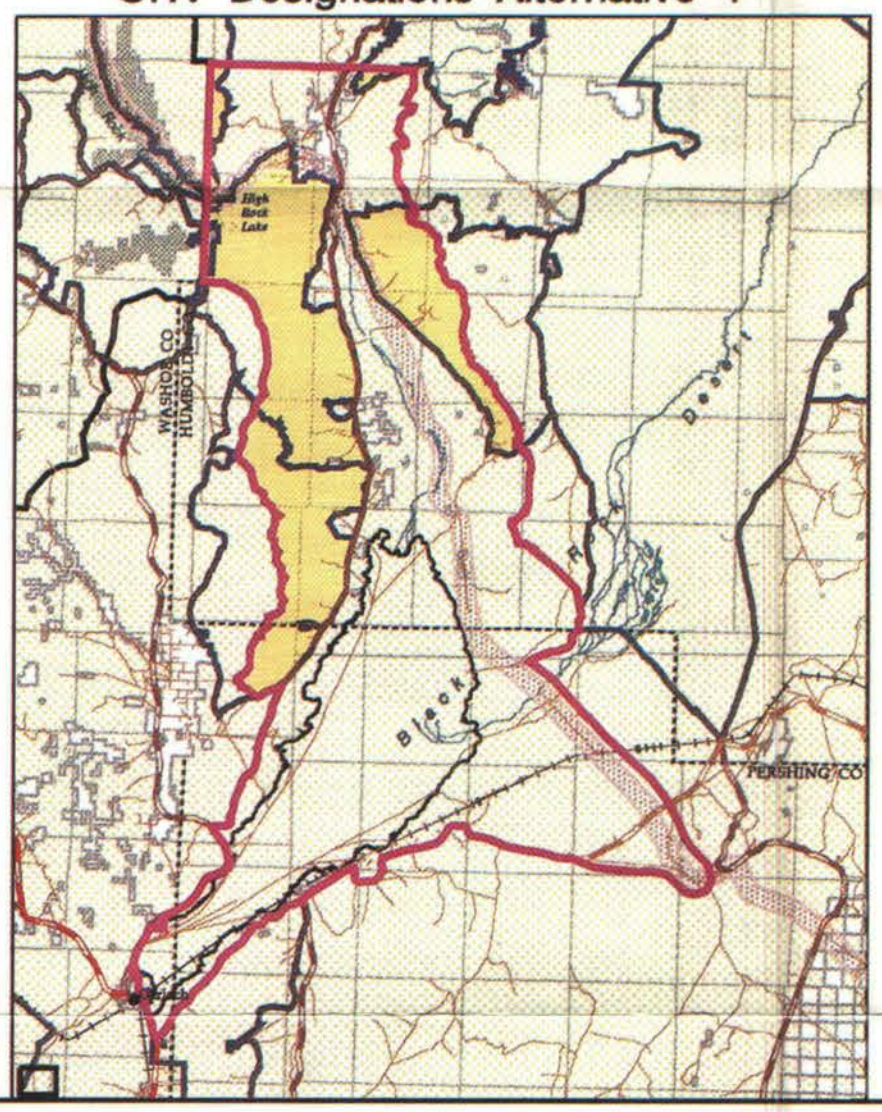
OHV Designations of the Proposed Action Alternative



OHV Designations Alternative 3



OHV Designations Alternative 4



Proposed Plan Boundary
District Boundary
BLM
BLM-ACEC
Private Ownership

State Road 447
County Road
Improved Road
Unimproved Road
Railroad

10 0 10 Miles
10 0 10 Kilometers

N

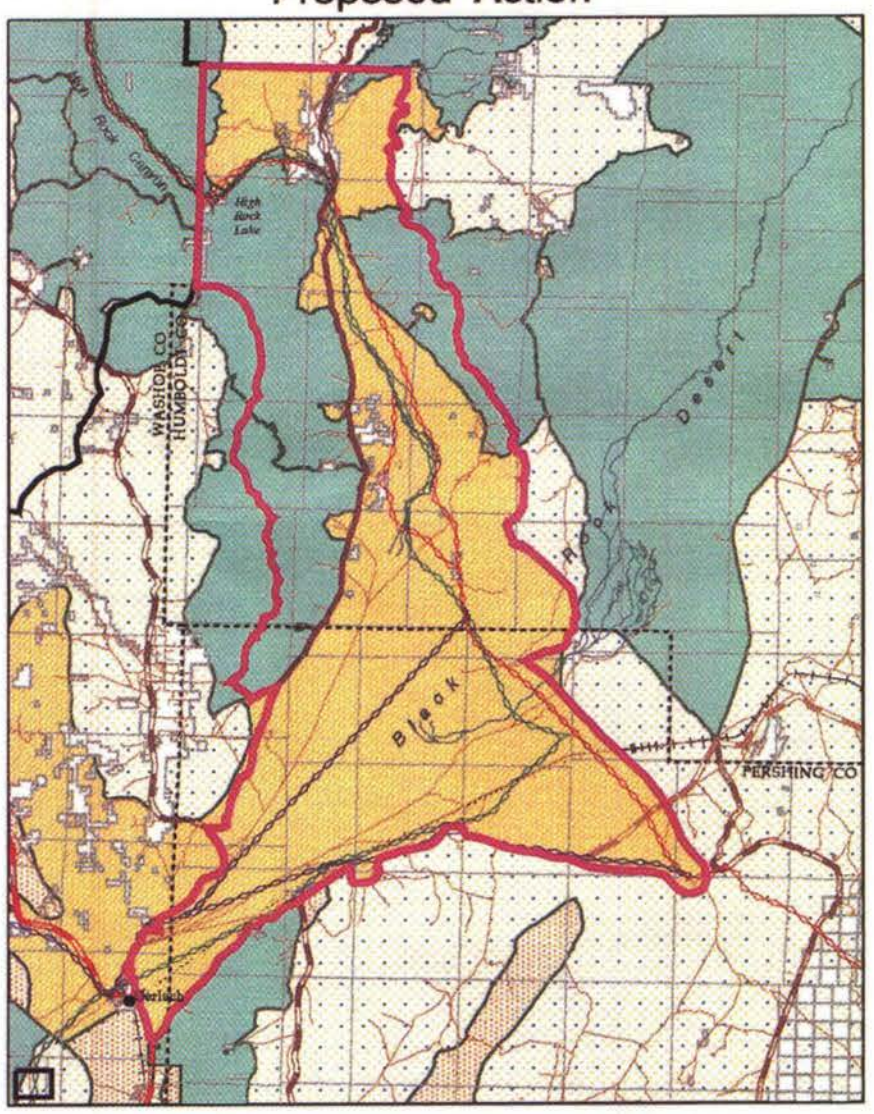
SOIL EROSION HAZARD
High
Medium
Low

OHV DESIGNATIONS
Proposed OHV Closure
Limited to Designated Roads
Open

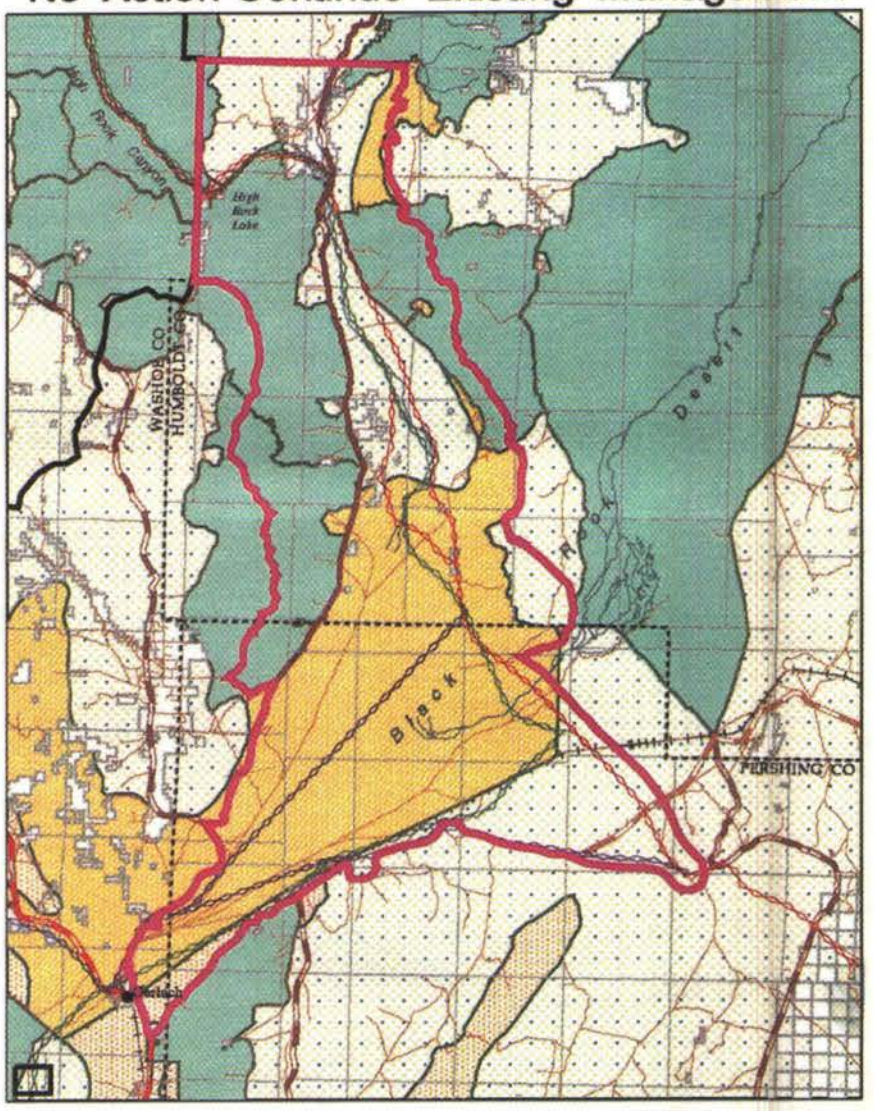
Figure 6

Proposed OHV Designations and Erosion Hazard Zones

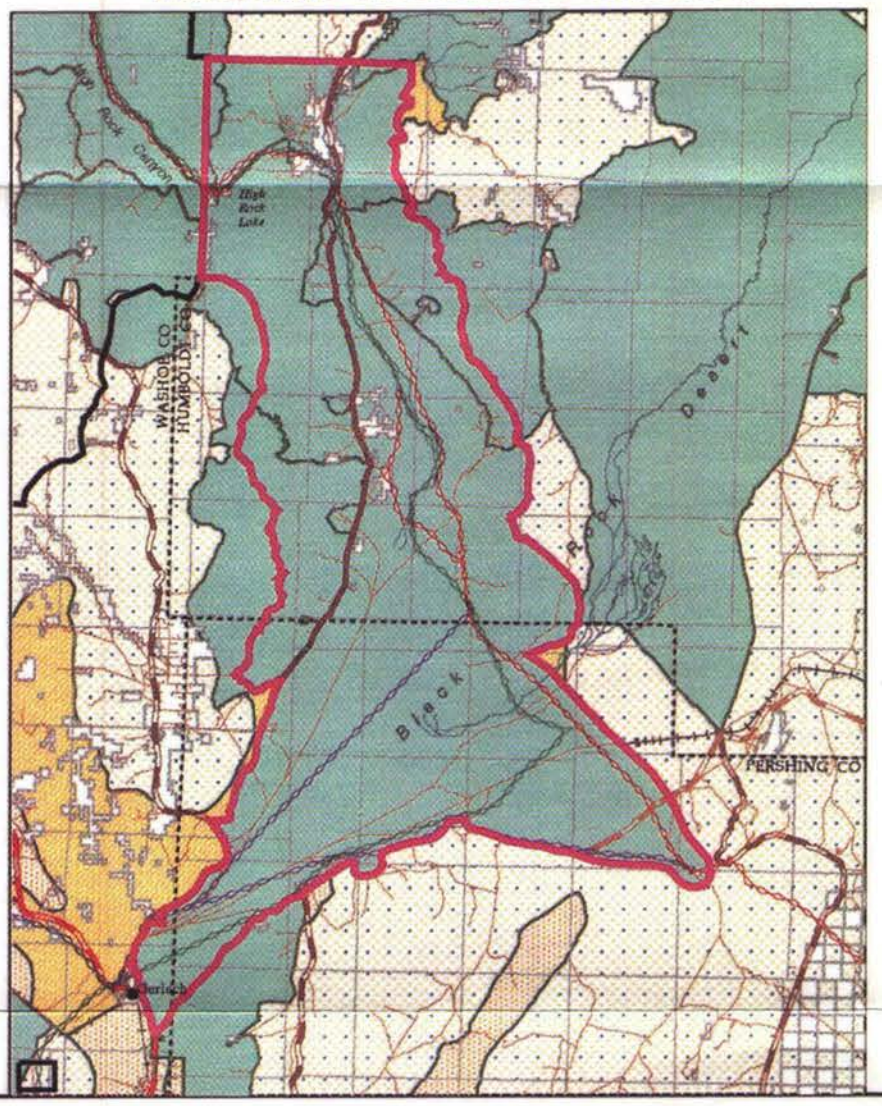
Proposed Action



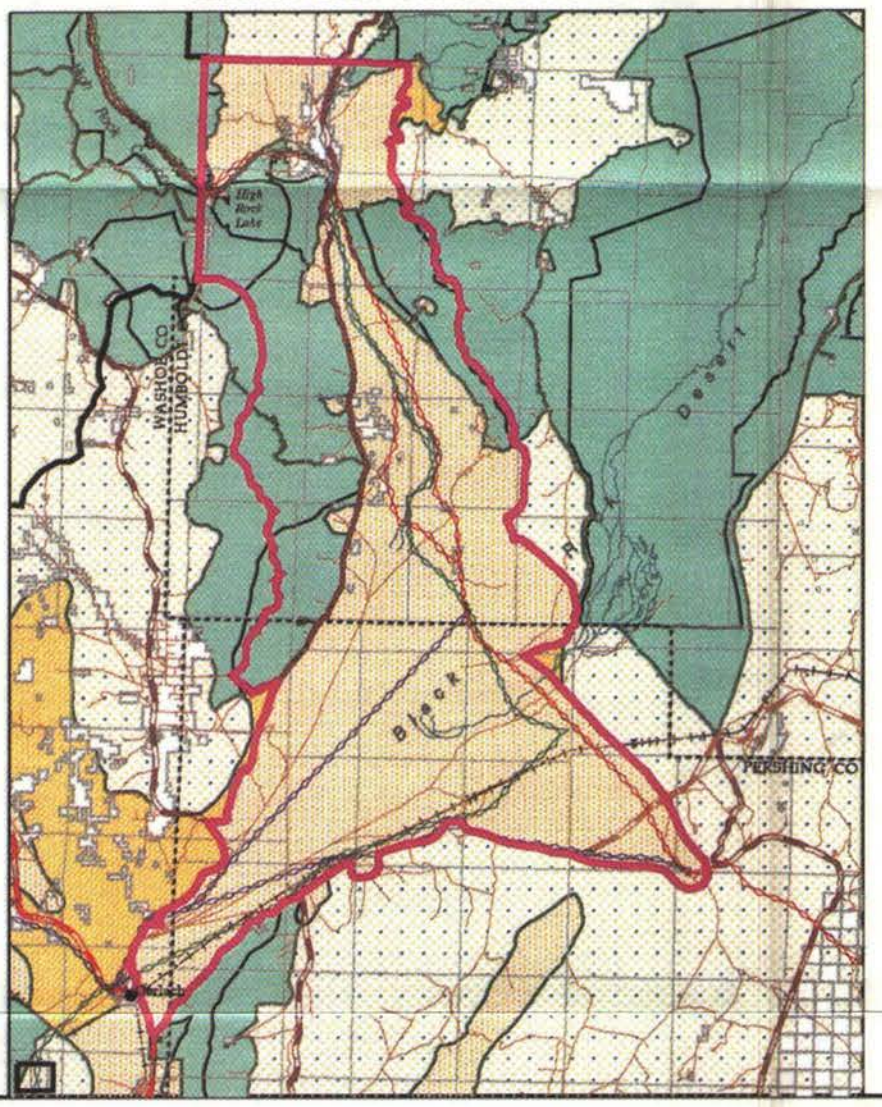
No Action-Continue Existing Management



Maximum Resource Protection



Maximum Resource Use



Proposed Plan Boundary
District Boundary
BLM
BLM-ACEC
Private Ownership

State Road 447
County Road
Improved Road
Unimproved Road
Railroad

10 0 10 Miles
10 0 10 Kilometers

N

VRM I
VRM II
VRM III
VRM IV
1843-44 Fremont Exploration Route
1852 and 1856 Nobles Route
Applegate-Lassen National Historic Trail

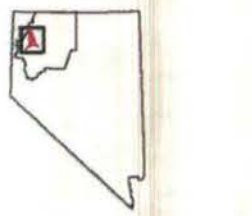


Figure 7

Visual Resource Management Alternative Proposals

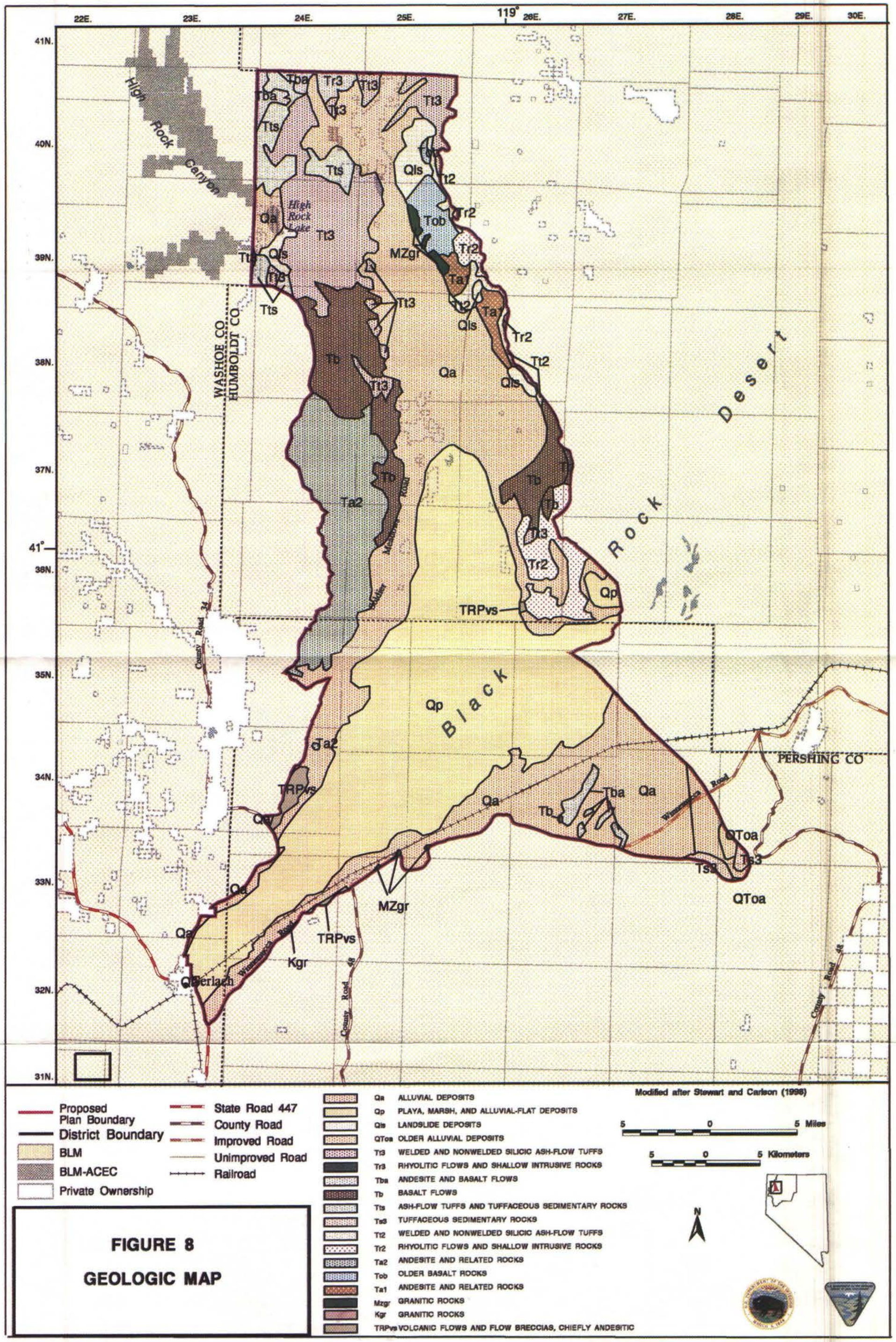
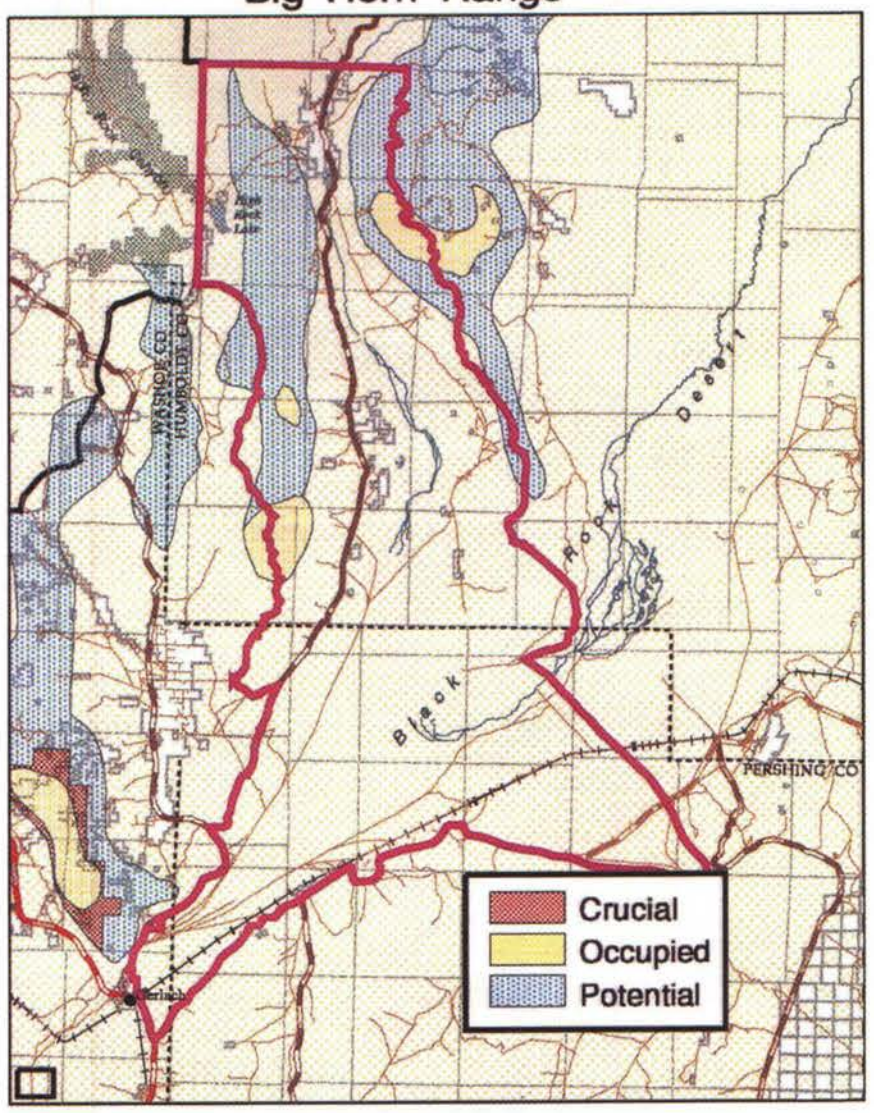


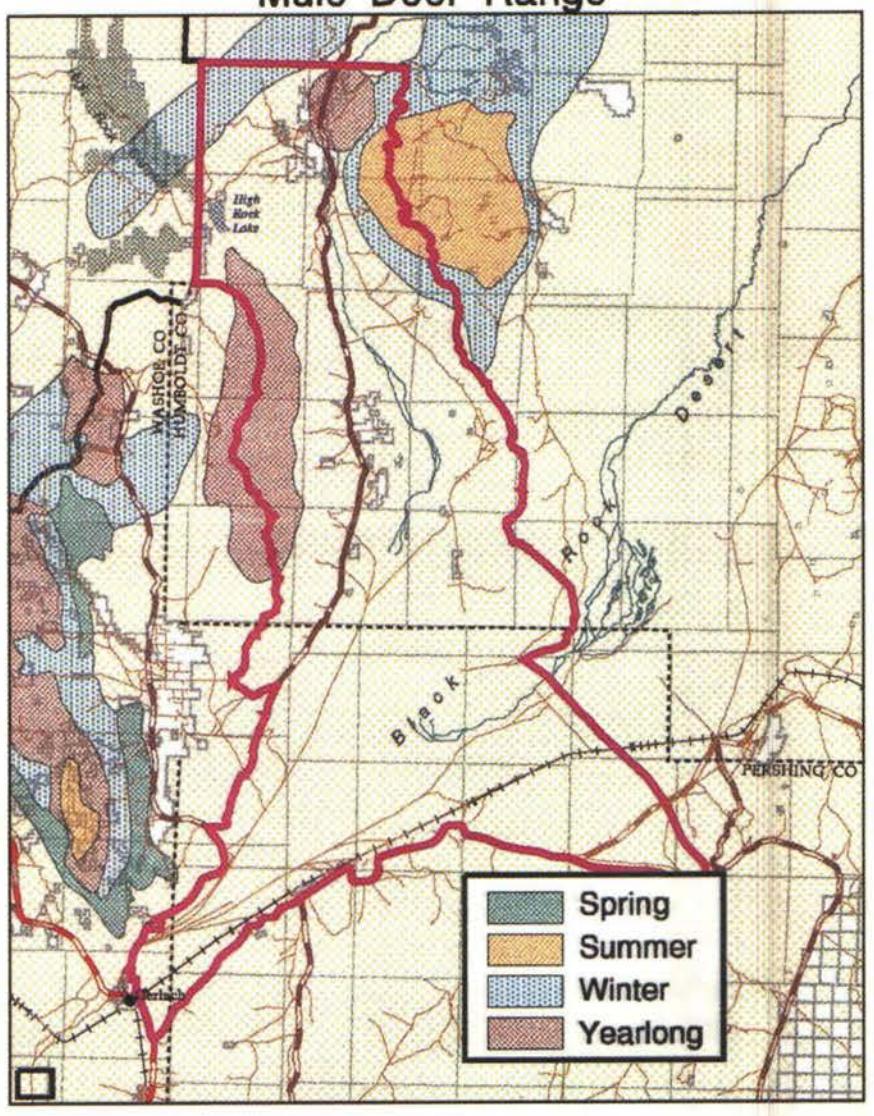
FIGURE 8

GEOLOGIC MAP

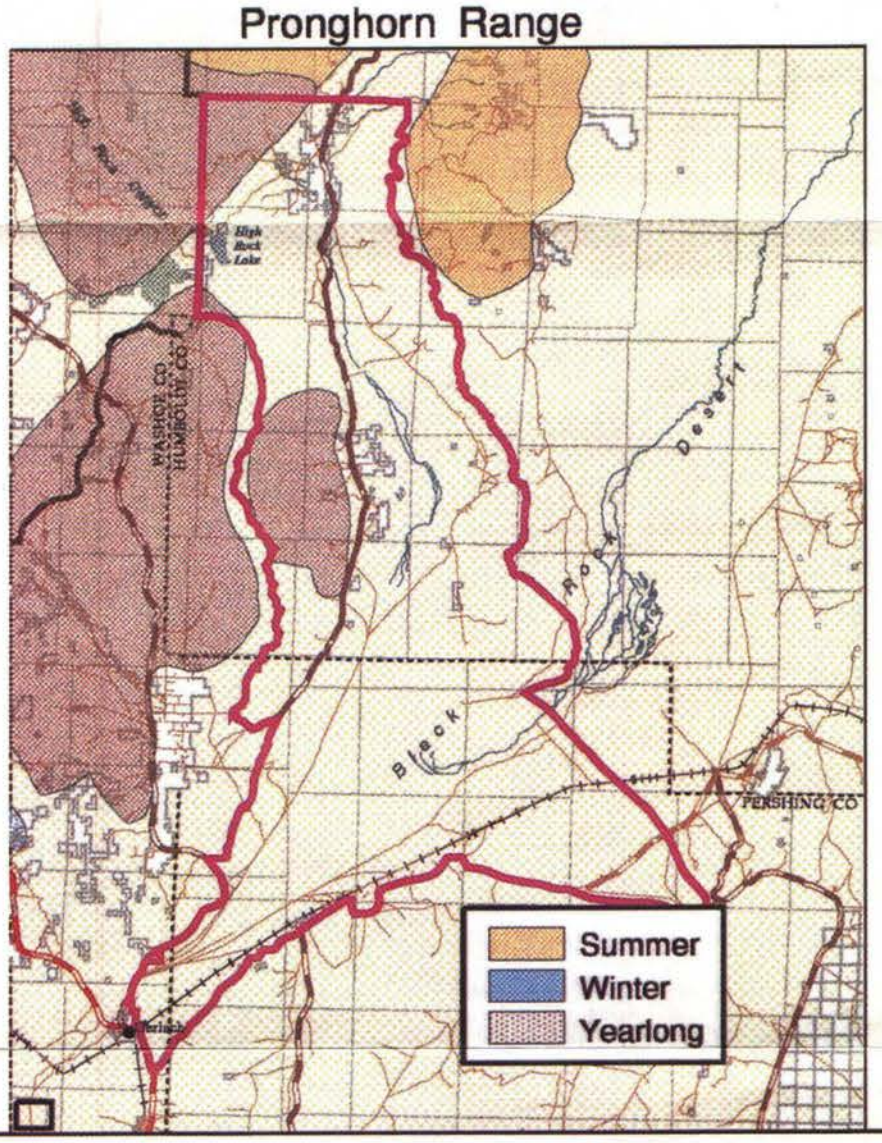
Big Horn Range



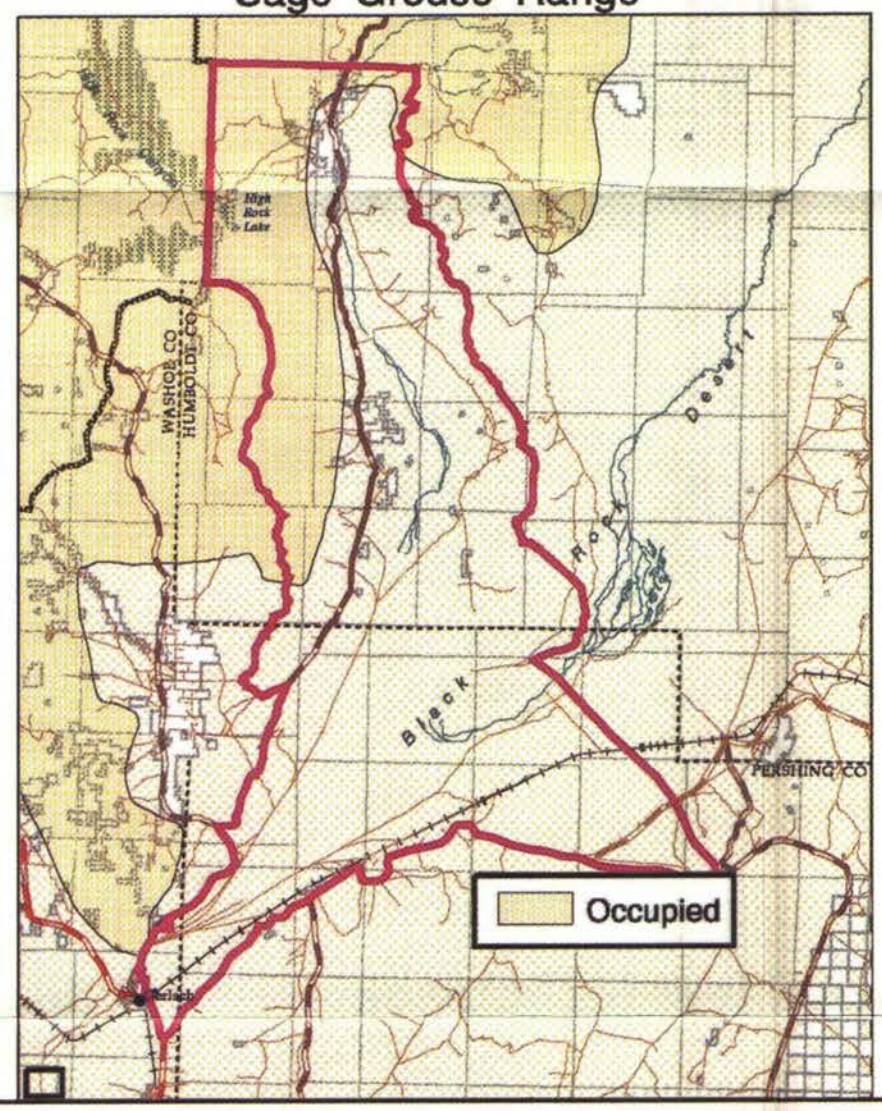
Mule Deer Range



Pronghorn Range



Sage Grouse Range



Proposed Plan Boundary
District Boundary
BLM
BLM-ACEC
Private Ownership

State Road 447
County Road
Improved Road
Unimproved Road
Railroad

10 0 10 Miles
10 0 10 Kilometers

N

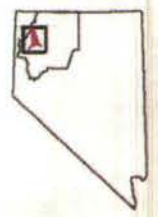


Figure 9

Big Game and Sage Grouse Ranges

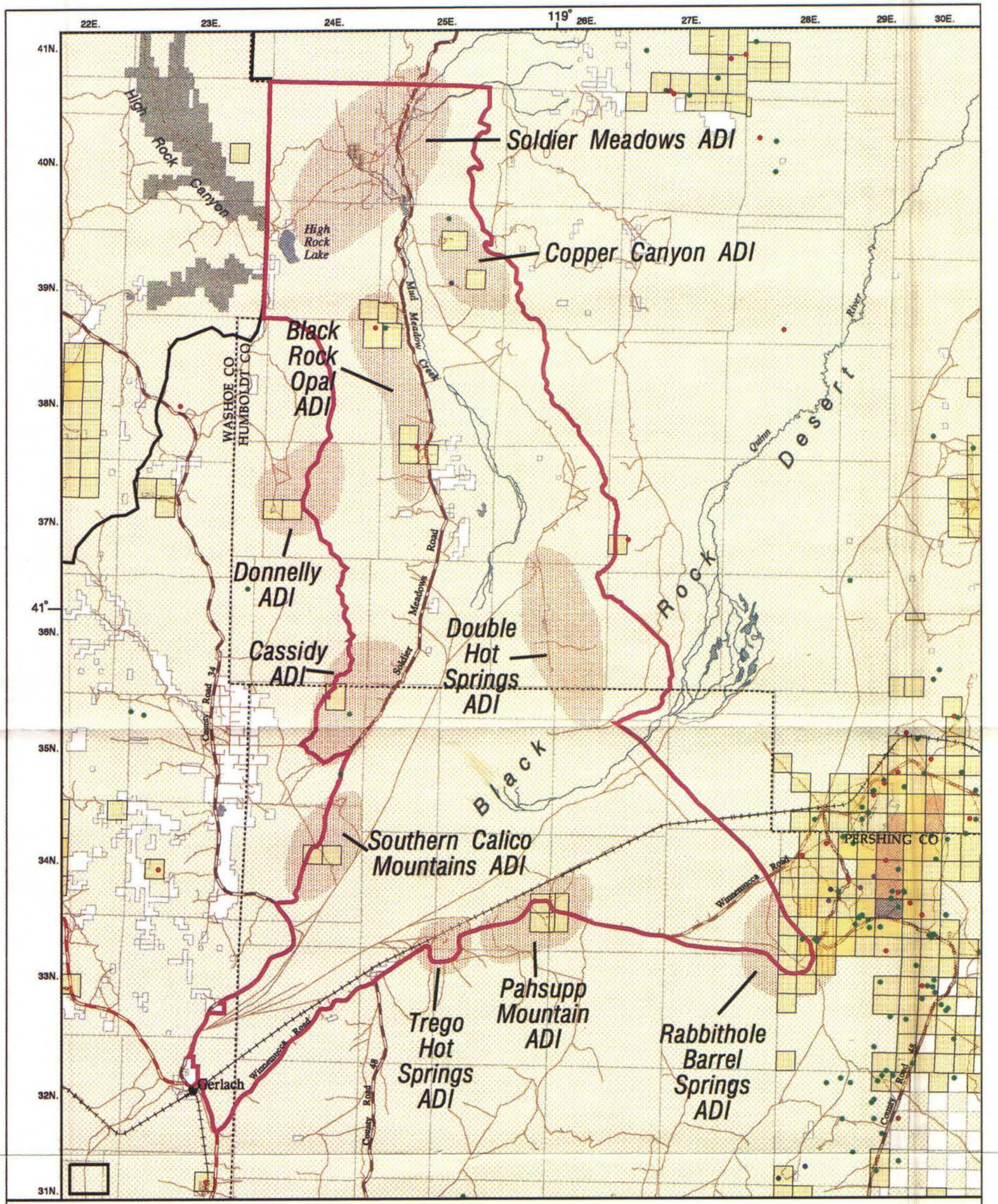
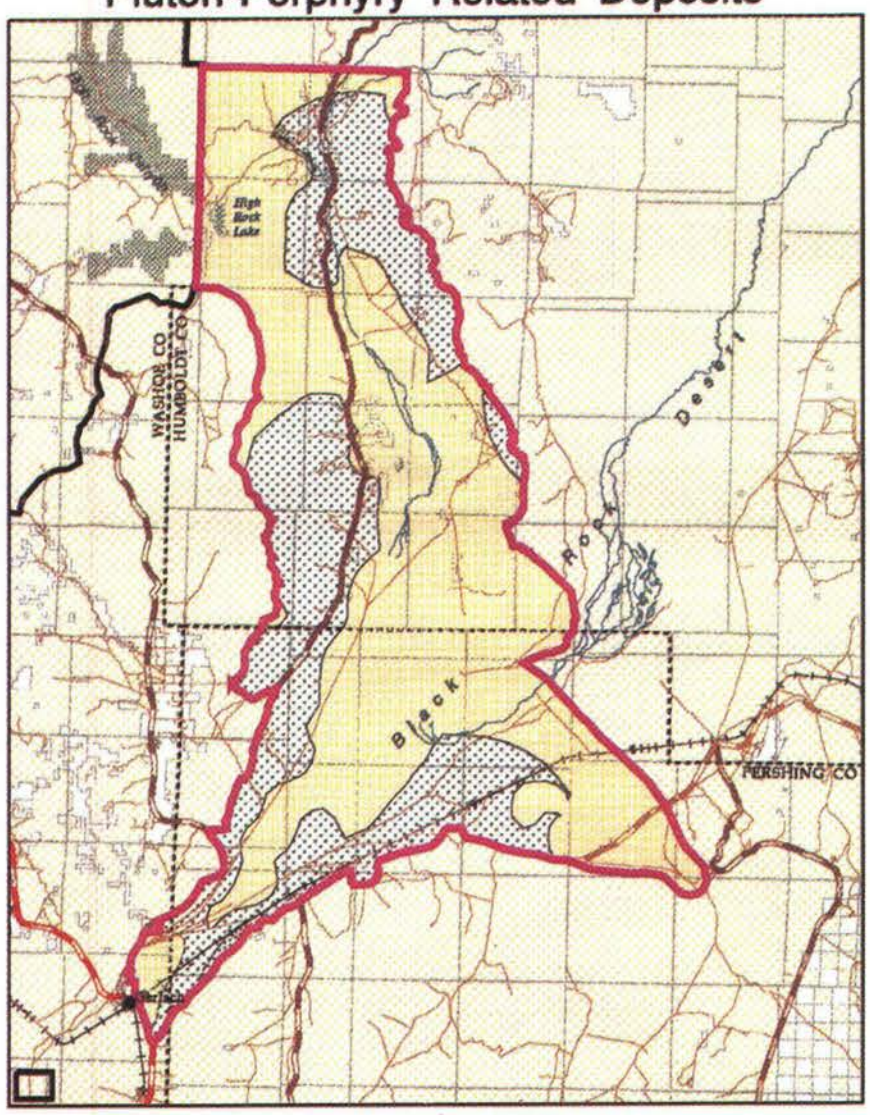


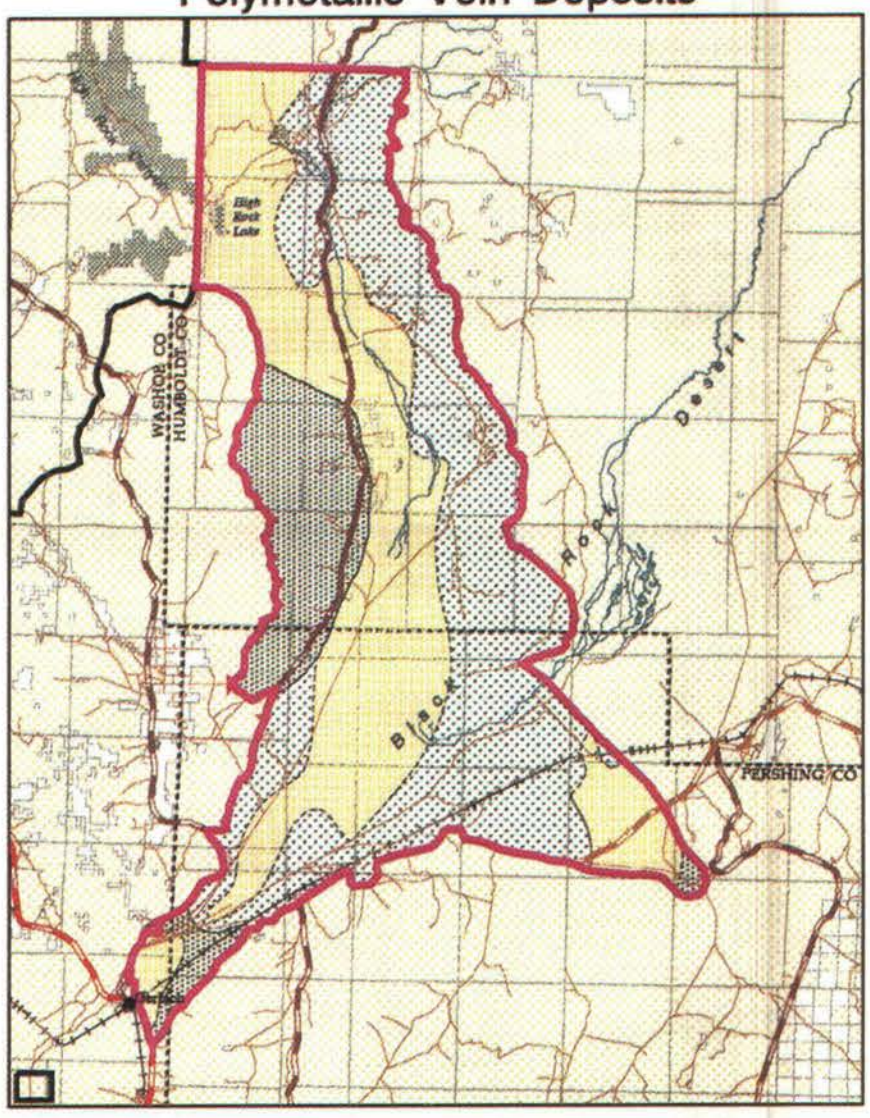
Figure 10

Mining Claim Density and Area of Development Interest

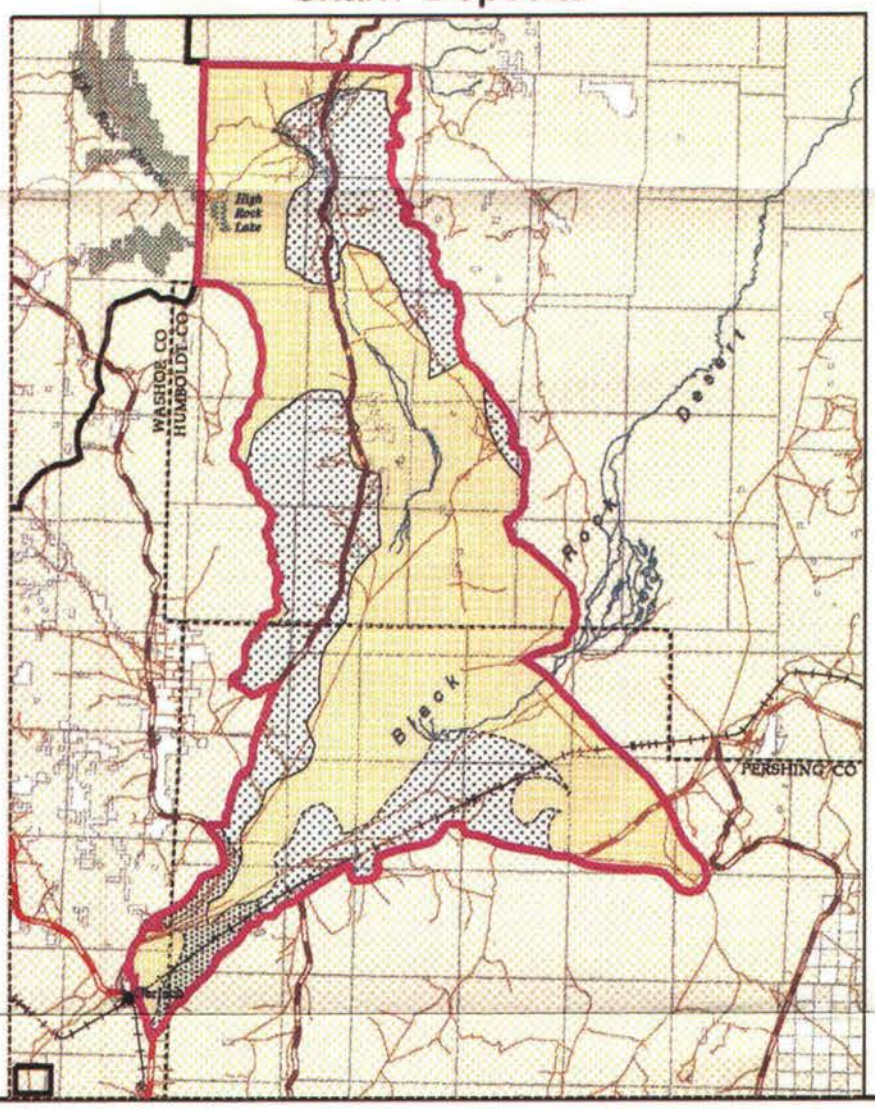
Pluton-Porphyry Related Deposits



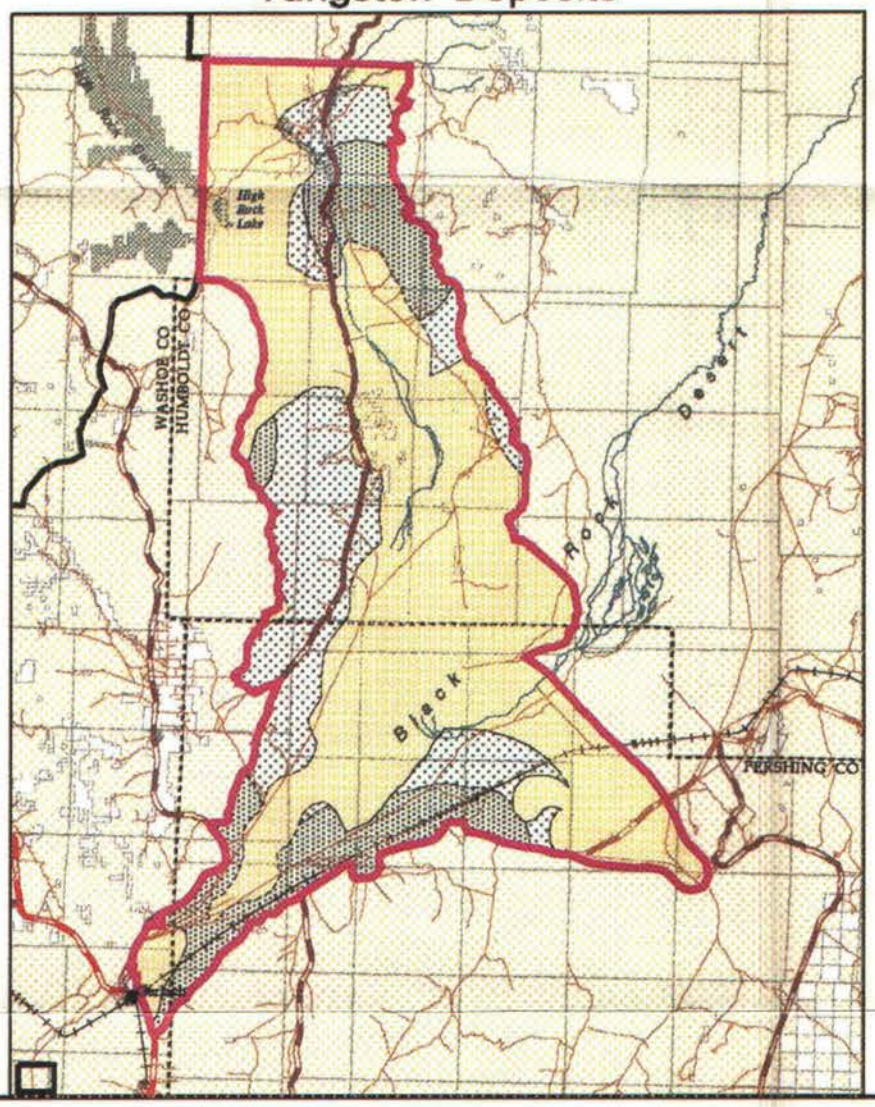
Polymetallic Vein Deposits



Skarn Deposits



Tungsten Deposits



Proposed Plan Boundary
District Boundary
BLM
BLM-ACEC
Private Ownership

State Road 447
County Road
Improved Road
Unimproved Road
Railroad

10 0 10 Miles
10 0 10 Kilometers

N

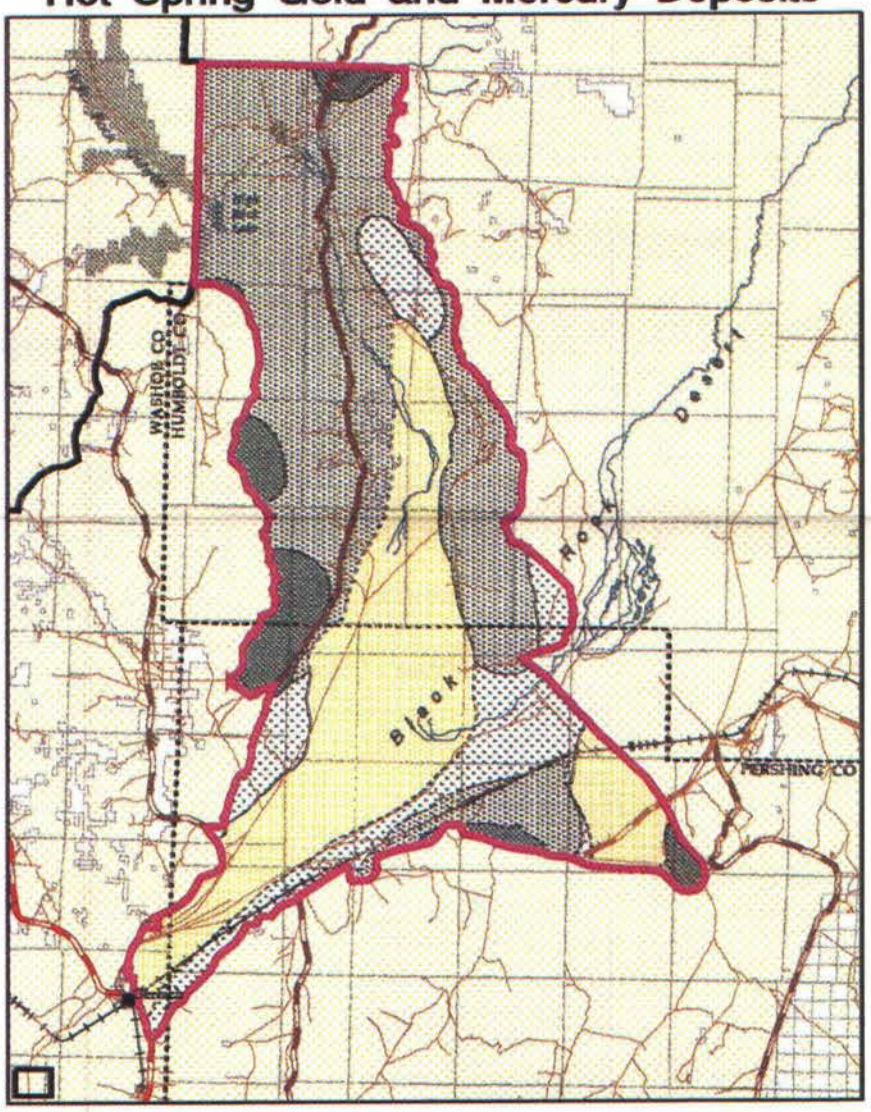
High Potential (Favorable)
Moderate Potential (Favorable)
Low Potential (Permissive)
No Potential (Non Permissive)

Figure 11-A

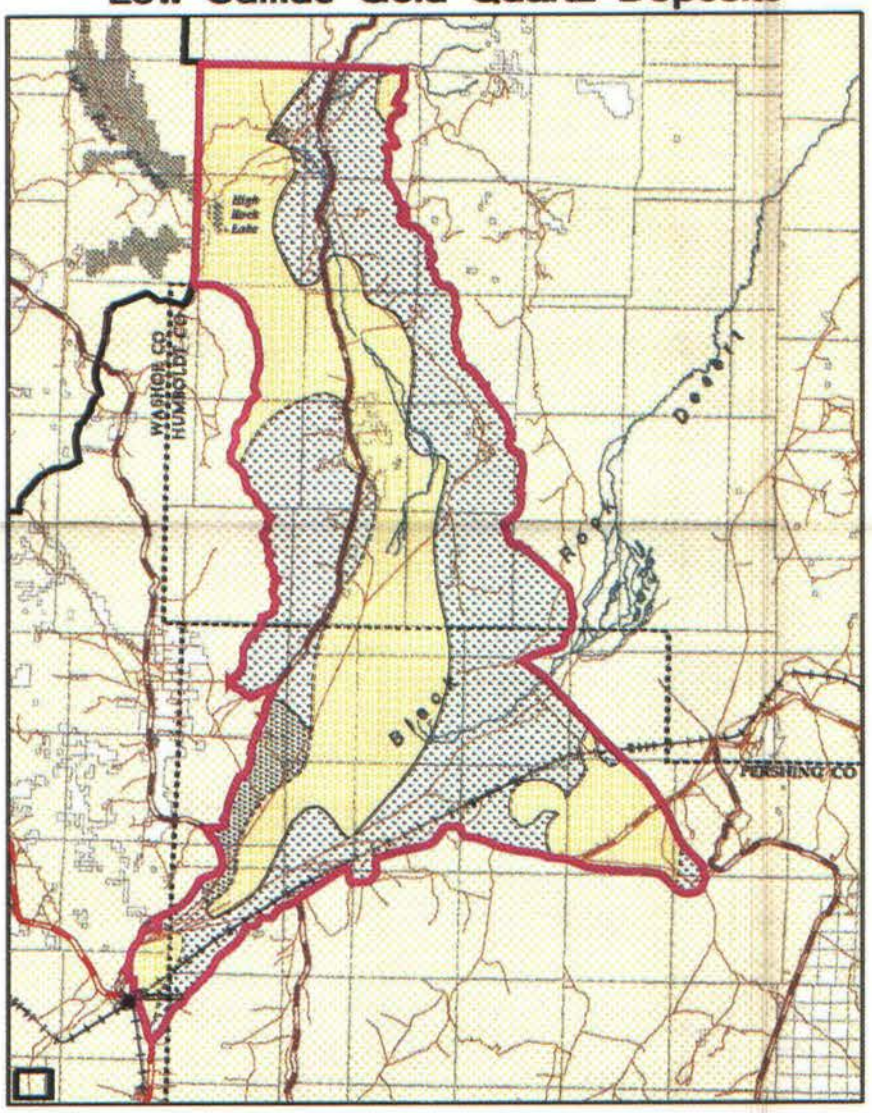
Metallic Mineral Potential

Source: Based on digital data from Koski (1998) and Peters (1998).

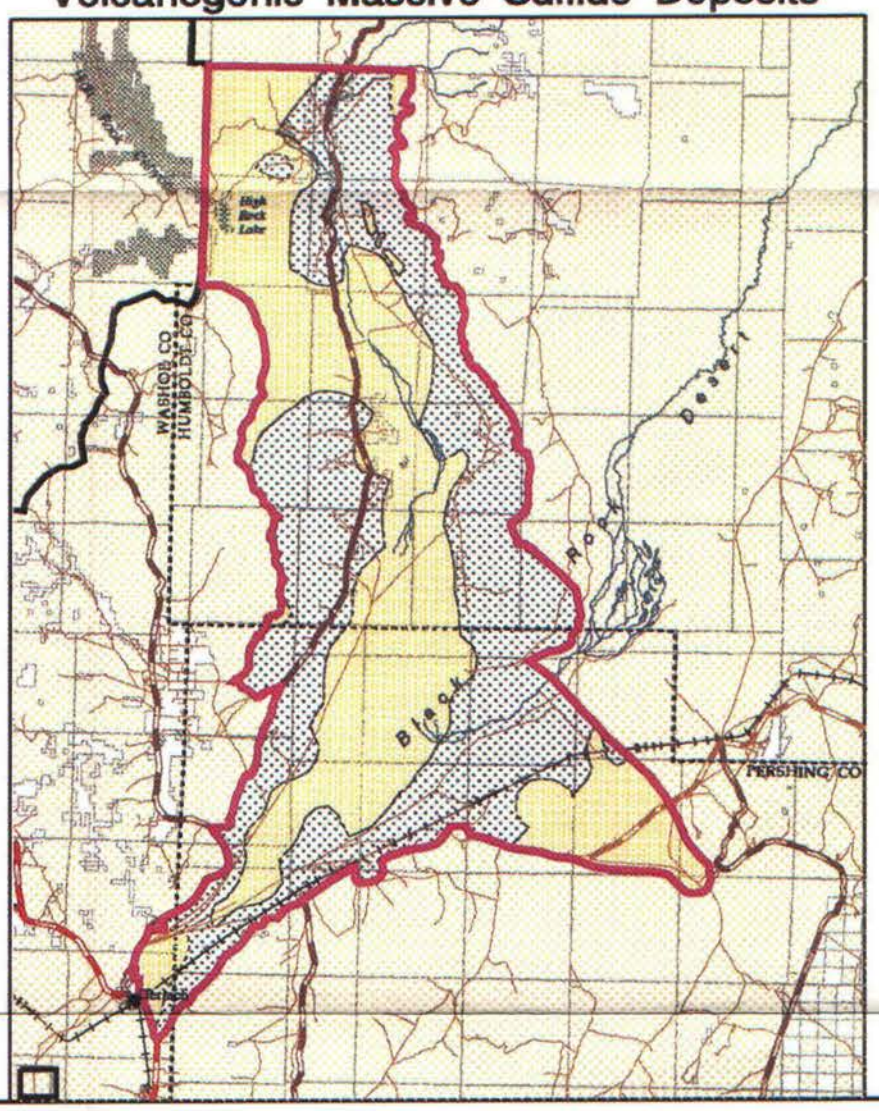
Hot Spring Gold and Mercury Deposits



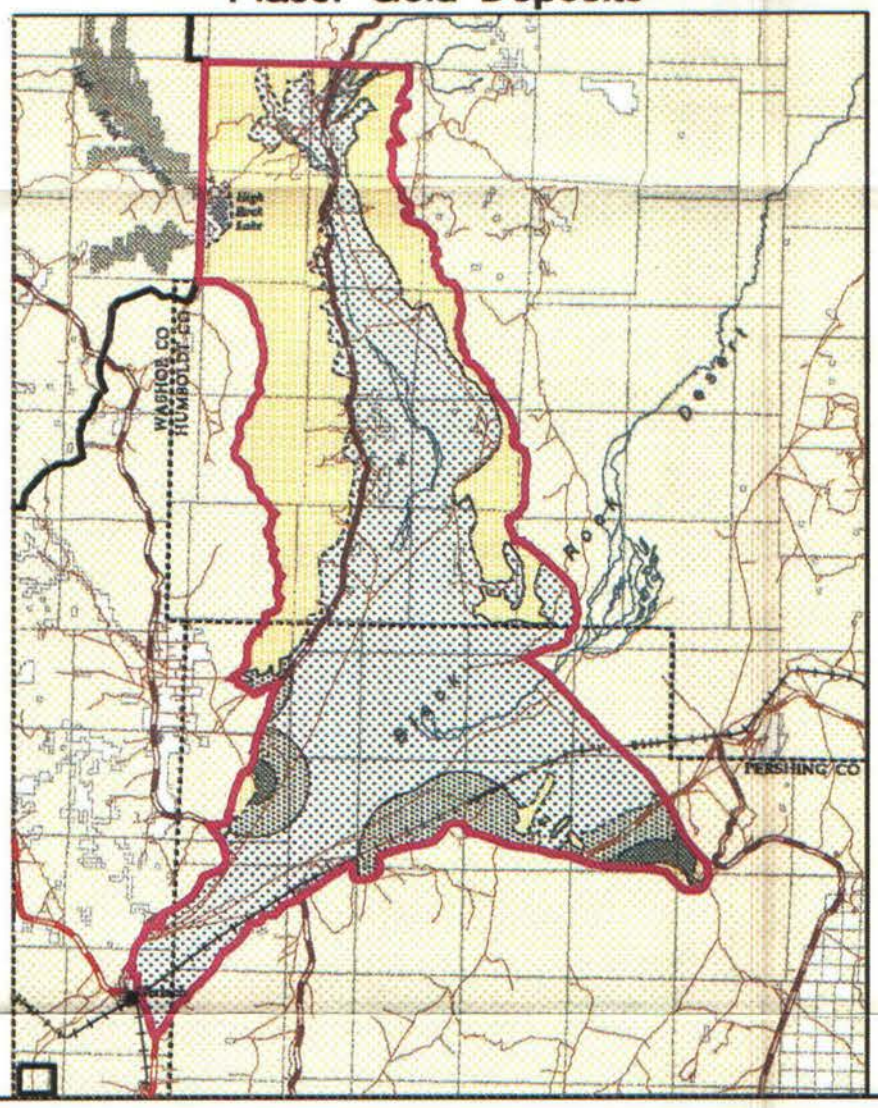
Low Sulfide Gold Quartz Deposits



Volcanogenic Massive Sulfide Deposits



Placer Gold Deposits



Proposed Plan Boundary
District Boundary
BLM
BLM-ACEC
Private Ownership

State Road 447
County Road
Improved Road
Unimproved Road
Railroad

10 0 10 Miles
10 0 10 Kilometers

N

High Potential (Prospective)
Moderate Potential (Favorable)
Low Potential (Permissive)
No Potential (Non Permissive)

Figure 11-B

Metallic Mineral Potential

Source: Based on digital data from Koski (1998) and Peters (1996).

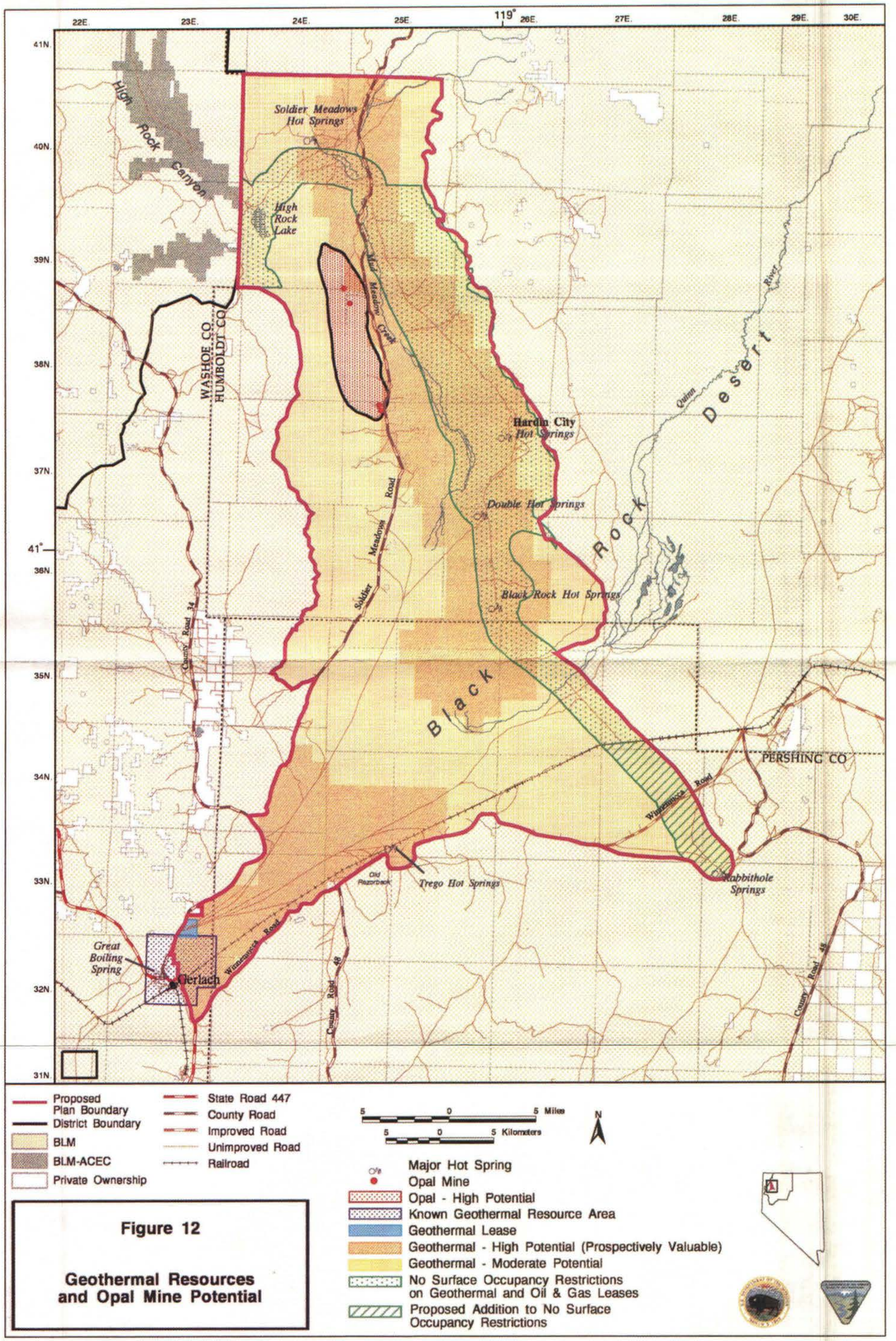


Figure 12

Geothermal Resources and Opal Mine Potential

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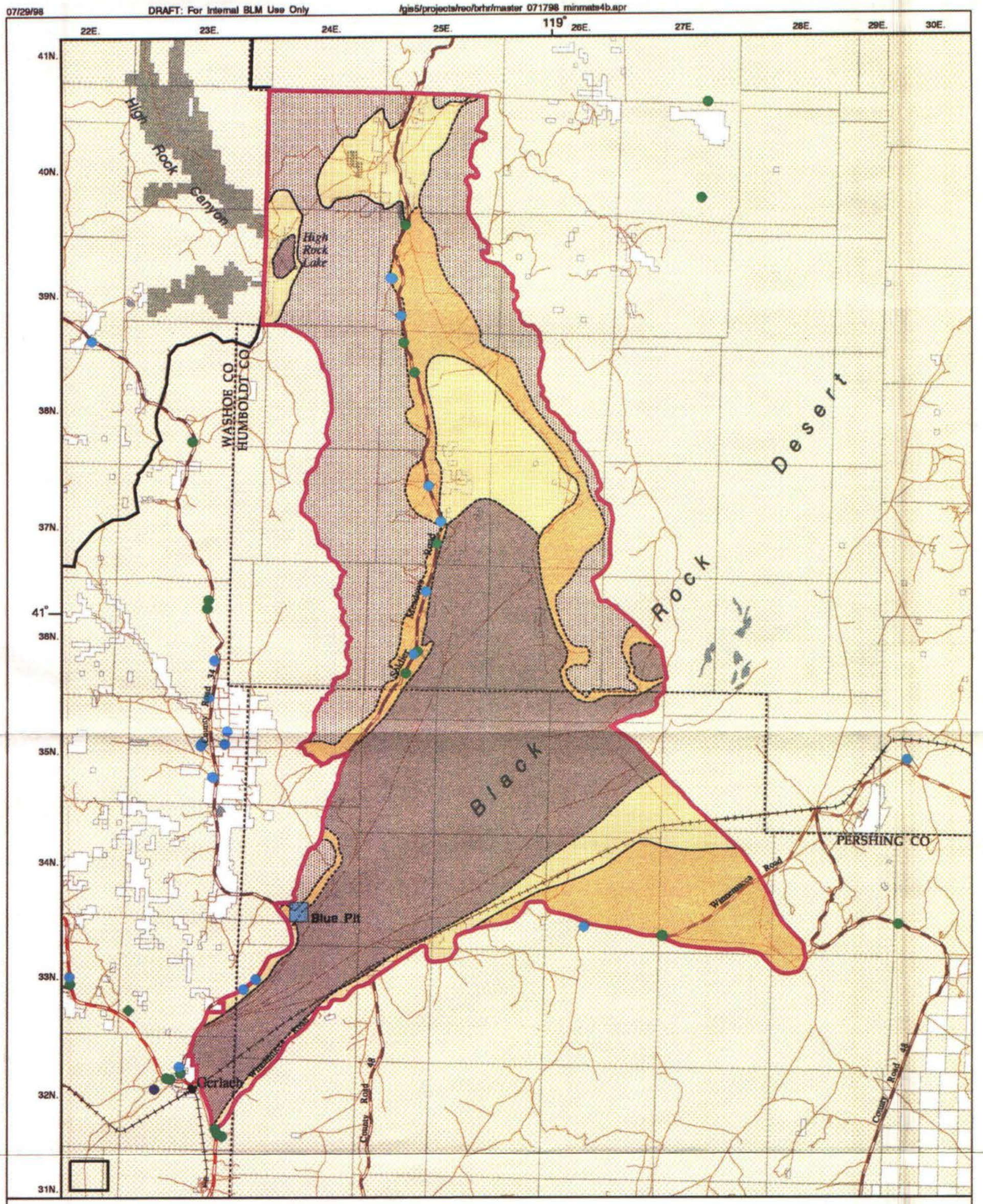

Figure 13

Mineral Materials