United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Southern Nevada District Office
4701 North Torrey Pines Dr
Las Vegas NV 89130
www.blm.gov/nv

TAKE PRIDE IN AMERICA

DEC 4 2008

In Reply Refer to:
2300 (LLNVS00000)
NVN-83979

Dear Interested Parties:

You have requested to be notified as an interested party on future management actions by the Bureau of Land Management (BLM), Southern Nevada District Office. The Secretary of the Interior proposes to withdraw on behalf of the BLM, approximately 944,343 acres of public lands from settlement, sale, location, entry or patent under the United States mining laws for a period of 20 years for the BLM to protect desert tortoise habitat, archaeological and cultural resources, and special wildlife and riparian values. These lands were designated as 24 separate ACEC's in the Bureau of Land Management's Las Vegas Resource Management Plan and Final Environmental Impact Statement (RMP) approved October 5, 1998.

A preliminary Environmental Assessment (EA) has been prepared to evaluate the environmental consequences of a proposed locatable mineral entry withdrawal of the aforementioned public lands. The EA completed for the aforementioned public lands may be viewed at the websites for the Nevada State Clearinghouse (www.budget.state.nv.us/clearinghouse) and the BLM Southern Nevada District Office (www.nv.blm.gov/vegas).

This EA will be available for public comment and review for 30 days. Written comments will be accepted by the Southern Nevada District Office at the above listed address, until January 5, 2009. If you provide written comments and wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations and businesses and from individuals identifying themselves as representatives of officials of organizations will be available for public inspection in their entirety.

Please contact Jayson Barangan, Natural Resource Specialist, or Wendy Seley, Realty Specialist at 702-515-5000 should you have any questions.

Sincerely,

Patrick Putnam
Field Manager, Pahrump Field Office

Angie Lara
Field Manager, Las Vegas Field Office

United States Department of the Interior
Bureau of Land Management
Southern Nevada District Office DATE:

Southern Nevada District Office
Bureau of Land Management
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

Environmental Assessment

NV-052-2008-438

LOCATABLE MINERAL ENTRY WITHDRAWAL FOR AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) WITHIN THE SOUTHERN NEVADA DISTRICT OFFICE, NEVADA

Prepared by:
Bureau of Land Management
Southern Nevada District Office

Case File Number:
NVN-83979

U.S.D.I. Bureau of Land Management
Environmental Assessment
EA Number: NV-052-2008-438
Date: _____

TITLE / PROJECT TYPE: Locatable Mineral Entry Withdrawal for Areas of Critical Environmental Concern (ACEC) within the Southern Nevada District Office, Nevada

BLM OFFICE: Southern Nevada District Office
4701 N. Torrey Pines Drive
Las Vegas, Nevada 89130

LEGAL DESCRIPTIONS OF PROPOSED ACTION: ---------Refer to Appendix 1---------

USGS TOPOGRAPHIC MAPS: The project area is situated in both Clark and Southern Nye Counties, Nevada, either completely or partially within the following USGS 7.5 min. Quadrangle maps: Big Dune, Franklin Well, Devils Hole, Amargosa Flat, Death Valley Junction, Bole Spring, High Peak, Stump Spring, Bird Spring, Sloan, Sloan NE, Henderson, Boulder City NW, Las Vegas SE, Las Vegas NE, Frenchman Mountain, Government Wash, Muddy Peak, Apex, Dry Lake NW, Arrow Canyon SW, Arrow Canyon NW, Wildcat Wash SW, Wildcat Wash SE, Farrier, Rox SE, Moapa East, Moapa Peak, Overton NW, Moapa Peak SE, Flat Top Mesa, Overton NE, Riverside, Mesquite, Hen Spring, Overton SE, Whitney Pocket, Virgin Peak, Overton Beach, Devils Throat, Saint Thomas Gap, Lime Wash, Gold Butte, Azure Ridge, Garrett Butte, Jumbo Peak, Iceberg Canyon, McCullough Pass, McCullough Mountain NE, Keyhole Canyon, Nelson, Desert, McCullough Mountain, Highland Spring, Nelson SW, Ireteba Peaks, Nipton, Crescent Peak, Hopps Well, Searchlight, Fourth of July Mountain, Hart Peak, Tenmile Well, Searchlight SE, Spirit Mountain, West of Juniper Mine, Juniper Mine, Bridge Canyon, East of Homer Mountain, Mount Manchester.

APPLICANT / PROPONENT: Bureau of Land Management (BLM), Southern Nevada District Office

INTRODUCTION

The Area of Critical Environmental Concern (ACEC) designation is an administrative designation used by the BLM that is accomplished through the land use planning process and unique to the BLM as no other agency uses this form of designation. It is affirmed in the Federal Land Policy and Management Act (FLPMA) that the BLM will give priority to the designation and protection of ACECs in the development and revision of land use plans.

BLM regulations (43 CFR 1601.0-5) define an ACEC as an area "within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic,

cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards." Private lands and lands administered by other agencies are not included in the boundaries of ACECs. ACECs differ from other special management designations such as wilderness study areas in that designation by itself does not automatically prohibit or restrict other uses in the area (with the exception that a mining plan of operation is required for any proposed mining activity within a designated ACEC).

BACKGROUND INFORMATION

The public lands within the ACECs covered under this analysis comprise approximately 944,343 acres. The Secretary of the Interior proposes to withdraw on behalf of the BLM the aforementioned public lands from settlement, sale, location, entry or patent under the United States mining laws, for a period of 20 years for the BLM to protect desert tortoise habitat, archaeological and cultural resources, and special wildlife and riparian values. These lands were designated as 24 separate ACECs in the Bureau of Land Management's Las Vegas Resource Management Plan and Final Environmental Impact Statement (RMP) approved October 5, 1998, where both the designation of the ACECs and withdrawal of the minerals were presented and publicly discussed. Four of the ACECs (Piute/Eldorado, Coyote Springs, Mormon Mesa, and Gold Butte Part A) coincide with critical habitat for the federally-listed desert tortoise. The proper management of these areas is closely tied to the recovery of the desert tortoise. One of the most important conservation actions identified in the RMP for these ACECs calls for the withdrawal of these lands from the mining actions described above. The withdrawal would not affect valid existing rights including, but not limited to, mining, recreation, and/or rights-of-way.

This environmental assessment (EA) has been prepared to summarize the withdrawal proposal and address the planning and mineral report requirements for a withdrawal of over 5,000 acres in accordance with the provisions of Section 204 (c)(2) of the Federal Land Policy and Management Act of 1976.

The ACECs were previously withdrawn under Section 502 of Public Law 107-282, 116 Stat. 2009, Clark County Conservation of Public Land and Natural Resources Act of 2002 for a period not to exceed five years. P.L. 107-282 also directed the United States Geological Survey (USGS) to complete Mineral Reports for each of the 24 ACECs. USGS has completed the Mineral Reports and they have been approved by BLM as of November 20, 2006.

This document has been prepared by Bureau of Land Management resource specialists experienced in analyzing the impacts to the resources addressed (40 CFR 1502.6).

PURPOSE AND NEED FOR THE ACTION

The filing of a petition/application is the first step in the processing of a proposed withdrawal for a Department of the Interior agency. The BLM petition/application was approved by the Assistant Secretary, Land and Minerals Management in October 2007. Therefore, it constituted a withdrawal proposal by the Secretary of the Interior (43 CFR 2310.1-3(e)). Upon approval of the petition/application, a Notice of Proposed Withdrawal was published in the Federal Register on November 1, 2007, temporarily segregating the ACECs from the aforementioned laws for a period of two years while an application for a proposed 20-year withdrawal may be processed in accordance with Sec. 204 of the Federal Land Policy Management Act of October 21, 1976, 43

U.S.C 1714 (2000). For a period of 90 days from the date of publication of this notice, the public had an opportunity to submit comments, suggestions, or objections in connection with the proposed withdrawal.

A subsequent notice was published in the Federal Register on December 19, 2007 announcing public meetings on the proposed withdrawal. Supplementary public outreach was completed by publishing the notice in the Las Vegas Review Journal and the Pahrump Valley Times. BLM held 2 public meetings in Las Vegas and Pahrump to afford the public with the opportunity to provide input on the withdrawal. Based on comments received subsequent to the public meetings, BLM developed a preliminary EA.

Approximately 69,500 acres of public lands proposed for withdrawal in this environmental assessment overlap wilderness areas designated by the Clark County Conservation of Public Land and Natural Resources Act of 2002 (P.L. 107-282). Those wilderness areas were withdrawn, subject to valid existing rights, from:

- all forms of entry, appropriation, and disposal under public land laws;
- location, entry, and patent under mining laws, and
- operation of mineral leasing, mineral materials, and geothermal leasing laws.

The BLM is currently conducting surveys to map and legally describe the wilderness areas as required by Section 202(b) of the Act. As that process has not been completed and the withdrawal requested in this petition/application would not change the management in the existing withdrawal, BLM did not subtract the portions of the ACECs overlapping wilderness from this request.

The objective of the withdrawal is to implement one of the management decisions outlined in the Record of Decision for the Approved Las Vegas Resource Management Plan and Final Environmental Impact Statement (RMP) at AC-1a/2a (Manage each area based on specific resource constraints, identified in the tables above) regarding protection and preservation of biological and cultural resources within the ACECs. These ACECs are situated in remote and relatively pristine areas of the Mojave Desert, encompassing significant and/or unique biological and cultural resource values. ACECs have been subjected to increased usage, owing to Clark County's 29% population growth rate between 2000 and 2006 and over 30 million visitors a year to the Las Vegas area. Implementation of BLM's proposed withdrawal will preserve the sensitive resources contained within the ACECs that would otherwise be lost to additional locatable mineral entry.

The BLM is required by four laws (Antiquities Act of 1906, National Preservation Act of 1966, Archaeological Resources Protection Act of 1979, and Federal Land Policy and Management Act of 1976) to protect historic properties on BLM managed public land. Under these laws, eleven ACECs were established to protect and preserve irreplaceable significant cultural resource sites that include prehistoric rock art sites, prehistoric village and habitation sites, and historic mining, town, railroad, and trail sites. These sites are either eligible for, or are on the National Register of Historic Places (NHRP). These sites are invaluable to the general public and Native American tribes located in or near the BLM Southern Nevada District.

ACECs are designed to protect multiple attributes of cultural resource sites including the integrity of the physical site, and the setting and feeling that contribute to the site significance and eligibility for the NRHP. Setting and feeling includes the viewshed and association with other sites and the environment. In essence, setting and feeling refers to how a person can stand at the site and get a feeling for what it would have been like to have been living at the time the site was occupied and participating in the same activities as the original inhabitants. Mining location, entry, and patent activities within a cultural ACEC would adversely affect and/or destroy cultural resource sites, their integrity, setting and feeling.

Biologically, the ACECs are endowed with quality habitat for myriad flora and fauna species. Nine of the ACECs were established to protect wildlife habitat, five of which were allocated to safeguard designated critical habitat for federally listed threatened and endangered species. Allowing mining actions to occur will result in the destruction and adverse modification of habitat and/or loss of the primary constituent elements required for species recovery, which will hinder the Federal government's ability to recover the following species: Desert Tortoise; Southwestern Willow Flycatcher, Woundfin and Virgin River Chub in the Virgin River; and numerous listed species that occur in Ash Meadows.

Currently, BLM holds three programmatic biological opinions equipped to cover all activities addressed in the RMP, none of which make allowances for the mining actions described above to transpire within the ACECs. These biological opinions authorize incidental take of desert tortoises and their habitat contingent on the land use restrictions and intensive management prescriptions defined in the RMP, including closure of all ACECs to mineral actions as described in the tables above. In addition, the Habitat Conservation Plan (HCP) and the incidental take permit Clark County holds is based on these lands being intensively managed for species conservation and habitat connectivity. The role the ACEC network plays is that of a "reserve system" or "mitigation bank" for the significant resource values enveloped within them, which offsets legally authorized activities and associated impacts that are allowed on surrounding public and private lands. Without completion of a withdrawal, the value of the ACECs as intensively managed mitigation lands for the Clark County HCP may have to be reassessed.

Additionally, the absence of a mining withdrawal amplifies the potential listing of BLM sensitive species (flora and fauna) that occur within the ACECs. A specific example of this potential can be found in the Big Dune ACEC. The Big Dune ACEC encompasses habitat for four BLM sensitive invertebrate species that were previously listed as federal Category 2 Candidate species. One of them, the Giuliani's Dune Scarab Beetle, was proposed for listing as a threatened species under the Endangered Species Act (ESA) in August 1978 with the entire Big Dune Complex as proposed critical habitat for the species. In 1982, the US Fish and Wildlife Service (USFWS) recommended that the species not be listed as threatened because of a decline in off-road activity at Big Dune, the lack of mining threats, and the relative isolation of the dune. In 1991, the BLM received a mining plan of operations for extracting magnetite from Big Dune. USFWS response to the plan stated that, "implementation of the proposed action may result in severe impacts to the candidate species which occur on Big Dune and may threaten their population status." The USFWS went on to state that, "the Service cautions that such project impacts could precipitate the need to list Giuliani's Dune Scarab Beetle pursuant to section 4 of the Endangered Species Act." Fortunately, the mining plan of operations for Big Dune did not proceed, owing to a decline in market conditions for magnetite. With a withdrawal in place, the BLM would then be able

to ensure that mining activities do not trigger a listing, thereby protecting 75% of the species' habitat.

By creating these ACECs the BLM has promised the American People to protect and preserve wildlife, their habitat and historic properties located within their boundaries. Thus, the BLM can best ensure the protection of their biological, cultural, scientific, historic, and archaeological values based on a comprehensive land-use planning process that limits highly destructive activities in these ACECs, that is in compliance with the scope and scale of BLM's goals, and their legal and regulatory framework.

LAND USE PLAN CONFORMANCE STATEMENT

The proposed action is in conformance with Las Vegas Resource Management Plan and Final Environmental Impact Statement, approved October 5, 1998 as it is specifically provided for in the following decisions:

- Record of Decision for the Approved Las Vegas Resource Management Plan and Final Environmental Impact Statement; October 5, 1998; pg. 3; Appendix A; Tables 2-2 through 2-6 (pg. 4-8); *Areas of Critical Environmental Concern*; AC-1a/2a
- Record of Decision for the Approved Las Vegas Resource Management Plan and Final Environmental Impact Statement; October 5, 1998; pg. 28; Appendix A; *Locatable Minerals*; MN-2-a

The Las Vegas RMP and Record of Decision is the Southern Nevada District Office's planning document required by the Federal Land Policy and Management Act of 1976, as amended. A copy of the RMP is available for review at the BLM Southern Nevada District Office, 4701 N. Torrey Pines Drive, Las Vegas, NV.

RELATIONSHIP TO OTHER STATUTES, REGULATIONS, POLICIES, PLANS, AND OTHER RELATED DOCUMENTS

The Federal Land Policy and Management Act of 1976 (FLPMA) 90 Stat. 2750, 43 USC 1701, 1713, and 1719, was passed to authorize BLM's management of public lands.

- FLPMA Section 302(b) authorizes the Secretary to regulate the management of public lands through instruments, such as memoranda of understanding, cooperative agreements, and resource management plans which the Secretary deems appropriate.

The proposed action is in conformance with federal regulations pursuant to 43 CFR 2300.

- These regulations set forth procedures implementing the Secretary of the Interior's authority to process Federal Land withdrawal applications and, where appropriate, to make, modify, or extend Federal land withdrawals.

Supplementary documentation relevant to the proposed action includes the following:

- Biological Assessment for the Las Vegas Proposed Resource Management Plan and Final Environmental Impact Statement; December 22, 1997
- Programmatic Biological Opinion for Implementation of Multiple Use Activities Within the Las Vegas Field Office; File No. 1-5-97-F-251; November 25, 1997
- Biological Opinion for Implementation of Proposed Actions in the Las Vegas District's Proposed Resource Management Plan/Final Environmental Impact Statement; File No. 1-5-98-F-053; June 18, 1998
- U.S. Geological Survey Scientific Investigations Report 2006-5197; Mineral Resource Assessment of Selected Areas in Clark and Nye Counties, Nevada; In accordance with PL 107-282, Section 502; August 25, 2006

The following statutes, regulations, and plans are applicable to the proposed action:

- Clark County Multiple Species Habitat Conservation Plan, dated June, 2000
- Endangered Species Act of 1973
- Migratory Bird Treaty Act of 1918
- Antiquities Act of 1906
- National Historic Preservation Act of 1966
- Archaeological Resources Protection Act of 1979
- National Environmental Policy Act of 1969
- Clean Air Act of 1970
- Clean Water Act of 1972

No water rights would be needed to fulfill the purpose of this withdrawal. Any water used on the described lands should be provided by an established utility or under permit issued by the Division of Water Resources, State Engineer's Office. All waters of the State belong to the public and may be appropriated for beneficial use pursuant to the provisions of Chapters 533 and 534 of the Nevada Revised Statutes.

LOCATION OF THE PROPOSED ACTION

The subject public lands lie within Clark and Southern Nye Counties, Nevada. See Figures 1 and 2.

Figure 1. Locations of Areas of Critical Environmental Concern.

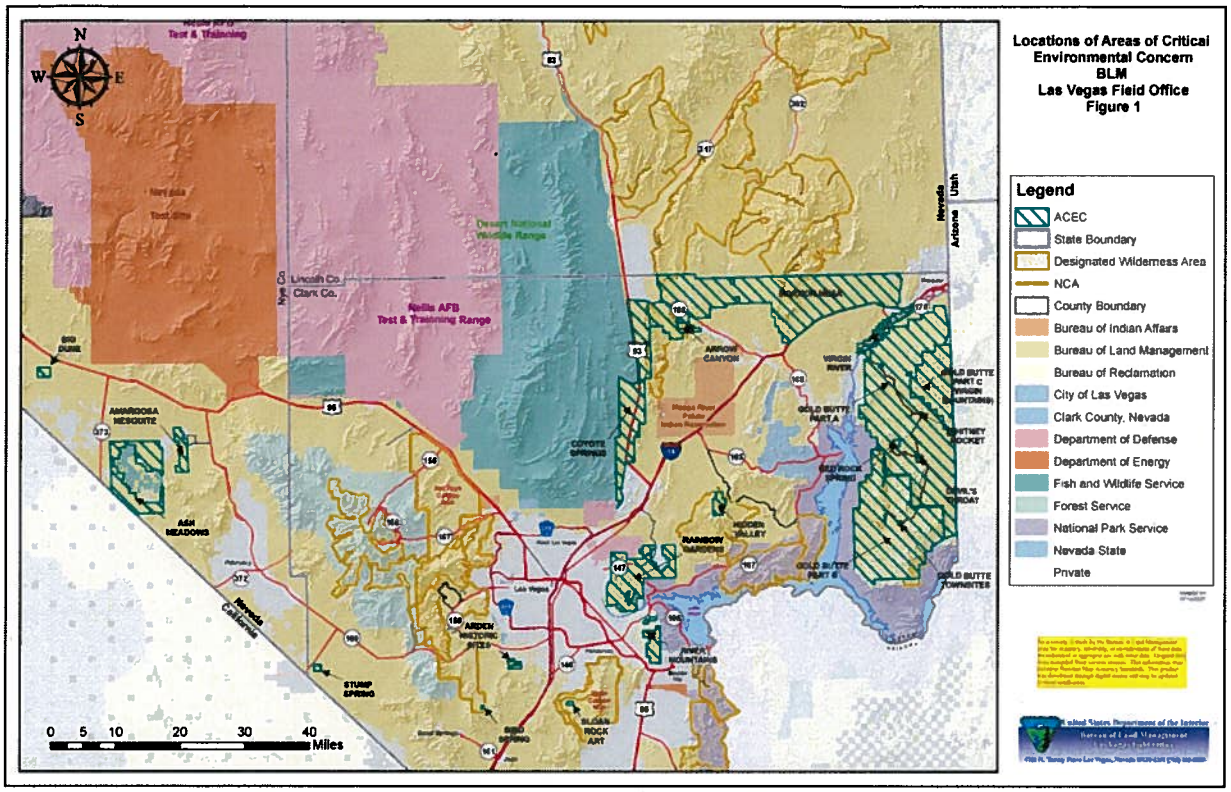
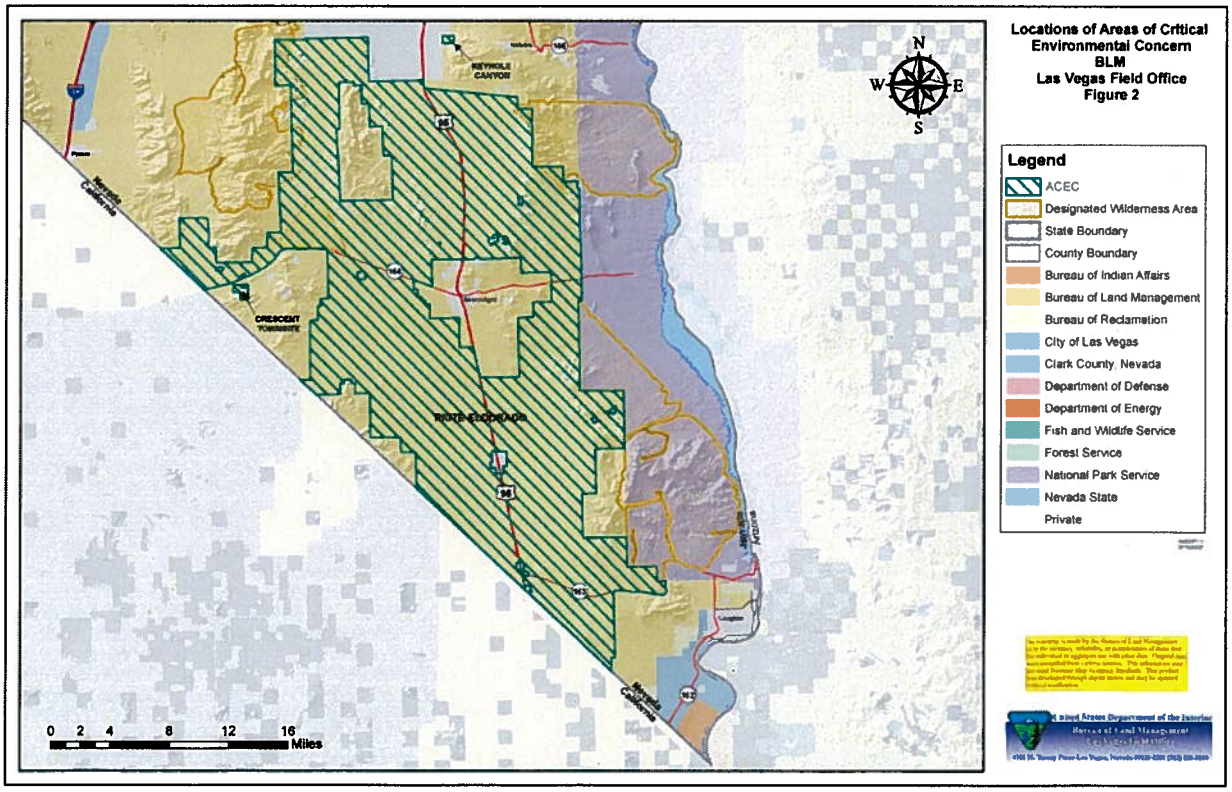


Figure 2. Locations of Areas of Critical Environmental Concern.



DESCRIPTION OF PROPOSED ACTION

PROPOSED ACTION

The BLM proposes to withdraw approximately 944,343 acres of public lands from settlement, sale, location, entry, or patent under the United States mining laws for period of 20 years for the protection of desert tortoise habitat, archaeological and cultural resources, and special wildlife and riparian values on 24 Areas of Critical Environmental Concern. The withdrawal of these lands would implement one of the management decisions outlined in the Record of Decision for the Approved Las Vegas Resource Management Plan and Final Environmental Impact Statement (RMP) at AC-1a/2a (Manage each area based on specific resource constraints, identified in the tables above) regarding protection and preservation of biological and cultural resources within Areas of Critical Environmental Concern (ACEC). All valid existing rights including, but not limited to, mining recreation, and/or rights of way will remain unaffected.

A Notice of Proposed Withdrawal was published in the Federal Register on November 1, 2007, temporarily segregating the ACECs from the aforementioned laws for a period of two years while an application for a proposed 20-year withdrawal may be processed. The temporary segregation expires on November 1, 2009. Completion of the withdrawal application via use of a Public Land Order (PLO) of approximately 944,343 acres of public lands would further segregate those lands identified for a period of 20 years.

A PLO is the official instrument by which the Secretary approves a proposed withdrawal action. Therefore, the Secretary would propose to withdraw on behalf of the BLM, 944,343 acres of public lands for the protection of the significant resources contained within them. The effective date of the PLO would be the date the withdrawal is published in the Federal Register.

ALTERNATIVES TO THE PROPOSED ACTION

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Seven alternatives were analyzed in the RMP process; these alternatives are outlined on pages S-25 and S-26 of the RMP. The alternatives ranged from all lands being open for locatable mineral activities except for legislatively withdrawn areas and other withdrawn and segregated areas, to over two-thirds of the Las Vegas Field Office area being closed to locatable mineral operations.

The proposed action is a management decision (resulting from analysis of the seven alternatives) to withdraw the subject lands from the aforementioned mining laws as directed by the RMP. No other alternative would meet the purpose and need of the proposed action; hence, no other alternatives were considered. The description of the Affected Environment is the same for the Proposed Action and the No Action Alternative.

NO ACTION ALTERNATIVE

The subject lands would not be withdrawn and would remain as Federal ACEC designated public lands under the No Action Alternative. As with the proposed action, all valid existing rights including, but not limited to, mining recreation, and/or rights of way will remain unaffected.

Upon expiration of the current temporary segregation, mineral entry for locatables will resume permission, thereby conflicting with management directions for the protection of significant resources contained within the ACECs, as outlined in the RMP under the No Action Alternative.

AFFECTED ENVIRONMENT

GENERAL SETTING

The Southern Nevada BLM District encompasses approximately 3,332,000 acres of public lands in Clark County and a portion of southern Nye County. Southern Nevada is characterized by diverse geographical features. Landforms range from rugged mountain ranges, to sloping bajadas and broad valleys. The Colorado River and several of its tributaries flow through the eastern portions of the Southern Nevada BLM District. The Las Vegas Valley is a major topographic feature, trending north-south through the middle of the Southern Nevada BLM District. This valley has a burgeoning metropolitan area, consisting of the cities of Las Vegas, North Las Vegas, Henderson, and Boulder City. Most of the subject lands of this analysis (ACECs), however, remain remote and rural. Dispersed populations in the vicinity of the ACECs consist primarily of much smaller communities. The subject lands encompass significant resource values.

SUPPLEMENTAL AUTHORITIES AND OTHER RESOURCES

To comply with the National Environmental Policy Act (NEPA), the BLM is required to address supplemental authorities that are subject to requirements specified in statute or regulation or by executive order (BLM 1988, BLM 1997, BLM 2008). Table 1 outlines the supplemental authorities that must be addressed in all environmental assessments; Table 3 outlines other resources deemed appropriate for evaluation by the BLM.

Table 1: Supplemental authorities analyzed for EA NV-052-2008-438.

Supplemental Authorities	Affected Yes/No	Supplemental Authorities	Affected Yes/No
Air Quality	No	Native American Religious Concerns	Yes
ACECs	Yes	Prime or Unique Farmlands	No
Cultural Resources	Yes	Threatened or Endangered Species (plants and animals)	Yes
Environmental Justice	No	Wastes, Hazardous or Solids	No
Fish Habitat	Yes	Water Quality (Drinking-Ground)	Yes
Flood Plains	Yes	Wetlands and Riparian Zones	Yes
Forests and Rangelands	No	Wild and Scenic Rivers	No
Noxious Weeds and Invasive/Nonnative Species	Yes	Wilderness	No
Migratory Birds	Yes		

ACECs

The Bureau of Land Management's Las Vegas Resource Management Plan and Final Environmental Impact Statement (RMP) approved October 5, 1998 designated 24 separate ACECs, owing to the significant resource values contained within them. The ACECs are situated in both Clark and Southern Nye Counties. An inventory of the resource values associated with each ACEC is identified in Table 1 below.

Table 2. Resource values contained within the Southern Nevada District Office Areas of Critical Environmental Concern (Clark and Southern Nye Counties).

Desert Tortoise ACECs.

ACEC Name	Piute/Eldorado	Coyote Springs	Mormon Mesa	Gold Butte, Part A
Values	Critical tortoise habitat.			

Archaeological and Cultural Resources ACECs (not shared with other ACECs).

ACEC Name	Stump Spring	Sloan Rock Art District	Hidden Valley	Keyhole Canyon	Bird Spring ***	Arden Historic Sites	Crescent Townsite
Values	Pre-historic camp and historic trail/ camp.	Prehistoric habitation and rock art.				Historic railroad construction, and mining.	

Key:
*** Already withdrawn from mineral entry under the Red Rock legislation.

Archaeological and Cultural Resources ACECs and a Natural ACEC (shared with Gold Butte ACEC).

ACEC Name	Gold Butte ACEC, Part B		Gold Butte ACEC, Part A		
	Gold Butte ACEC, Part B	Gold Butte Townsites	Red Rock Spring	Whitney Pocket	Devil's Throat
Values	Cultural resources, scenic, wildlife habitat, sensitive species.	Historic mining	Prehistoric habitation and rock art.		Natural hazard area.

Special Wildlife and Riparian ACECs.

ACEC Name	Amargosa Mesquite	Gold Butte ACEC Part C* (Virgin Mountains)	Big Dune	Ash Meadows
Values	Neotropical bird habitat.	Wildlife habitat; scenic and botanical.	Special Status species habitat.	

Key:
*Originally called Virgin Mountain ACEC, it was combined with the Gold Butte ACEC to form one contiguous ACEC.

Combination Values ACECs

ACEC Name	Arrow Canyon	Rainbow Gardens	River Mountains	Virgin River
Values	Paleontological (Miocene bird tracks); Geological (candidate for the mid-carboniferous boundary stratotype section); cultural (prehistoric rock art).	Geological; scientific; scenic; cultural; sensitive plants.	Bighorn sheep habitat; scenic viewshed for Henderson and Boulder City.	T&E; riparian habitat; cultural resources.

Cultural Resources

Cultural resources are the tangible remains of past human activities, identifiable through inventory, historical documentation, or oral history. Cultural resources include prehistoric and historic-period sites, features, and artifacts that can range in complexity from a single stone tool or bottle fragment to a large prehistoric village or historic period town site. The Southern Nevada BLM District encompasses a unique region, being located at the interface of three distinct geographical zones: Colorado Plateau, Mojave Desert, and the Great Basin.

All prehistoric Native Americans employed hunting and gathering methods to acquire at least some of their foods; these resource collection practices are reflected in the archeological record. Seeds, nuts, roots, and pods were collected from a variety of plants, including cacti, agave, yucca, grasses, mesquite, and pinyon pine. Stone tools such as manos and metates used to grind the seeds and nuts, knives, sharpened stone flakes, and chopping tools are found in archeological site that record these plant procurement and processing activities.

Other types of prehistoric archeological sites include stone features such as rock rings and rock art locales. Rock art is defined as the modification of a rock face by pecking (petroglyphs) or painting (pictographs) figures or designs. Rock art panels are common in certain areas, generally near water sources, along game trails, or near resource procurement locations.

Historic use of southern Nevada began with exploration along routes such as the Old Spanish Trail (1829 to 1848), later known as the Mormon Road. Ranching was well underway by the late 1800s; completion of railroad construction in 1905 established Las Vegas as a vital Nevada community.

Historic foundations from mining sites, ranches, and quarries are found within the subject lands. These site types are often difficult to identify and interpret; a trash heap and fragments of tent platforms are the only remains of the mining tent town at Gold Butte. These historic remnants have the potential to document adaptations and technological changes not often recorded in the archival record of this region.

Cultural resources may be found within any of the ACECs that are incorporated into this EA. Archeological resources that may be found in these areas are rock shelters and caves, roasting pits, campsites (historic and prehistoric), stone tools, projectile points, rock art, lithic scatters, pottery fragments, historic mining artifacts, historic mining towns, and historic mines.

There are three known historic routes that traverse the ACECs; they are the Old Spanish Trail, the Arrowhead Trail, and the Mojave Road. Throughout the ACECs there are historic mining townsites and camps.

Fish Habitat ·

Stream bottom composition, or bed load, is an important aspect of fish habitat and consists of sand, gravel, cobbles, or boulders. Flooding plays a key role in keeping bed load moving throughout a river system. Bed load is most prominently moved during large flooding events, although smaller events play a key role in moving smaller sized substrate in the system as well (Coats et al. 1985). Other variables of fish habitat include water depth, water velocity, cover and substrate. All of these variables are influenced by regular flows and flooding events.

Virgin River

The Virgin River provides habitat for six native species of fish, including woundfin (*Plagopterus argentissimus*), Virgin River chub (*Gila seminude*), flannelmouth sucker (*Catostomus latipinnis*), desert sucker (*Catostomus clarki*), speckled dace (*Rhinichthys osculus*), and Virgin spinedace (*Lepidomeda mollispinis mollispinis*).

The most common fishes recorded during long-term fisheries monitoring of the Virgin River included the nonnative red shiner (*Cyprinella lutrensis*) and western mosquito fish (*Gambusia affinis*) (Albrecht et al. 2007). Other introduced species included black bullhead (*Micropterus salmoides*), channel catfish (*Ictalurus punctatus*), blue tilapia (*Oreochromis aurea*) and striped bass (*Morone saxatilis*) (Albrecht et al. 2007).

Ash Meadows

The Ash Meadows ACEC, established in 1998 to protect the habitat of several Special Status Species envelops the Ash Meadows National Wildlife Refuge (BLM 2000; BLM 1998), which encompasses numerous springs and spring-fed wetlands. The Ash Meadows National Wildlife Refuge provides habitat for four federally listed, native species of fish, including the Devils Hole pupfish (*Cyprinodon diabolis*), Warm Springs pupfish (*Cyprinodon nevadensis pectoralis*), Ash Meadows Amargosa pupfish (*Cyprinodon nevadensis mionectes*), and Ash Meadows speckled dace (*Rhinicthys osculus nevadensis*).

Non-native aquatic species are also present at Ash Meadows. Exotic aquatic species include sailfin molly (*Poecilia latipinna*), mosquitofish (*Gambusia affinis*), largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellus*), convict cichlid (*Archocentrus nigrofasciatus*), bullfrog (*Rana catesbiana*), black bullhead (*Ictalurus melas*), goldfish (*Carassius auratus*), ornamental koi (*Cyprinus carpio*), goldfish/koi hybrids, red-rimmed melania (*Melanoides tuberculatus*), ramshorn snail (taxonomy unknown), and red swamp crayfish (*Procambarus clarkii*). Historically, the aquarium fishes green swordtail (*Xiphophorus helleri*) and arawana (*Osteoglossum bicirrhosum*) were present but are now extirpated (Deacon and Deacon-Williams 1991), as were channel catfish (*Ictalurus punctatus*).

Floodplains

Floodplains contained within the ACECs are a significant resource for providing flood relief and stability during runoff events. Their proper function is especially vital for nearby local communities that may be heavily impacted by extensive runoff events. Riparian plant communities that occur within these floodplains decelerates water flow, thereby reducing downstream flood hazards; maintains stability of streambanks; and reduces channel sloughing and instream incision.

The areas between the major banks of the Virgin River would be considered floodplains. The Virgin River seasonally may overflow its smaller banks and scour the surrounding landscape. This scouring can also occur any time of year during periods of high rainfall. The Virgin River is constantly changing within the wider banks of its large floodplains. These floodplain areas provide a very unique habitat with a very nutrient rich soil resulting from the organic material that gets deposited during high water events.

Noxious Weeds

Noxious weeds are defined by the BLM as "A plant that interferes with management objectives for a given area of land at a given point in time." In addition, the State of Nevada defines noxious weeds as "Any species of plant which is, or liable to be, detrimental or destructive and difficult to control or eradicate..." (NRS 555.005) Noxious weeds are found throughout the Southern Nevada District Office. These plants tend to out-compete and displace native vegetation.

Noxious weeds occur throughout the Southern Nevada BLM District. Weeds are dispersed through a variety of methods such as cattle, wild animals, and humans moving through the landscape as well as wind and water. Weeds tend to establish along the disturbed edges of roadways and are very easily distributed further along the roadways by vehicle and animal movement through existing weed infestations. Wind and water further distribute weed seeds away from source populations into areas that humans visit less often. As weeds displace native vegetation, both cover and food are lost to native animals found in those areas.

Nevada has three categories of noxious weeds:

> Category "A": Weeds not found or limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the state in all infestations.
>
> Category "B": Weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the state in areas where populations are not well established or previously unknown to occur.

Category "C": Weeds currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer.

(NRS 555.005-201)

Migratory Birds

Under the Migratory Bird Treaty Act of 1918 (MBTA) and subsequent amendments (16 U.S.C. 703-711), it is unlawful to take, kill, or possess migratory birds. A list of the 832 protected bird species can be found in 50 C.F.R. 10.13. A species qualifies for protection under the MBTA by meeting one or more of the following four criteria:

1. It (a) Belongs to a family or group of species named in the Canadian convention of 1916, as amended in 1996; (b) specimens, photographs, videotape recordings, or audiotape recordings provide convincing evidence of natural occurrence in the United States or its territories; and (c) the documentation of such records has been recognized by the American Ornithologists' Union (AOU) or other competent scientific authorities.
2. It (a) Belongs to a family of group of species named in the Mexican convention of 1936, as amended in 1972; (b) specimens, photographs, videotape recordings, or audiotape recordings provide convincing evidence of natural occurrence in the United States or its territories; and (c) the documentation of such records has been recognized by the AOU or other competent scientific authorities.
3. It is a species listed in the annex to the Japanese convention of 1972, as amended.
4. It is a species listed in the appendix to the Russian convention of 1976.

Migratory bird species that may utilize the subjects lands include the following breeding birds: Gambel's quail (*Callipepla gambelii*), turkey vulture (*Cathartes aura*), red-shouldered hawk (*Buteo lineatus*), mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis*), Vermilion flycatcher (*Pyrocephalus rubinus*), Cassin's kingbird (*Tyrannus vociferans*); loggerhead shrike (*Lanius ludovicianus*), common rave (*Corvus corax*), verdin (*Auriparus flaviceps*), black-tailed gnatcatcher (*Polioptila melanura*), northern mockingbird (*Mimus polyglottos*), phainopepla (*Phainopepla nitens*), Albert's towhee (*Pipilo alberti*), blue grosbeak (*Passerine caerulea*), red-winged blackbird (*Agelaius phoeniceus*), house finch (*Carpodacus mexicanus*), and lesser goldfinch (*Carduelis psaltria*).

Native American Religious Concerns

Indian tribes have sovereign status. Special legal provisions set Native Americans apart from all other U.S. populations and define a particular level of federal agency responsibility. The BLM is tasked with carrying out tribal consultation at a government to government level. The goal of consultation is to help assure that (1) federally recognized tribal governments and Native American individuals, whose traditional uses of public land might be affected by a proposed BLM action, will have sufficient opportunity to contribute to the decisions; and, (2) that the decision maker will give tribal concerns proper consideration. Section 101(d)(6) of the National Historic Preservation Act specifies that the traditional or historical importance an Indian tribe attaches to a particular place may make that place eligible for the National Register of Historic Places; and, directs agencies carrying out Section 106 compliance to consult with any Indian

tribe whose tradition or history may contribute to the National Register eligibility of a potentially affected cultural resource property. Several other federal laws mandate special provisions for Native Americans. Section 4(c) of the Archaeological Resources Protection Act (ARPA) emphasizes that the federal agency shall notify any Indian tribe prior to any action which may harm a religious or cultural site. Tribes must be notified who may consider the site as having religious or cultural importance. The American Indian Religious Freedom Act (AIRFA) makes it the policy of the U.S. to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise their traditional religions including access to sacred sites, including cemeteries, required in their religion and freedom to worship through ceremonials and traditional rites without government intrusion or interference.

Threatened or Endangered Species

Desert Tortoise (*Gopherus agassizii*)

On August 4, 1989, the Service published an emergency rule listing the Mojave population of the desert tortoise as endangered (54 FR 42270). On April 2, 1990, the Service determined the Mojave population of the desert tortoise to be threatened (55 FR 12178) on the basis of: significant population declines; loss of habitat from construction projects such as roads, housing and energy developments, and conversion of native habitat to agriculture; habitat degradation by grazing and off-highway-vehicle activities; illegal collection of desert tortoises by humans for pets or consumption; upper respiratory tract disease (URTD); predation on juvenile desert tortoises by common ravens and kit foxes; fire; and collisions with vehicles on paved and unpaved roads. Critical habitat in Arizona, California, Nevada, and Utah was designated on February 8, 1994, with an effective date of March 10, 1994.

The desert tortoise is a large, herbivorous reptile located in portions of California, Arizona, Nevada, and Utah. It also occurs in Sonora and Sinaloa, Mexico. The Mojave population of the desert tortoise includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, and southwestern Utah, and in the Sonoran Desert in California.

Desert tortoises reach 8 to 15 inches in carapace length and 4 to 6 inches in shell height. Hatchlings emerge from the eggs at about 2 inches in length. Adults have a domed carapace and relatively flat, unhinged plastron. Their shells are high-domed, and greenish-tan to dark brown in color with tan scute centers. Desert tortoises weigh 8 to 15 pounds when fully grown. The forelimbs have heavy, claw-like scales and are flattened for digging. Hind limbs are more stumpy and elephantine.

Optimal habitat for the desert tortoise has been characterized as creosote bush scrub in which precipitation ranges from 2 to 8 inches, where a diversity of perennial plants is relatively high, and production of ephemerals is high (Luckenbach 1982, Turner 1982, Turner and Brown 1982). Soils must be friable enough for digging of burrows, but firm enough so that burrows do not collapse. Desert tortoises occur from below sea level to an elevation of 7,300 feet, but the most favorable habitat occurs at elevations of approximately 1,000 to 3,000 feet (Luckenbach 1982).

Desert tortoises are most commonly located within the desert scrub vegetation type, primarily in creosote bush scrub. In addition, they occur in succulent scrub, cheesebush scrub, blackbrush

scrub, hopsage scrub, shadscale scrub, microphyll woodland, Mojave saltbush-allscale scrub, and scrub-steppe vegetation types of the desert and semidesert grassland complex (Service 1994). Within these vegetation types, desert tortoises potentially can survive and reproduce where their basic habitat requirements are met. These requirements include: a sufficient amount and quality of forage species; shelter sites for protection from predators and environmental extremes; suitable substrates for burrowing, nesting, and overwintering; various plants for shelter; and adequate area for movement, dispersal, and gene flow. Throughout most of the Mojave Region, tortoises occur most commonly on gently sloping terrain with sandy-gravel soils and with scattered shrubs, and where there is abundant inter-shrub space for growth of herbaceous plants. Throughout their range, however, tortoises can be located in steeper, rockier areas.

Desert tortoises are most active during the spring and early summer when annual plants are most common. Additional activity occurs during warmer fall months and occasionally after summer rainstorms. Desert tortoises spend most of the remainder of the year in burrows, escaping the extreme conditions of the desert. However, desert tortoises may be aboveground any month of the year. In Nevada and Arizona, tortoises are considered to be most active from approximately March 1 through October 31.

The size of desert tortoise home ranges varies with respect to location and year. Females have long-term home ranges that are approximately half that of the average male, which range from 25 to 200 acres (Berry 1986). Over its lifetime, each desert tortoise may require more than 1.5 square miles of habitat and make forays of more than 7 miles at a time (Berry 1986). In drought years, the ability of tortoises to drink while surface water is available following rains may be crucial for tortoise survival. During droughts, tortoises forage over larger areas, increasing the likelihood of encounters with sources of injury or mortality including humans and other predators.

Southwestern willow flycatcher (*Empidonax traillii extimus*)

The southwestern willow flycatcher subspecies was listed as endangered in March 29, 1995. Its breeding habitat occurs in dense riparian habitats in southwestern North America, and winters in southern Mexico, Central America, and northern South America. Approximately 900 to 1100 pairs exist. (USFWS, 2002)

The southwestern willow flycatcher breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes. Most of these habitats are classified as forested wetlands or scrub-shrub wetlands. Its breeding range includes far western Texas, New Mexico, Arizona, southern California, southern portions of Nevada and Utah, southwestern Colorado, and possibly extreme northern portions of the Mexican States of Baja California del Norte, Sonora, and Chihuahua. Habitat requirements for wintering are not well known, but include brushy savanna edges, second growth, shrubby clearings and pastures, and woodlands near water.

The southwestern willow flycatcher has experienced extensive loss and modification of breeding habitat, with consequent reductions in population levels. Destruction and modification of riparian habitats have been caused mainly by: reduction or elimination of surface and subsurface water due to diversion and groundwater pumping; changes in flood and fire regimes due to dams and stream channelization; clearing and controlling vegetation; livestock grazing; changes in water

and soil chemistry due to disruption of natural hydrologic cycles; and establishment of invasive non-native plants. Concurrent with habitat loss have been increases in brood parasitism by the brown-headed cowbird (*Molothrus ater*), which inhibit reproductive success and further reduce population levels.

Woundfin (*Plagopterus argentissimus*)

The Woundfin was listed as an endangered species on October 13, 1970 (35 FR 16047). Critical habitat was proposed for the woundfin in 1995 and a final rule was published in 2000. The Virgin River Fishes Recovery Plan (USFWS, 1995) is the recovery plan for the Woundfin. Critical habitat for the woundfin includes the Virgin River and its 100-year floodplain from the Virgin River confluence with La Verkin Creek in Utah to Halfway Wash in Nevada.

The Woundfin occurs in the mainstem of the Virgin River from Pah Tempe Springs and the lower portion of La Verkin Creek in Utah, downstream to Lake Mead. Historically, the woundfin occupied the lower Colorado River from the Virgin to Yuma, Arizona, and the Gila River from Yuma to its confluence with the Salt River. Woundfin are now uncommon to rare throughout the occupied range. Declines in species population are attributed to dewatering and subsequent habitat changes in the Virgin River, and non-native fish introductions.

Virgin River chub (*Gila seminude*)

The Virgin River chub was proposed for listing as endangered, with critical habitat, on August 23, 1978 (43 FR 37668). This proposal was withdrawn on September 30, 1980 in accordance with the 1978 amendments to the Act requiring proposals pending for more than two years be withdrawn (45 FR 64853). A new proposal for listing as endangered, with critical habitat, was published on June 24, 1986 (51 FR 22949). The Virgin River chub was listed as endangered on August 24, 1989 (54 FR 35305). This listing covered only the Virgin River, the known range of the chub, then considered a subspecies of roundtail chub (*Gila robusta seminuda*). On July 24, 1995, based on new taxonomic information, the FWS proposed changing the species from a subspecies to a full species (*Gila seminuda*). Critical habitat for the Virgin River chub was proposed with that for the woundfin (*Plagopterus argentissimus*) in 1995 and a final rule was published in 2000. The Virgin River Fishes Recovery Plan (USFWS, 1995) is the recovery plan for the Virgin River chub. Critical habitat for the Virgin River chub includes the Virgin River and its 100-year floodplain from the Virgin River confluence with La Verkin Creek in Utah to Halfway Wash in Nevada.

The Virgin River chub occurs in the mainstem Virgin River from Pah Tempe Springs in Utah to at least the Arizona-Nevada border. Historically, Virgin River chub were found in the lower Virgin River in Nevada down as far as the confluence with the Colorado River, but few have been found recently. Considered an abundant species in the early 1900's, Virgin River chub are now uncommon to rare throughout the occupied range. Most recent records are from the reach of the Virgin River in Arizona. Sampling data for the Virgin River chub is not as definitive as for the woundfin, in part because the methodology used is not the most effective for this species. Declines in species population are attributed to dewatering and subsequent habitat changes in the Virgin River, and non-native fish introductions.

Devils Hole pupfish (*Cyprinodon diabolis*)

The Devils Hole pupfish was listed as endangered on March 11, 1967. It occurs naturally in only one limestone cave on land owned by the National Park Service within the boundaries of the Ash Meadows National Wildlife Refuge, which is surrounded by the Ash Meadows ACEC. First described in 1930, the Devils Hole pupfish differs in numerous physical characteristics from other members of its genus. In the 1970's, groundwater pumping for agriculture within the boundary of the Refuge (prior to its establishment) lowered the level of water in the cave, drying areas used by the fish for feeding and reproduction. The Department of the Interior initiated litigation to protect the species which ended with a ruling by the U.S. Supreme Court upholding a lower court decision that mandated the maintenance of a minimum water level.

The Recovery Plan for the Devils Hole pupfish stipulates a return to the pre-pumping water level and other criteria before it can be downlisted to threatened, (USFWS 1980, 1990). Because of its great vulnerability, the species can never be delisted. The Recovery Plan also identifies about 21, 760 acres surrounding its habitat as essential habitat for the recovery of the species. The essential habitat represents the area in which groundwater pumping is most likely to adversely affect spring discharge.

Warm Springs pupfish (*Cyprinodon nevadensis pectoralis*)

The Warm Springs pupfish, first described in 1948, is the smallest subspecies in the *C. nevadensis* complex. It was listed as endangered on October 13, 1970. It currently occupies five small springs within an area of less than a square mile west of Devils Hole. Four of the five springs are on BLM administered land. Non-native crayfish are believed to be responsible for the extirpation of the Warm Springs pupfish from a sixth spring. The outflows of all Warm Springs disappear below ground within 1.25 miles of their source springs and are isolated from all other aquatic environments (USFWS 1990). Essential habitat identified in the recovery plan for the Warm Springs Pupfish includes 2,240 acres surrounding all of its habitat (USFWS 1976).

Ash Meadows Amargosa pupfish (*Cyprinodon nevadensis mionectes*)

The Ash Meadows Amargosa pupfish was listed as endangered on May 10, 1982. It occupies numerous spring areas within Ash Meadows. The outflows of many of these springs combine with one another. Because the habitats of the Amargosa pupfish comprise most of the surface water in the area, they were the most altered during agricultural development and, as a result, now support the greatest variety of introduced organisms. All of the Amargosa pupfish habitats have been affected by diversion into earthen or concrete channels, impoundment, drying due to groundwater pumping, or elimination of riparian vegetation. Restoration work in these habitats is ongoing. Critical habitat was designated for the species on September 2, 1983.

Ash Meadows speckled dace (*Rhinicthys osculus nevadensis*)

The Ash Meadows speckled dace was listed as endangered on May 10, 1982. It was first described as a full species in 1893, but reduced to subspecies status in 1948. Collection records show that the speckled dace shared many of the same springs and outflows that the Amargosa pupfish inhabits, but the speckled dace is now only found in three springs. Critical habitat was designated for the species on September 2, 1983.

Ash Meadows Naucorid (*Ambrysus amargosus*)

First collected in 1951 and described two years later (La Rivers 1953), this rare aquatic insect is currently known to occur only in a restricted habitat where the outflow of Point of Rocks Springs passes over rock and pebble substrates (USFWS 1990). It was listed as threatened on May 20, 1985. Little is known about its life history or habitat requirements, but the small size and vulnerability of its habitat makes it highly susceptible to extinction. Critical habitat was designated for the species at the time of its listing.

Yuma clapper rail (*Rallus longirostris yumanensis*

The Yuma clapper rail was listed as endangered on March 11, 1967 without critical habitat. This rail is a marsh bird that inhabits freshwater or brackish stream-sides and marshes with dense cattails, bulrushes, and other aquatic vegetation. Little is known about the use of Ash Meadows by this secretive marsh bird.

Ash Meadows milk-vetch (*Astragulus phoenix*)

Although this species was collected as early as 1898, it was not formally described until 1970 (Barneby 1970). A perennial plant that grows on dry, alkaline soil, it was listed as threatened on May 20, 1985. Old plants naturally mound into clumps as much as 5.9 inches high with a diameter up to 19.5 inches (USFWS 1990). Critical habitat was designated on about 1,200 acres scattered throughout the Ash Meadows area.

Recent surveys have located about 1,800 plants in seven populations with a combined area of around 847 acres. All but two populations have 200 individuals or less distributed over less than 70 acres. The USFWS owns land and minerals on an estimated 147 acres, or 17 percent, of the total known area of the species. Another 153 acres (18 percent) are BLM land with public minerals.

Spring-loving centaury (*Centaurium namophilum*)

This annual, a member of the gentian family, was listed as threatened on May 20, 1985 (50 FR 20777-20794). It is found on moist to wet clay soils along the banks of streams or in seepage areas (Mozingo and Williams 1980). Critical habitat was designated at the time lf listing on 1,840 acres. Previously reported populations of this species from the Death Valley, California, area are now apparently considered to be a different species (Hickman 1993).

Populations of these species have rebounded wince listing due to the removal of livestock. Recent surveys have identified six major populations and numerous smaller ones with a total estimate of 175,000 individual plants. The USFWS has acquired the land and mineral rights on an estimated 522 acres, or 18 percent, of the spring-loving centaury's total known area. The USFWS has acquired another 415 acres (14 percent) of its habitat with public minerals. An additional 1,253 acres (42) percent are BLM land with public minerals.

Ash Meadows sunray (*Enceliopsis nudicaulis var. corrugate*)

This distinct variety of the widespread naked-stemmed sunray was listed as threatened on May 20, 1985 (50 FR 20777-20794). It is found in dry, upland areas and on occasion can be found growing with the Ash Meadows milk-vetch. Critical habitat for the Ash Meadows sunray was designated at the time of listing on 1,760 acres.

Although the Ash Meadows sunray is known to occur on an estimated 5,274 acres, only 887 acres, or 17 percent, are land on which the USFWS owns both the land and minerals. On another 1,063 acres (20 percent), the USFWS has acquired the land but the minerals are in the public domain. About 2,501 acres or 47 percent, of its known habitat are BLM lands with public minerals.

Ash Meadows gumplant (*Grindelia fraxino-pratensis*)

This species, listed as threatened on May 20, 1985 (50 FR 20777-20794), is frequently found with the spring-loving centaury on moist soils influenced by seeps and springs (Reveal and Beatley 1971). Critical habitat was designated on 1,968 acres at the time of listing.

Several large populations and numerous smaller ones exist, with an estimated combined total of 81,000 plants. The USFWS has acquired land and minerals on about 458 acres (17 percent). Another 247 acres (9 percent) of USFWS land has public minerals. About 945 acres (36 percent) supporting the Ash Meadows gumplant are BLM land with public minerals.

Ash Meadows ivesia (*Ivesia eremica*)

Listed as threatened along with the other plants on May 20, 1985 (50 FR 20777-20794), this species occurs on highly alkaline, somewhat barren soils that remain moist adjacent to spring outflows. Critical habitat was designated on 850 acres at the time of listing.

Nine populations of the species are known, with only two having more than 600 individuals. Seven of the populations each occupy less than 30 acres. Although there are an estimated 572 acres of occupied habitat, one population occupies 386 acres (68 percent). The USFWS has acquired the land and minerals on 181 acres (31 percent) and just the land on another seven acres (1 percent). An additional 261 acres (46 percent) of occupied habitat are on BLM land with public minerals.

Ash Meadows blazing-star (*Mentzelia leucophylla*)

This plant was listed as threatened along with the other plants on May 20, 1985 (50 FR 20777-20794). At the time of listing, its habitat was described as upland alkaline soils in arroyos and on knolls only within the more xeric portions of Ash Meadows. Critical habitat was designated on 1,240 acres at the time of listing.

Three populations of this plant are known. One population of about 100 individuals is located on USFWS land. The other population, with an estimated 600 individuals, is distributed over about 227 acres of BLM land with public minerals.

Amargosa niterwort (*Nitrophila mohavensis*)

Listed as endangered on May 20, 1985 (50 FR 20777-20794), this diminutive plant has the most restricted habitat of all the endemic plants of Ash Meadows. It occurs only on moist, highly alkaline, salt-encrusted clay soils within the southern portion of Carson Slough in both Nevada and California. Critical habitat for the species was designated on 1,200 acres in Inyo County, California, at the time of listing.

Recent surveys documented an estimated 10,700 individuals in two populations on about 198 acres. Roughly 66 acres, or 33 percent, of the total acreage is land and minerals acquired by the USFWS. The USFWS manages another 81 acres (4 percent) with public minerals, and 47 acres (24 percent) are BLM land with public minerals.

Water Resources

Groundwater

Ground water systems in Southern Nevada are typically comprised of a thick unconfined basin-fill alluvial aquifer overlaying a deep confined regional aquifer. The alluvial basins can be several thousands of feet deep and very permeable with intermittent impermeable layers such as clay lenses and caliche. Recharge to this aquifer is generally from local precipitation and runoff within the watershed. Due to the high water yield and thickness of this aquifer, it is the one most typically used by residents for groundwater supply. The regional aquifer is a deep carbonate-rock aquifer, much of which is fractured resulting in a resulting in a regional flow system throughout most of Nevada. Recharge to this aquifer is typically from high-elevation mountain ranges. Interaction between the two aquifers does occur, but the interactions are not well understood. Ongoing scientific studies in northeastern Nevada will help identify aquifer connectivity, inter-basin flow and groundwater development impacts on local springs.

Water Quality

The Virgin River is on the State of Nevada's 2006 303(d) List of Impaired Waters. Section 303(d) of the Clean Water Act requires that the State develop a list of water bodies needing additional work beyond existing controls to achieve or maintain water quality standards. Listing of a water body occurs when documentation suggests that a water body is not supporting beneficial uses or water quality standards are being exceeded. The Virgin River is listed for nutrients (total phosphorus), metals (iron, boron, manganese) and temperature (NDEP, 2008).

Water quality of water dependent ecosystems, such as springs, wetlands and streams, is typically dependent on the water that feeds the system, the botanical and biological components of the system and activities occurring within its vicinity. Most spring systems are fed by the local shallow ground water aquifer. This water is recharged by snowmelt and precipitation events. Spring flow and quality often changes seasonally dependent on the amount of precipitation occurring throughout the year. Water quality in these systems is closely related to water quality within the shallow aquifer. Springs fed by the deeper carbonate rock aquifer are perennial and have distinctly different water quality properties. These systems are typically warmer in temperature and have high concentrations of dissolved constituents associated with carbonate

rocks. The perennial nature of these springs and the chemical composition of the water are important for endemic fish habitat.

Riparian areas surrounding water dependent ecosystems act as filtering zones, removing sediment and nutrients from floodwaters. The vegetation communities provide stability and protect the banks from sloughing, which reduces the potential for nutrient loading.

Wetlands and Riparian Zones (Surface Water)

Spring systems and ephemeral washes are important ecosystems in arid environments. These scarce resources provide water and habitat for wildlife and plant species and are typically areas of cultural significance. All springs are groundwater dependent systems and are highly sensitive to changes. Ephemeral washes are more surface water dependent and typically flow after large precipitation events or during the spring snowmelt. Although these areas may not flow water year-long, the water table can be fairly shallow allowing for riparian plants with larger root systems to grow, such as cottonwoods and willow species.

Riparian areas are very productive and valuable parts of the ecosystem. They act as transition zones between the aquatic and upland areas increasing benefits such as fish and wildlife habitat, erosion control, forage, late season streamflow, and water quality (Kauffman and Krueger, 1984). Wetlands and meadows provide benefits by acting as reservoirs within the watershed regulating late season streamflow and increasing groundwater recharge.

The riparian area is the section of land and water forming a transition from aquatic to terrestrial ecosystems along streams and lakes, including wetlands and floodplains. It supports high soil moisture and a diverse assemblage of vegetation and performs important ecological functions (Kauffman and Krueger, 1984). It acts as a filtering system, stabilizes banks, and regulates stream water quality. The vegetation provides a buffer for the stream by slowing down water and settling out sediment and nutrients. Strong root masses decrease surface erosion by stabilizing the streambanks and are able to absorb floodwater without degrading during high stream flows. Management activities along streams directly impact bank stability by breaking down banks and increasing sedimentation. The vegetative cover provides a thermal break from radiant sunlight reaching the water surface. This keeps the water from increasing in temperature and reducing dissolved oxygen levels.

Other resources of the environment that have been considered for this environmental assessment are listed in Table 3.

Table 3: Other resources of the environment analyzed for EA NV-052-2008-438.

Other Resources	Affected Yes/No
Minerals	Yes
Paleontological Resources	Yes
Socio-Economic Values	Yes
Special Status Species	Yes
Visual Resources	Yes

ENVIRONMENTAL CONSEQUENCES

ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

Under the Proposed Action, approximately 944,343 acres of lands designated as ACECs would be withdrawn from mineral location and entry (of locatable minerals) for a period of 20 years. As implementation of the proposed action suspends ground disturbing activities that would result from mining, any associated detrimental effects to the following resource values would thereby be prevented and non-compliance with applicable local, state, tribal, and federal laws, regulations and standards would not be an issue.

- *ACECs*

Management directives as outlined in the RMP, for protection of significant resource values contained within the ACECs would be upheld. Implementation of the proposed action would have an overall beneficial effect to the ACECs primarily by protecting and preserving significant cultural resource sites, and safeguarding critical habitat for federally listed threatened and endangered species.

- *CULTURAL RESOURCES*

Implementation of the proposed action would have an overall beneficial effect to cultural resources contained within the ACECs, which would not be subject to resultant detrimental effects that mining activities pose. Artifacts and cultural deposits would remain intact, materials that may be dateable through radiocarbon dating would not be contaminated, and site integrity would be maintained without the detrimental effects that would otherwise be incurred by mining.

- *FISH HABITAT*

Implementation of the proposed action would have an overall beneficial effect to fish habitat contained within the ACECs. All aquatic systems and associated fish habitat within the ACECs would not be subject to resultant detrimental effects that mining activities pose. Associated plant communities would not be altered, interspecies interaction would remain intact, and recovery efforts for threatened or endangered species, particularly those that occur in the Virgin River and in Ash Meadows may continue without the detrimental effects that would otherwise be incurred by mining.

- *FLOODPLAINS*

Implementation of the proposed action would have an overall beneficial effect to floodplains contained within the ACECs. The absence of the detrimental effects that would otherwise be incurred by mining will allow associated riparian vegetation to remain intact and accordingly keep floodplains intact. No new surface disturbance would occur, resulting in no increase in runoff and sediment from local mining activities to riparian areas. Therefore, there would be no new increase in downstream flood hazards.

- *NOXIOUS WEEDS AND INVASIVE/NON-NATIVE SPECIES*

Ground disturbing activities associated with mining may cause increased vulnerability in the ACECs for the introduction and dissemination of noxious weeds and invasive/non-native plants. Implementation of the proposed action would have an overall beneficial, pre-emptive effect to the further spread of current noxious weed and invasive/non-native plant populations contained within the ACECs.

- *MIGRATORY BIRDS*

Implementation of the proposed action would have an overall beneficial effect for migratory birds and the habitat they utilize contained within the ACECs. Migratory bird use areas within the ACECs, including habitats for nesting and foraging would remain intact with the absence of the detrimental effects that would otherwise be incurred by mining.

- *NATIVE AMERICAN RELIGIOUS CONCERNS*

Implementation of the proposed action would have an overall beneficial effect to sites and/or objects within the ACECs that hold Native American religious value, which would not be subject to resultant detrimental effects that mining activities pose. The religious values associated with these sites and/or objects would be maintained and traditional and religious ceremonies would continue without hindrance with the absence of the detrimental effects that would otherwise be incurred by mining.

- *THREATENED OR ENDANGERED SPECIES*

Implementation of the proposed action would have an overall beneficial effect to threatened and endangered species that inhabit the ACECs. Five of the ACECs (Piute/Eldorado, Coyote Springs, Mormon Mesa, Gold Butte Part A, Virgin River, and Ash Meadows) were established to safeguard critical habitat to aid in the recovery of the following federally listed threatened and endangered species: Desert Tortoise (*Gopherus agassizii*); Southwestern Willow Flycatcher (*Empidonax traillii extimus*), Woundfin (*Plagopterus agentissimus*) and Virgin River Chub (*Gila seminude*); and numerous listed species that occur in Ash Meadows.

Piute/Eldorado, Coyote Springs, Mormon Mesa, and Gold Butte Part A ACECs, all of which have been previously designated as critical habitat units for the Desert Tortoise by the USFWS, comprise over 70% of all ACECs proposed for withdrawal. These ACECs were designed to meet the established principles of reserve design discussed below (USFWS 1994). Intensive management and protection of this habitat is necessary to ensure long-term population viability for the species (USFWS 1994), which would be supported by the proposed action.

1. Reserves should be well distributed across a species' native range
2. Large blocks of habitat containing large populations of the target species are superior to small blocks of habitat containing small populations.
3. Blocks of habitat that are closer together are better than blocks that are far apart.
4. Habitat that occurs in less fragmented contiguous blocks is preferable to fragmented habitat.

5. Habitat patches that minimize edge-to-area ratios are superior to those that do not.
6. Interconnected blocks of habitat are better than isolated blocks, and corridors or linkages function better when the habitat within them is represented by protected, preferred habitat for the target species.
7. Blocks of habitat that are roadless or otherwise inaccessible to humans are better than roaded and accessible habitat blocks.

The long-term success for recovery for the species described above depends on sufficient habitat protection and maintenance of these habitats over time (USFWS 1976, USFWS 1980, USFWS 1990, USFWS 1994, USFWS 1995, USFWS 2002). Basic habitat requirements that must be met to ensure greater likelihood for reproduction and continued survival for these species would not be compromised by resultant detrimental effects that mining activities pose. The diverse plant communities that function as habitat for these species would not be altered, interspecies interaction would remain intact, and recovery efforts for threatened and endangered species may continue without the detrimental effects that would otherwise be incurred by mining.

- *WATER QUALITY*

Water quality of water dependent ecosystems, such as springs, wetlands and streams, would not be subject to resultant detrimental effects that mining activities pose. Implementation of the proposed action would have an overall beneficial effect to water quality within these ecosystems contained with the ACECs by protecting them from impacts directly related to mining activities. No new surface disturbance would not yield any increase in runoff and sediment from local mining activities to these ecosystems. Since runoff can contain sediment and pick-up additional chemical constituents as it flows, no increase in runoff would result in no change to water quality in these ecosystems.

Impacts associated with underground hard rock mining activities, such as interception of ground water and chemical leaching would not occur. Since these activities can have severe impacts to local surface and ground water quality, no new hard rock mining activities would be beneficial to water quality.

- *WETLANDS AND RIPARIAN ZONES*

Implementation of the proposed action would have an overall beneficial effect to wetlands and floodplains contained within the ACECs. The absence of the detrimental effects that would otherwise be incurred by mining will allow associated riparian vegetation to remain intact and accordingly keep riparian areas intact. No new surface disturbance would not yield any increase in runoff and sediment from local mining activities to riparian areas. There would also be no increase in local water needs for mining activities. Dependent on whether the water to be used would be surface or ground water, impacts due to a reduction in water supply to these areas would not occur.

- *MINERALS*

The USGS has prepared a Mineral Potential Report, as required by law, for the 24 ACECs. In that report, the USGS identified 27 areas within 12 of the ACECs that have a high potential for

locatable mineral deposits. The deposits vary from platinum group, precious, and base metals to industrial minerals such as clays, limestone, gypsum, beryllium, perlite, silica, and vermiculite. A copy of the report is available for review at the BLM Southern Nevada District Office, 4701 N. Torrey Pines Drive, Las Vegas, NV.

Withdrawal of the ACECs from locatable mineral entry under the mining law prevents new prospecting, location, and development of these minerals. Any work proposals beyond casual use disturbance on existing mining claims or operations are subject to validity determinations and cost recovery for those determinations.

A review of the known number of operations within the ACECs was completed in October of 2008. This review analyzed (1) all of the active and pending operations from Notice of Intent through Plan of Operations levels and (2) the total number of mining claims that are active and closed to determine the number of valid existing rights. The review was conducted to determine the current state of valid existing rights and how the number of pending plans could change due to those rights. Table 4 outlines the findings of the review.

Prior to the initial segregation, mining notices were approved for exploration activities and small scale mining (under 5 acres) that could be extended every two years. After the segregation occurred all active notices (10 at the time) were allowed to continue through their current two-year cycle with a stipulation that the notices will need to convert to an approved Plan of Operation (Plan) after that cycle. All active notices at the time have since expired and none have converted to a plan. In total there are 276 plans within the ACECs of which only 6 are active and 2 are pending; the remainder (258) has been closed. Of the 258 closed plans, the vast majority (245) closed prior to the critical date of withdrawal. The low number of authorized and pending plans will have a minimal impact on the total lands being withdrawn.

In total there are 20,214 claims within the ACEC lands. As with the plans the majority (19,204) of these claims is closed, most were closed prior to the date of withdrawal and a few were closed after withdrawal (18,311 and 893 respectively). Currently there are 1,010 active claims that have valid existing rights and may potentially be developed into an approved plan. These claims were located prior to the withdrawal and are actively maintained. Two ACECs have a considerable number of active claims; Piute/Eldorado (710 claims) and Gold Butte B (124 claims).

If all of these claims (1,010 claims) were to be mined a validity examination would need to be conducted on the claims to determine if a discovery of an economical resource exists and the cost of the exam would be the burden of the operator submitting the plan. The validity exam might limit and potentially reduce the number of new operations that may get submitted. Regardless of future potential, current mining active is low and there is a low likelihood of additional operations.

Table 4: Summary of (upper) all of the active and pending mining operations (Notices and Plans) and (lower) the total number of mining claims that are active and closed to determine the number of valid existing rights.

Total Closed Plans	CPS*	CAS**	Authorized Plans	Pending Plans	Expired Notices	Grand Total
258	245	13	6	2	10	276

Closed Claims	CPS*	CAS**	Active Claims	Grand Total
19,204	18,311	893	1,010	20,214

Key:
* Closed Prior to Segregation, **Closed After Segregation

- *PALEONTOLOGICAL RESOURCES*

Implementation of the proposed action would have an overall beneficial effect to paleontological resources within the ACECs, which would not be subject to resultant detrimental effects that mining activities pose. Fossils and surrounding deposits that contain significant micro-faunal and micro-botanical materials would remain intact, geological deposits would not be moved out of depositional sequence, and the integrity of the localities would not be comprised with the absence of the detrimental effects that would otherwise be incurred by mining.

- *SOCIO-ECONOMIC VALUES*

Withdrawal from locatable mineral entry would forgo any future economic benefits derived from the potential development of mineral resources. Benefits would include mining and construction jobs, state and local taxes, and products to various construction and manufacturing industries. Valid existing rights would maintain those economic benefits.

- *SPECIAL STATUS SPECIES (PLANTS AND ANIMALS)*

Numerous special status species occur within the ACECs. The diverse plant communities that function as habitat for these species would not be altered by detrimental effects that would otherwise be incurred by mining and interspecies interaction would remain intact, thereby reducing potential for ESA listing of special status species. Implementation of the proposed action would have an overall beneficial effect to special status species that inhabit the ACECs.

- *VISUAL RESOURCES*

Ground disturbing activities associated with mining may cause fragmentation of visual resources associated with ACEC's. The implementation of the proposed action would maintain visual integrity of the ACEC's as well as the related vegetative and biological resources that gave these area their scenic quality. No additional visual impacts to form, line, color, and texture would be added to the landscape.

ENVIRONMENTAL CONSEQUENCES OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, mineral entry for locatables will resume permission following expiration of the current temporary segregation. The following resource values contained within the ACECs may experience myriad detrimental effects owing to the ground-disturbing activities associated with mining. The materialization of additional mining operations within the ACECs may conflict with applicable local, state, tribal, and federal laws, regulations and standards pertaining to the resources listed below.

- *ACECs*

Ground disturbing activities associated with mining within the ACECs would initiate myriad detrimental impacts imposed upon myriad resources. This would be in direct conflict with RMP management directives for the resource values contained within the ACECs.

- *CULTURAL RESOURCES*

Cultural resources within ACECs would be subject to the detrimental effects that mining activities pose. Implementation of the No Action Alternative would subject those cultural resources contained with the ACECs to direct and indirect impacts related to mining activities, causing large scale disruption of the archaeological record. Surface disturbing activities associated with mining have the potential to adversely affect cultural sites by destroying artifacts, intermixing cultural deposits, contaminating materials that would be dateable through radiocarbon dating, and disturbing site integrity by disrupting traces of cultural activities, thereby rendering them impossible to reconstruct accurately.

- *FISH HABITAT*

The Mojave Desert receives less than 5 inches of rain a year. As such, the aquatic ecosystems and fish habitats contained within the ACECs are precious, finite resources. Mining can have a profound ecological impact on aquatic ecosystems and the fish habitats contained within them. Communities enveloped within fish habitats include microscopic species and larger invertebrates; their interactions play a vital role in nutrient turnover and energy processing, important agents for the ecological integrity of fish habitats and aquatic ecosystems in general.

Detrimental effects to fish habitats that would result from mining under the No Action Alternative may include direct loss of habitat and/or habitat fragmentation; increased toxic byproduct distribution; leachate ponds, tailings, and trash; and increased sedimentation; all of which may have irreversible repercussions, especially for any threatened and endangered species that occur in these habitats. The Virgin River is habitat for two species of endangered fish: Virgin River chub (Gila seminude) and Woundfin (Plagopterus agentissimus).

- *FLOODPLAINS*

The effects of mining activities to floodplains would be dependent upon the location and type of mining that would occur. Activities resulting in large areas of surface disturbance close to floodplains, such as the Virgin River, could result in an increase of flood flows and sediment to the river and an on the capacity of the channel and riparian vegetation communities, higher flows

and increased sediment loads to the river would lead to changes to the channel morphology and sediment regimes, further increasing the risk of downstream flooding effects.

- *NOXIOUS WEEDS AND INVASIVE/NON-NATIVE SPECIES*

The potential magnitude of ground disturbance associated with mining activities within the ACECs may provide an exploitative niche for noxious weed and invasive/non-native plant introduction and dissemination, thereby compromising the ecological integrity of the ACECs' natural plant communities. The introduction and dissemination of these species may also incur compounding negative effects relating to nutritional value of foraging material for wildlife, which is substantially less nutritious than their native counterparts.

- *MIGRATORY BIRDS*

The prospect of mining and its associated ground disturbing activities within the ACECs would result in the direct loss of migratory bird habitat as well as habitat fragmentation. Additional detrimental effects to migratory birds that would result from mining under the No Action Alternative may include increased toxic byproduct distribution, decreased nesting and foraging areas, increased predation, and abandonment of historic migratory bird corridors, all of which may have irreversible repercussions.

- *NATIVE AMERICAN RELIGIOUS CONCERNS*

Sites and/or objects within ACECs that hold Native American religious value would be subject to resultant detrimental effects that mining activities pose. Implementation of the No Action Alternative would have an adverse effect to those sites and objects of Native American value that are contained with the ACECs. Sites and/or objects that hold Native American religious value would be irreversibly desecrated, thereby extinguishing associated traditional and religious ceremonial activities.

- *THREATENED OR ENDANGERED SPECIES*

Five of the ACECs (Piute/Eldorado, Coyote Springs, Mormon Mesa, Gold Butte Part A, Virgin River, and Ash Meadows) were established to safeguard critical habitat to aid in the recovery of the following federally listed threatened and endangered species: Desert Tortoise (*Gopherus agassizii*); Southwestern Willow Flycatcher (*Empidonax traillii extimus*), Woundfin (*Plagopterus agentissimus*) and Virgin River Chub (*Gila seminude*); and numerous listed species that occur in Ash Meadows.

Recovery Criterion 3 of the Draft Revised Recovery Plan for the Mojave Population of the Desert Tortoise requires that the quantity of desert tortoise habitat within all desert tortoise conservation areas to be maintained with no net loss until tortoise population viability is ensured (USFWS 2008). Proposed recovery actions in the plan as related to mining recommend mining to be withdrawn from, or otherwise limited through mining plans of operations, within tortoise conservation areas or where indirect effects from adjacent areas would affect these areas.

Detrimental effects to threatened and endangered species that would result from mining under the No Action Alternative may include direct loss of habitat and/or habitat fragmentation owing

to road proliferation and development construction, mineral extraction, leachate ponds, tailings, and trash; direct mortality from off-road exploratory travel; increased toxic byproduct distribution; fugitive dust and soil erosion; development of ancillary facilities to support large mining operations; generated refuse of stakes and wire from seismic testing; and creation of disturbance zones for invasive plants to establish, all of which may have irreversible repercussions.

Pursuant to a federal undertaking, under Section 7 of the ESA, federal agencies must consult with the USFWS regarding potential impacts to threatened and endangered species, as well as designated critical habitat that may be affected; any action authorized, funded or carried out by them must not jeopardize the continued existence of listed species or modify their critical habitat. Under the ESA, jeopardy occurs when an action is reasonably expected, directly or indirectly, to diminish a species' numbers, reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced. Subsequent to the Section 7 process, a "non-jeopardy biological opinion" may be issued, which determines that a federal action is not likely to jeopardize the existence of a listed species or result in the destruction or adverse modification of critical habitat.

Upon expiration of the temporary segregation, it may be reasonable to assume that proposed mining actions may individually be issued non-jeopardy biological opinions, wherein impacts to threatened and endangered species, as well as critical habitat within the project areas are alleviated via minimization measures. Collectively however, the cumulative impacts associated with mining impacts may reach a point where the prospect of reaching a jeopardy opinion for federally listed threatened and endangered species would become exponentially higher. Hence, recovery goals for these species may be impeded under the No Action Alternative.

- *WATER QUALITY*

New surface disturbance would result in increases in runoff and sediment from local mining activities to local water dependent ecosystems, such as springs, wetlands and streams. Since runoff can contain sediment and pick-up additional chemical constituents as it flows, an increase in runoff would alter water quality in these ecosystems.

Underground hard rock mining activities can intercept ground water and sometimes require additional chemicals to leach minerals from ore, which can lead to subsequent byproduct concerns. These byproducts pose increased threat to both surface and ground water quality. If the byproducts are not properly disposed of, they can enter local surface waters and local aquifers resulting in widespread contamination.

- *WETLANDS AND RIPARIAN ZONES*

New surface disturbance would result in increases in runoff and sediment from local mining activities to riparian areas. This increase could damage vegetation communities within riparian areas and alter stream channel morphology through incision and downcutting. This would result in a lowering of the local water table and a loss of riparian habitat. Water requirements for mining activities would also result in impacts to local wetlands and riparian areas. Increasing needs from both surface and ground water resources would reduce the quantity of water in

streams and flowing into spring systems. A decrease of water resources to these systems would result in flow reductions and less water would be available for riparian vegetation communities. If excessive quantities or long-term needs of water are required, impacts would result in the drying up of water dependent ecosystems.

- *MINERALS*

Expiration of the segregation from locatable mineral entry would allow prospecting, location and development of locatable minerals under the mining laws and regulations. Validity examinations of mining claims would not be mandated, but would probably still be undertaken with no cost recovery to the BLM.

- *PALEONTOLOGICAL RESOURCES*

Paleontological resources within ACECs would be subject to resultant detrimental effects that mining activities pose. Implementation of the No Action Alternative would have an adverse effect to those paleontological resources contained with the ACECs. Surface disturbing activities associated with mining have the potential to adversely affect paleontological resources in a manner similar to cultural sites. Fossils would be crushed by heavy equipment, deposits surrounding fossils containing significant micro-faunal and micro-botanical materials would be intermixed, geological deposits would be moved out of depositional sequence, and the integrity of the localities would be compromised. Traces of paleontological activity (for example, fossilized trackways) would be removed from their original locations, making the study of spatial relationships between fossils impossible to reconstruct.

- *SOCIO-ECONOMIC VALUES*

Expiration of the locatable mineral segregation would allow the possibility of job, tax, and product benefits to communities within the BLM Southern Nevada District, particularly in the high potential areas outlined by the USGS.

- *SPECIAL STATUS SPECIES (PLANTS AND ANIMALS)*

The prospect of mining under the No Action Alternative and its associated ground disturbing activities within the ACECs would result in the direct loss of habitat for special status species and/or habitat fragmentation owing to road proliferation and development construction, mineral extraction, leachate ponds, tailings, and trash; direct mortality from off-road exploratory travel; increased toxic byproduct distribution; fugitive dust and soil erosion; development of ancillary facilities to support large mining operations; generated refuse of stakes and wire from seismic testing; and creation of disturbance zones for invasive plants to establish, all of which may have irreversible repercussions. Under the No Action Alternative, the potential for ESA listing of special status species increases.

- *VISUAL RESOURCES*

The consequences of allowing mining activities in ACEC's is not only site specific with respect to visual resources, but it also has offsite impacts visually as well. Mining requires access roads

which extends the area of influence. Dust and other air quality issues impact the surrounding environment lessening the overall scenic quality. Mining activity introduces additional form, line, color and texture issues into the landscape that are not consistent with the management of ACEC's.

> Class I VRM Objective. The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
>
> Class II VRM Objective. The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
>
> Class III VRM Objective. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
>
> Class IV VRM Objective. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

CUMULATIVE IMPACTS

This section will address the cumulative impacts of the Proposed Action and No Action Alternative on the affected environment, past activities in the area, and any foreseeable future activities.

The Council on Environmental Quality (CEQ) regulations defines cumulative impacts as:

> ". . . [T]he impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or Non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7)."

As required under NEPA and the regulations implementing NEPA, this section addresses those cumulative effects on the environmental resources in the Cumulative Effects Study Areas (CESAs) which could result from the implementation of the Proposed Action and No Action Alternative; past actions; present actions; and reasonably foreseeable future actions. The extent of the CESA may vary with each resource, based on the geographic or biological limits of that

resource. As a result, any projects considered under the cumulative analysis may vary according to the resource being considered. In addition, the length of time for cumulative effects analysis may vary according to the duration of impacts from the Proposed Action on the particular resource.

PAST ACTIONS

The ACECs analyzed under this environmental assessment cover a large area in some extremely remote regions within the Mojave Desert. In the past mining was one of the primary activities within these areas. There are hundreds of abandoned mine sites that can be found scattered throughout the ACECs. In certain areas, impacts from mining were very substantial and evidence of these impacts can still be seen today in the form of open mining shafts, historic townsites, mine tailing piles, and historical trash dumps.

PRESENT ACTIONS

Present related actions include six active mining operations located within Gold Butte Part B, Piute/Eldorado, and Rainbow Gardens; numerous existing mine claims, the majority of which are located primarily within the Gold Butte and Piute/Eldorado ACECs, and the Proposed Action to withdraw all of the ACECs from settlement, sale, location, entry or patent under the United States mining laws, for a period of 20 years for the BLM to protect desert tortoise habitat, archaeological and cultural resources, and special wildlife and riparian values.

REASONABLY FORESEEABLE FUTURE ACTIONS

Should mineral entry within the ACECs resume permission, further site specific environmental analysis and documentation would be required. Specific information regarding the timing, duration, and level of development is not available for reasonable foreseeable future mining operations that may occur within the ACECs, precluding a comprehensive environmental analysis of potential cumulative impacts. As stated earlier, site-specific analysis for potential future mining operations would be required prior to implementation and a more thorough examination of cumulative impacts to resources would be done at that time.

EVALUATION OF POTENTIAL CUMULATIVE IMPACTS

A cumulative impact analysis was conducted for the Las Vegas RMP. As the Proposed Action is an administrative action designed for the protection of the resource values contained within the ACECs, it has been determined that cumulative impacts to those resource values would produce an overall beneficial effect. Cumulative impacts for resource values under the No Action Alternative have also been evaluated. As the No Action Alternative precludes protection of the resource values contained within the ACECs, it has been determined that cumulative impacts to those resource values under the No Action Alternative would produce an overall detrimental effect.

Existing mining claims within the withdrawn area would not be directly affected during the proposed 20 year period of withdrawal, unless the claimant proposed to conduct mineral exploration or mining. These claims have a valid existing right and could submit a plan that will be reviewed and could lead to further impacts to the resources analyzed in this environmental

assessment. Mineral exploration and mining could proceed under usual BLM procedures on lands within the withdrawn lands. However, exploration or mining could only proceed after completion of a validity examination. Only mining claims showing evidence of economic mineralization would be considered for BLM authorization of exploration or mining.

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Appendix 1

Amargosa Mesquite Trees ACEC (NVN 76865)

T. 16 S., R. 51 E.,
sec. 35;
sec. 36, SW¼.
T. 17 S., R. 51 E.,
sec. 1, lots 3 and 4, S½NW¼, and S½;
sec. 2;
sec. 11, E½;
secs. 12 and 13;
sec. 14, E½;
sec. 23, E½;
secs. 24 and 25;
sec. 26, E½;
secs. 35 and 36.

Ash Meadows ACEC (NVN 76868)

T. 17 S., R. 50 E.,
secs. 7 and 8;
sec. 9, lots 1 to 12, inclusive;
sec. 10, lots 1 to 8, inclusive;
sec. 11;
sec. 12, lots 1 to 15, inclusive;
sec. 13;
sec. 14, lots 1 to10, inclusive, and lots 12 to16, inclusive;
sec. 15, lots 1 to 4, inclusive;
sec. 17, W½NE¼, NW¼, SW¼, and W½SE¼;
sec. 18;
sec. 19, lots 1, 2, and lots 5 to 10, inclusive, SE¼NW¼, and N½NE¼;
sec. 20, NW¼ and N½SW¼;
sec. 23, lots 1, 2, 5, and 6, N½SE¼, E½SW¼SE¼, and SE¼SE¼;
secs. 24 and 25;
sec. 26, NE¼NE¼, E½NW¼NE¼, S½NE¼, SW¼NW¼, and S½SE¼NW¼;
sec. 30, lots 3 to 10, inclusive, E½SW¼, and W½SE¼;
sec. 31;
sec. 32, W½W½;
sec. 36, NE¼ and N½SE¼.
T. 18 S., R. 50 E.,
sec. 5;
sec. 6, lots 1 and 2, lots 8 to 12, inclusive, S½NE¼, SE¼NW¼, E½SW¼, and W½W½SE¼;
sec. 7, lots 4 to 10, inclusive, S½NE¼, E½NW¼, NE¼SW¼, and N½SE¼;
sec. 8;
sec. 9, W½NW¼ and SW¼;
sec. 16, lot 2, W½NE¼, NW¼, N½SW¼, SE¼SW¼, and W½SE¼;
secs. 17 to 22, inclusive;
sec. 25, S½;
sec. 26, W½;
secs. 27 to 29, inclusive, and secs. 33 to 36, inclusive.
T. 17 S., R. 51 E.,
sec. 7;
sec. 8, NW¼NE¼, W½SW¼NE¼, W½, and W½NW¼SE¼;
sec. 17, S½NE¼NE¼, W½NE¼, SE¼NE¼, W½, and SE¼;
secs. 18 to 20, inclusive;
secs. 29 and 30;

sec. 31, lots 1, 2, and 3, NE¼NE¼, W½NE¼, E½NW¼, NE¼SW¼, and SW¼SE¼;
sec. 32, lots 1 to 4, inclusive, N½NW¼, and NE¼.
T. 18 S., R. 51 E.,
sec. 17, E½E½;
sec. 20, E½E½;
sec. 29, S½ and E½NE¼;
sec. 30, lots 3 and 4, E½SW¼ and SE¼;
secs. 31 and 32.

Big Dune ACEC (NVN 76869)

T. 15 S., R. 48 E.,
sec. 8, S½, unsurveyed;
sec. 9, S½, unsurveyed;
secs. 16 and 17, unsurveyed.

Arden Historic Sites ACEC (NVN-76866)

T. 22 S., R. 60 E.,
sec. 32, W½NE¼NE¼NE¼, W½NE¼NE¼, SE¼NE¼NE¼, W½NE¼, W½NE¼SE¼NE¼, W½SE¼NE¼, W½NE¼NE¼NW¼, S½NE¼NW¼, E½NE¼NW¼NW¼, E½SW¼NW¼NW¼, W½SE¼NW¼NW¼, E½NE¼SW¼NW¼, W½SW¼NW¼, SE¼SW¼NW¼, W½NE¼SE¼NW¼, W½SE¼NW¼, SE¼SE¼NW¼, and S½;
sec. 33, NE¼NE¼SW¼, W½NW¼NE¼SW¼, S½NE¼SW¼, NW¼SW¼, W½NE¼SW¼SW¼, W½SW¼SW¼, SE¼SW¼SW¼, E½NE¼SE¼SW¼, W½SE¼SW¼, W½SE¼SE¼SW¼, N½SE¼, SW¼SE¼, W½NE¼SE¼SE¼, and NW¼SE¼SE¼.
T. 23 S., R 60 E.,
sec. 4, lots 1 to 4, inclusive, and S½N½;
sec. 5, lots 1 to 4, inclusive, and S½N½.

Arrow Canyon ACEC (NVN 76867)

T. 14 S., R. 64 E.,
sec. 10, NW¼, E½SW¼, and SE¼, unsurveyed;
sec. 11, SW¼, unsurveyed;
sec. 13, unsurveyed;
sec. 14, N½ and SE¼, unsurveyed;
sec. 15, NE¼ and E½NW¼, unsurveyed.
T. 14 S., R. 65 E.,
sec. 7, lots 3 and 4, E½SW¼ and SE¼.

Bird Spring ACEC (NVN 76870)

T. 24 S., R. 59 E.,
sec. 4, lots 1 and 2, and S½NE¼.

Coyote Springs Tortoise ACEC (NVN 76871)

T. 13 S., R. 63 E.,
sec. 20, that part lying east of Right-of-Way Nev 060729 (U.S. Highway 93) and south of Right-of-Way Nev 065185 (State of Nevada Highway 168);
secs. 21, 22, 23, and 26, inclusive for those portions lying south of Right-of-Way Nev 065185 (State of Nevada Highway 168);
sec. 27;
secs. 28, 29, and 33, inclusive for those portions lying east of U.S. Fish & Wildlife Service (FWS) Management Boundary;
secs. 34 and 35.

T. 13½ S., R. 63 E.,
sec. 33, that part lying east of FWS Management Boundary, unsurveyed;
secs. 34 and 35, unsurveyed.
T. 14 S., R. 63.,
secs. 2 and 3, unsurveyed;
secs. 4 and 9, inclusive for those portions lying east of FWS Management Boundary, unsurveyed;
secs. 10, 11, 14, and 15, unsurveyed;
secs. 16 and 21, inclusive for those portions lying east of FWS Management Boundary, unsurveyed;
secs. 22, 23, 26, and 27, unsurveyed;
secs. 28 and 33, inclusive for those portions lying east of FWS Management Boundary, unsurveyed;
secs. 34 and 35, unsurveyed.
T. 15 S., R. 63 E.,
sec. 2, unsurveyed;
secs. 3, 4, and 10, inclusive for those portions lying east of FWS Management Boundary, unsurveyed;
secs. 11 and 14, unsurveyed;
sec. 15, that part lying east of FWS Management Boundary, unsurveyed;
secs. 18 to 21, inclusive for those portions lying south of FWS Management Boundary, unsurveyed;
sec. 22, that part lying east and south of FWS Management Boundary, unsurveyed;
secs. 27 to 34, inclusive, unsurveyed.
T. 16 S., R. 63 E.,
secs. 3 to 10, inclusive, secs. 15 to 22, inclusive, and secs. 28 to 33, inclusive.
T. 17 S., R. 63 E.,
secs. 7, 8, and 9, secs. 16 to 21, inclusive, and 28 to 31, inclusive;
sec. 32, that part lying west of powerline Right-of-Way N-53399.
T. 18 S., R. 63 E.,
sec. 5, that part lying west of powerline Right-of-Way N-53399;
secs. 6, 7, 8, 17, 18, 19, 29, and 30, for those portions lying west of powerline Right-of-Way N-53399;
sec. 31, lots 7, 8, 9, 15, 18, and NW¼NE¼.
T. 19 S., R. 63 E.,
sec. 6, that part lying west of powerline Right-of-Way N-53399.

Crescent Townsite ACEC (NVN 76872)

T. 28 S., R. 61 E.,
sec. 29, SW¼ and W½SE¼, excluding patented lands;
sec. 30, E½SE¼;
sec. 32, W½NE¼ and E½NW¼.

Devil's Throat ACEC (NVN 76874)

T. 17 S., R. 70 E.,
sec. 26.

Gold Butte Part A, ACEC (NVN 76875)

T. 14 S., R. 69 E.,
secs. 24, 25, 26, 34, 35, and 36.
T. 15 S., R. 69 E.,
secs. 1, 2, 3, 9, and 10;
sec. 11, N½, N½SW¼, N½SE¼, SW¼SW¼ and SE¼SE¼;
secs. 12 and 13;
sec. 14, NE¼NE¼, S½NE¼, S½NW¼, NW¼NW¼ and S½;
secs. 15 and 16;
secs. 21 to 28, inclusive, and secs. 33 to 36, inclusive.
T. 16 S., R. 69 E.,
secs. 1 to 4, inclusive, and 8 to 17, inclusive;
secs. 20 to 28, inclusive, and 33 to 36, inclusive.
T. 17 S., R. 69 E.,

secs. 1, 2, 3, and 11 to 14; inclusive;
secs. 24, 25, and 36, excluding patented lands.
T. 18 S., R. 69 E.,
sec. 1, excluding patented lands.
T. 14 S., R. 70 E.,
sec. 1;
secs. 10 to 36, inclusive.
T. 15 S., R. 70 E.,
secs. 2 to 11, inclusive, and secs. 15 to 20, inclusive;
secs. 21 and 22, excluding patented lands;
secs. 28 to 33, inclusive.
T. 16 S., R. 70 E.,
secs. 4 to 11, inclusive, and secs. 13 to 36, inclusive.
T. 17 S., R. 70 E.,
secs. 1 to 36, inclusive.
T. 18 S., R. 70 E.,
secs. 1 to 6, inclusive, secs. 10 to 15, inclusive, secs. 22 to 27, inclusive, secs. 34, 35, and 36, unsurveyed.
T. 13 S., R. 71 E.,
sec. 32;
sec. 33, that part lying west of Range Improvement (Fence) 0101.
T. 14 S., R. 71 E.,
sec. 4, that part lying west of Range Improvement (Fence) 0101;
secs. 5 to 8, inclusive;
secs. 9, 10, and 15, inclusive for those portions lying west of Range Improvement (Fence) 0101;
secs. 16 to 20, inclusive;
sec. 21, that part lying northwest of NVCC 022455 Pipeline Right-of-Way;
secs. 22 and 28, inclusive for those portions lying west of NVCC 022455 Pipeline Right-of-Way;
secs. 29, 30, and 31.
T. 16 S., R. 71 E.,
sec. 19;
secs. 29 to 32, inclusive.
T. 17 S., R. 71 E.,
secs. 4 to 10, inclusive, secs. 15 to 22, inclusive, and secs. 27 to 34, inclusive, unsurveyed.
T. 18 S., R. 71 E.,
secs. 3 to 10, inclusive, secs. 15 to 22, inclusive, and secs. 27 to 34, inclusive, unsurveyed.
T. 19 S., R. 71 E.,
secs. 3, 4, 9, 10, 15, 16, 21, and 22, unsurveyed;
secs. 27 and 28, for those portions lying north of Withdrawal Reclamation Project (Wdl Recl Proj) of 1/31/1903.

Gold Butte Part B, ACEC (NVN 76876)

T. 17 S., R. 69 E.,
secs. 22 and 23;
sec. 26, excluding patented lands;
secs. 27 and 34;
sec. 35, excluding patented lands.
T 18 S., R. 69 E.,
sec. 2, excluding patented lands;
secs. 3, 9, and 10;
secs. 11 and 12, excluding patented lands;
sec. 13;
sec. 14, excluding patented lands;
secs. 15, 16, 17, secs. 20 to 29, inclusive, and secs. 32 to 36, inclusive.
T.19 S., R. 69 E.,
secs. 1 and 2, inclusive, excluding patented lands;
secs. 3 to 10, inclusive;
sec. 11, excluding patented lands;

secs. 12 to 36, inclusive.
T. 20 S., R. 69 E.,
secs. 1 to 17, inclusive;
secs. 18, 19, and 20, inclusive for those portions lying northeast of the Bureau of Reclamation Project boundary;
secs. 21 to 27, inclusive;
secs. 28, 29, and 33, for those portions lying northeast of the Bureau of Reclamation Project boundary.
T. 18 S., R. 70 E.,
secs. 7, 8, 9, secs. 16 to 21 inclusive, and secs. 28 to 33, inclusive, unsurveyed.
T. 19 S., R. 70 E.,
secs. 1 to 36, inclusive, unsurveyed.
T. 20 S., R. 70 E.,
secs. 1 to 11, inclusive, secs. 14 to 22, inclusive, and secs. 27 to 30, inclusive, unsurveyed.
T. 19 S., R. 71 E.,
secs. 5 to 8, inclusive, secs. 17 to 20, inclusive, and secs. 29 and 30, unsurveyed;
secs. 31 and 32, inclusive for those portions lying northeast of Bureau of Reclamation Project boundary.

Gold Butte Townsite ACEC (NVN 76877)

T. 19 S., R. 70 E.,
sec. 17, S½NW¼ and N½SW¼, unsurveyed.

Hidden Valley ACEC (NVN 076878)

T. 18 S., R. 65 E.,
sec. 26, W½, unsurveyed;
sec. 27, E½, unsurveyed;
secs. 34 and 35, unsurveyed.
T. 19 S., R. 65 E.,
sec. 2, W½, unsurveyed;
sec. 3, unsurveyed;
sec. 10, N½, unsurveyed;
sec. 11, NW¼, unsurveyed.

Keyhole Canyon ACEC (NVN 76879)

T. 26 S., R. 63 E.,
sec. 3, lots 6, 7, and 8, and SW¼NE¼ and S½NW¼.

Mormon Mesa Tortoise ACEC (NVN 76880)

T. 13 S., R. 63 E.,
sec. 25, lots 3, 4, 7, and 9, SW¼NW¼ and S½;
sec. 36.
T. 13½ S., R. 63 E.,
sec. 36, unsurveyed.
T. 14 S., R. 63 E.,
sec. 1, unsurveyed.
T. 13 S., R. 64 E.,
secs. 1 to 5, inclusive, unsurveyed.
sec. 6, lots 1 and 2, S½NE¼ and SE¼, unsurveyed;
sec. 7, NE¼ and E½SE¼, unsurveyed;
secs. 8 to 17, inclusive, and secs. 20 to 29, inclusive, unsurveyed;
sec. 30, that part lying south of Right-of-Way Nev 065185 (State of Nevada Highway 168), unsurveyed;
secs. 31 to 36, inclusive, unsurveyed.
T. 13½ S., R. 64 E.,
secs. 31 to 35, inclusive, unsurveyed;
sec. 36, that part lying north of Right-of-Way Nev 060130 (U.S. Highway 93), unsurveyed.

T. 14 S., R. 64 E.,
secs. 2 to 6, inclusive, secs. 8 to 11, inclusive, and secs. 15 and 16, inclusive, unsurveyed.
T. 13 S., R. 65 E.,
sec. 1, lots 2, 3, and 4, and SW¼NE¼, S½NW¼, SW¼ and W½SE¼;
secs. 2 to 24, inclusive;
sec. 26, N½;
sec. 27, N½;
sec. 28, N½ and SW¼;
secs. 29 and 30;
sec. 31, that part lying north of Right-of-Way Nev 060130 (U.S. Highway 93);
sec. 32;
sec. 33, W½.
T. 13 S., R. 66 E.,
secs. 1 to 5, inclusive;
sec. 6, lots 1 to 4, inclusive, and S½NE¼, SE¼NW¼, E½SW¼ and SE¼;
sec. 7 to 18, inclusive;
sec. 19, lots 1 to 4, inclusive, SE¼NW¼, E½SW¼ and SW¼SE¼;
secs. 20 to 24, inclusive.
T. 13 S., R. 67 E.,
secs. 1 to 36, inclusive.
T. 14 S., R. 67 E.,
secs. 1 to 5, inclusive;
sec. 6, lots 1 and 2, and S½NE¼ and SE¼;
sec. 7, NE¼;
secs. 8 to 11, inclusive;
secs. 12 to 15, inclusive for those portions lying north of Right-of-Way Nev 061478 (U.S. Interstate 15);
sec. 16;
sec. 17, N½ and SE¼;
sec. 20, E½;
secs. 21 and 22, inclusive for those portions lying north of Right-of-Way Nev 061478 (U.S. Interstate 15).
T. 13 S., R. 68 E.,
secs. 1 to 32, inclusive;
secs. 33 to 36, inclusive for those portions lying north of Right-of-Way Nev 061478 (U.S. Interstate 15).
T. 14 S., R. 68 E.,
secs. 4 to 7, inclusive for those portions lying north of Right-of-Way Nev 061478 (U.S. Interstate 15).
T. 13 S., R. 69 E.,
secs. 1 to 24, inclusive;
sec. 25, lots 1, 3, 12, and 15, N½ and N½SE¼;
sec. 26, lots 1, 5, 8, 10, 11, and 14, and N½NE¼, SE¼NE¼ and NE¼NW¼;
sec. 27, lots 1, 3, 5, 7, and 9;
sec. 28, lots 1, 3, 5, and 8, and N½N½;
sec. 29, lots 1, 5, 8, 11, and 13, and N½NE¼, SW¼NE¼ and NW¼;
sec. 30, lots 5 to 10, inclusive, lots 12 to 16, inclusive, lots 18, 20, 23, and 26, NE¼ and NW¼SE¼.
T. 13 S., R. 70 E.,
secs. 4 and 5, west of Boundary Line; **
secs. 6 and 7;
secs. 8, 9, and 17, west of Boundary Line;
secs. 18 and 19;
secs. 20 and 29, west of Boundary Line;
sec. 30, lots 5, 6, 7, 9, 12, 14, and 16;
sec. 31, lots 9 and 11, both portions north of Right-of-Way Nev 064785 (U.S. Interstate 15) centerline;
sec. 32, lot 9.

**The "Boundary Line" as denoted in the above legal descriptions for the Mormon Mesa ACEC refers to the eastern boundary line of the ACEC, which follows closely the edge of the Mesa and Toquop Wash. However, the line is not the Mesa edge, nor Toquop Wash, but follows closely between the two. The "Boundary Line" denoted for the eastern edge of the ACEC is shown on the 7.5 minute USGS Flat Top Mesa Topographic Map.

Piute/Eldorado Tortoise ACEC (NVN 76881).

T. 28 S., R. 60 E.,
secs. 2, 3, 10, and 11;
sec. 13, W½ and SE¼;
secs. 14 to 17, inclusive, and secs 21, 22, and 23;
sec. 24, all, excluding patented lands;
secs. 25 and 26, for both portions lying north of Right-of-Way Nev 058548 (State of Nevada Highway 164);
sec. 26, that part lying north of Right-of-Way Nev 058548 (State of Nevada Highway 164);
sec. 27.
T. 26 S., R. 61 E.,
secs. 1 and 2, secs. 11 to 14, inclusive, and secs. 24, 25, and 36.
T. 27 S., R. 61 E.,
secs. 1, 12, and 13, secs. 23 to 26, inclusive, secs. 35 and 36.
T. 28 S., R. 61 E.,
secs. 1 and 2, and secs. 10 to 12, inclusive;
secs. 13, 14, and 15, for those portions lying north of Right-of-Way Nev 058548 (State of Nevada Highway 164);
sec. 16;
sec. 19, excluding patented lands;
sec. 20, that part lying north of Right-of-Way Nev 058548 (State of Nevada Highway 164) and excluding patented lands;
secs. 21, 22, 29, and 30, inclusive for those portions lying north of Right-of-Way Nev 058548 (State of Nevada Highway 164).
T. 29 S., R. 61 E.,
sec. 36.
T. 26 S., R. 62 E.,
secs. 3 to 10, inclusive, and secs. 15 to 20, inclusive;
sec. 22, E½ and N½NW¼;
secs. 23 to 26, inclusive;
sec. 27, NE¼;
secs. 29 to 32, inclusive, and secs. 35 and 36.
T. 27 S., R. 62 E.,
sec. 1, secs. 5 to 8, inclusive, and sec.12;
sec. 13, E½;
secs. 17 to 20, inclusive;
sec. 24, E½;
sec. 25, E½;
secs. 29 to 36, inclusive.
T. 28 S., R. 62 E.,
secs. 1 to 17, inclusive;
sec. 18, that part lying north of Right-of-Way Nev 058548 (State of Nevada Highway 164);
secs. 20 and 21;
sec. 22, N½, N½SW¼ and SE¼;
secs. 23 to 26, inclusive;
sec. 27, NE¼, S½NW¼ and S½;
secs. 28 and 29;
sec. 31, lots 14 and 15, N½SE¼, excluding patented lands;
secs. 32 to 36, inclusive.
T. 29 S., R. 62 E.,
secs. 1 to 5, inclusive;
sec. 6, E½;
secs. 7 to 32, inclusive;
sec. 33, NE¼NE¼ and NW¼NW¼;
secs. 34 to 36, inclusive.

T. 30 S., R. 62 E.,
secs. 1 and 2;
secs. 11 to 14, inclusive.
T. 27 S., R. 62½ E.,
secs. 1, 12, 13, 24, 25, and 36, unsurveyed.
T. 26 S., R. 63 E.,
sec. 19;
sec. 20, that part lying west of Right-of-Way NVCC 020733 (U.S. Interstate 95) and south of powerline Right-of-Way N-00869;
secs. 21 to 25, inclusive for those portions lying south of powerline Right-of-Way N-00869;
secs. 26 to 36, inclusive.
T. 27 S., R. 63 E.,
secs. 1 to 36, inclusive.
T. 28 S., R. 63 E.,
secs. 1 to 8, inclusive;
sec. 9, excluding patented lands;
secs. 10 and 11;
sec. 12, lots 1 to 8, inclusive, and N½;
sec. 13, lots 1, 2, and 3, and NW¼NE¼, S½NE¼, NW¼, N½SW¼, and SE¼;
sec. 14, lots 1 and 8, and N½;
sec. 15, excluding patented lands;
secs. 16 to 20, inclusive;
sec. 29, that part lying north of Right-of-Way Nev 058548 (State of Nevada Highway 164);
sec. 30, excluding SE¼NE¼ that part lying south of Right-of-Way Nev 058548 (State of Nevada Highway 164) and excluding E½SE¼;
sec. 31;
sec. 32, W½SW¼ and SE¼SW¼.
T. 29 S., R. 63 E.,
secs. 5 to 10, inclusive, and secs. 15 to 22, inclusive;
secs. 23, 24, and 25, for those portions lying west of Right-of-Way NVCC 020845 (U.S Interstate 95);
secs. 26 to 36, inclusive.
T. 30 S., R. 63 E.,
secs. 1 to 16, inclusive, and secs. 21 to 24, inclusive;
sec. 25, excluding patented lands;
secs. 26 to 29, inclusive, and secs. 32 to 35, inclusive;
sec. 36, excluding patented lands.
T. 31 S., R. 63 E.,
sec. 1, lots 3 and 4, and S½NW¼ and SW¼;
sec. 2;
sec. 3, lots 1, 2, and 3, and S½NE¼, SE¼NW¼ and S½;
sec. 4, lot 4, and SW¼NW¼;
secs. 5, 8, 10, and 11;
sec. 12, W½ and W½SE¼;
sec. 13, W½ and W½E½;
secs. 14, 15, secs. 22 to 26, inclusive, and 36.
T. 26 S., R. 64 E.,
secs. 29 and 30, inclusive for those portions lying south of powerline Right-of-Way N-00869;
secs. 31, 32, and 33.
T. 27 S., R. 64 E.,
secs. 4 to 9 and secs. 16 to 23, inclusive;
sec. 25, excluding patented lands;
secs. 26 and 27;
secs. 28 and 29, inclusive excluding patented lands;
secs. 30 and 31;
secs. 32 and 33, inclusive excluding patented lands;
secs. 34, 35, and 36.
T. 28 S., R. 64 E.,

secs. 1 to 6, inclusive;
secs. 7 and 8, excluding patented lands;
secs. 9 to 16, inclusive;
secs. 17 and 18, excluding patented lands;
secs. 21 to 26, inclusive, and 35 and 36.
T. 29 S., R. 64 E.,
secs. 1, 2, 3, secs. 9 to 16, inclusive, secs. 21 to 28, inclusive, and secs. 31 to 36, inclusive.
T. 30 S., R. 64 E.,
secs. 1 to 29, inclusive;
sec. 31, lots 3 and 4, lots 13 to 68, inclusive, and E½NE¼, E½SW¼ and SE¼;
secs. 32 to 36, inclusive.
T. 31 S., R. 64 E.,
secs. 1 to 31, inclusive;
sec. 32, N½ and SW¼;
secs. 33 to 36, inclusive.
T. 32 S., R. 64 E.,
secs. 1, 2, and 3;
sec. 4, lots 1 and 2, lots 5 to 24, inclusive, lots 34 to 47, inclusive, lots 59 to 82, inclusive, and lots 84 to 128, inclusive, and S½SE¼NW¼, SW¼, S½NE¼SE¼, SE¼NW¼SE¼, E½SW¼SE¼ and SE¼SE¼;
sec. 5, lots 6 to 9, inclusive, lots 12 and 13, lots 15 to 22, inclusive, lots 25 to 29, inclusive, lots 32 to 37, inclusive, lots 40 to 45, inclusive, lots 47 to 78, inclusive, and SW¼NE¼, SE¼NW¼ and NW¼SE¼;
secs. 6 and 8;
sec. 9, lots 1, 2, 7 and 8, lots 10 to 21, inclusive, lots 27 to 30, inclusive, lots 38 to 41, inclusive, lots 48, 49, 56, 63, 75, 76, 77, and lots 79 to 84, inclusive, and SW¼NE¼ and NW¼SE¼;
secs. 10 to 16, inclusive, secs. 22 to 26, inclusive, and sec. 36.
T. 30 S., R. 65 E.,
secs. 4, 5, and 6, unsurveyed;
secs. 7, 8, and 9, excluding patented lands, unsurveyed;
sec. 16, unsurveyed;
secs. 17 and 18, inclusive, excluding patented lands, unsurveyed;
secs. 19, 20, 21, 30 and 31, unsurveyed.
T. 31 S., R. 65 E.,
sec. 6, and secs. 28 to 33, inclusive, unsurveyed.
T. 32 S., R. 65 E.,
secs. 2 to 8, inclusive;
secs. 9 to 12, inclusive for those portions lying north and west of Right-of-Way NVCC 022416 (State of Nevada Highway 163);
secs. 17 to 20, inclusive and secs. 29 to 32, inclusive.
T. 33 S., R. 65 E.,
sec. 5.

Rainbow Gardens ACEC (NVN 76882)

T. 20 S., R. 62 E.,
sec. 12;
sec. 13, lots 1, 2, 15 and 16;
secs. 24 and 25;
sec. 35, lots 1 to 4, inclusive;
sec. 36.
T. 21 S., R. 62 E.,
secs. 1, 12 and 13;
sec. 14, E½.
T. 20 S., R. 63 E.,
sec. 1, N½, NW¼NE¼SW¼, N½NW¼SW¼, SW¼NW¼SW¼, SW¼SW¼, and W½SE¼SW¼, unsurveyed;
secs. 2 and 7, unsurveyed;
sec. 8, W½, unsurveyed;
sec. 11, excluding patented lands, unsurveyed;

sec. 12, NW¼NW¼ and W½SW¼, unsurveyed;
sec. 13, W½NE¼NW¼, W½NW¼, W½SE¼NW¼, SW¼, S½NE¼SE¼, W½NW¼SE¼ and S½SE¼, unsurveyed;
secs. 14 to 34, inclusive, unsurveyed.
T. 21 S., R. 63 E.,
secs. 3 to 10 inclusive, and secs. 16 to 18, inclusive;
sec. 19, N½ and SE¼;
sec. 20;
sec. 21, N½, SW¼, N½SE¼ and SW¼SE¼.
T. 20 S., R. 64 E.,
secs. 4 and 5;
sec. 8, N½ and SE¼;
secs. 9 and 16;
sec. 19, lots 7 and 8, and SE¼SW¼;
sec. 20, S½NE¼, NE¼SW¼, S½SW¼ and SE¼;
sec. 21;
secs. 28, 29, and 30.

Red Rock Spring ACEC (NVN 76883)

T. 17 S., R. 70 E.,
sec. 7, SE¼;
sec. 8, SW¼;
sec. 17, NW¼;
sec. 18, NE¼.

River Mountains ACEC (NVN 76884)

T. 21 S., R. 63 E.,
sec. 36, N½.
T. 22 S., R. 63 E.,
secs. 11, 12, and 13;
sec. 23, E½;
secs. 24 and 25;
sec. 26, E½;
sec. 36.
T. 22 S., R. 63½ E.,
secs. 12, 13, 24, 25, and 36.
T. 23 S., R. 63½ E.,
sec. 1, lots 1 to 7, inclusive, and S½NE¼.

Sloan Rock Art ACEC (NVN 76885)

T. 23 S., R. 61 E.,
sec. 35, S½S½.
T. 24 S., R. 61 E.,
sec. 2, lots 1 to 4, inclusive.

Stump Spring ACEC (NVN 76886)

T. 22 S., R. 55 E.,
sec. 32, S½.
T. 23 S., R. 55 E.,
sec. 5, lots 1 to 4, inclusive, and S½N½.

Virgin Mountain (Gold Butte Part C) ACEC (NVN 76887)

T. 15 S., R. 70 E.,
sec. 1;
secs. 12, 13, and 14, secs, 23 to 27, inclusive and secs. 34, 35, and 36.
T. 16 S., 70 E.,
secs. 1, 2, 3, and 12.
T. 14 S., 71 E.,
secs. 32, 33, and 34.
T. 15 S., 71 E.,
secs. 3 to 10, inclusive, secs. 15 to 22 inclusive, and secs. 27 to 34, inclusive, unsurveyed.
T. 16 S., 71 E.,
secs. 3 to 10, inclusive, and secs. 15 to 18, inclusive;
secs. 20 and 21;
sec. 22, lots 1 and 2, E½NW¼ and NE¼SW¼;
sec. 27, lots 2, 3, and 4, SE¼NW¼ and E½SW¼;
secs. 28, 33, and 34.
T. 17 S., 71 E.,
sec. 3, unsurveyed.

Virgin River ACEC (NVN 76888)

T. 14 S., R. 69 E.,
sec. 11, SE¼;
sec. 12, W½NE¼, NW¼ and NW¼SW¼;
sec. 14, N½NE¼, NW¼, N½SW¼ and SE¼SW¼;
sec. 15, SE¼;
sec. 22, NE¼ and S½;
secs. 26, 27, and 28, for those portions of public land lying north of Gold Butte Back Country Byway Road;***
sec. 29, S½;
sec. 32, N½, SW¼ and SE¼SE¼;
sec. 33, public land lying north of Gold Butte Back Country Byway Road.
T. 13 S., R. 70 E.,
sec. 27, lots 8, 10, 17, 19, and 21, and that part lying south of Right-of-Way Nev 065014 (U.S. Interstate 15);
sec. 33, lots 1, 11, 13, 15, and 17, SW¼, N½SE¼ and SW¼SE¼, that part lying south of Right-of-Way Nev 065014 (U.S. Interstate 15);
sec. 34, lots 1 to 4, inclusive, 6, 10, and 11 and NW¼NW¼, that part lying south of Right-of-Way Nev 65014 (U.S. Interstate 15) and north of Right-of-Way Nev 07490 (State of Nevada Highway 170).
T. 14 S., R. 70 E.,
sec. 3, lot 4, that portion lying north of Right-of-Way Nev 07490 (State of Nevada Highway 170);
secs. 4 and 5, those portions lying northwest of Right-of-Way Nev 07490 (State of Nevada Highway 170);
sec. 6, lots 1, 2, 6, and 7, S½NE¼, E½SW¼ and SE¼;
secs. 7 and 8, those portions lying north of Right-of-Way Nev 07490 (State of Nevada Highway 170);
***The Gold Butte Back Country Byway is a Clark County, Nevada Revised Statute 2477 road.

Whitney Pocket ACEC (NVN 76889)

T. 16 S., R. 70 E.,
sec. 23, SE¼.

The areas described above aggregate approximately 944,343 acres in Clark and Nye County.