

Havasu Travel Management Plan (TMP)
Environmental Assessment
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1.0 INTRODUCTION

The Havasu Travel Management Plan (TMP) is the product of extensive public and agency input. Its intent is to establish a comprehensive travel network, and meet both current and future access needs to the area's public lands while resolving conflict among users of the travel network as identified in this document. This plan identifies a system of roads, primitive roads and trails, as well as the terms for their use and maintenance. Additionally, it outlines facilities to be developed in support of recreation through creation of new routes, and closure of other routes. The travel network identified in this TMP comprises both motorized and non-motorized trails.

This Environmental Assessment (EA) provides analysis of the proposed plan, and four alternatives considered during the planning process.

1.1 BACKGROUND

Federal agencies are directed to manage motorized vehicle use on public lands through Executive Order 11644 and Executive Order 11989, which have been incorporated into the Code of Federal Regulations (CFR), under 43 CFR 8342.1. Routes identified within the Lake Havasu Field Office Record of Decision and Approved Resource Management Plan (2007 LHFO RMP) are designated as "limited to existing roads and trails"¹ with the exception of two sub-regions wherein routes are allocated as "limited to existing roads and trail – seasonal use." The 2007 LHFO RMP deferred choosing the designation of specific roads and trails as "open," "closed," or "limited," to individual activity-level travel management plans. The Havasu Travel Management Area (TMA), one of six within the Lake Havasu Field Office's jurisdiction, comprises approximately 217,029 acres of BLM administered lands covered under this analysis. Following approval of the Havasu TMP, all routes will be "limited to designated roads and trails." In addition, the 2007 LHFO RMP limits the use of motorized vehicles in the Aubrey Hills Recreational Management Zone (RMZ) for existing authorized use; the Standard Wash RMZ is designated as an Off-Highway Vehicle (OHV) open area².

The proper management of the Havasu TMA entails evaluation and designation of all individual routes/trails for uses within the TMA unless designated as an open area or Wilderness Area. The overall goal of the Havasu TMP is to encourage and accommodate outdoor recreation opportunities while protecting natural, cultural, and historic resources by limiting OHV use to designated routes.

A travel network in the TMA is necessary to respond to increased OHV use on public lands due to population increases in the area. Nationwide participation in OHV activity increased 32% between fall 1999 and 2005³. As this use increases in this area, conflict can occur with users seeking different recreational experiences. Additionally, as urban development encroaches on public lands, recreational use pressures can negatively impact natural and cultural resources, as well as other authorized uses.

¹ Limited to Existing Roads and Trails Area designation was first applied to TMA public lands in the 1987, *Final Yuma District Resource Management Plan and EIS*.

² Lake Havasu Resource Management Plan and Record of Decision, 2007, BLM Lake Havasu Field Office, Page (s) #115 TM-24

³ *Off-Highway Vehicle Recreation in the United States, Regions and States: A National Report from the National Survey on Recreation and the Environment (NSRE)*, 2005, H. Ken Cordell, Carter J. Betz, Gary Green, Matt Owens

1.2 PLAN AREA

The Havasu TMA encompasses 557 square miles within Mohave County, Arizona and San Bernardino County, California. Table 1 outlines respective acreages managed by various land agencies throughout the TMA.

	Federal Lands	State Lands	Private Lands	Tribal Lands	Other	Total
Number of Acres	217,029	28,918	45,538	36,038	28,789	356,312

Outdoor recreation is a major draw for local residents and seasonal visitors to Lake Havasu City. Within the Havasu TMA the public may experience a wide variety of recreational activities including OHV riding, target shooting, hunting, hiking, biking, horseback riding, recreational mining, camping, wildlife observation, sightseeing, shoreline fishing and rock hounding. To adequately manage a range of recreational opportunities in the Havasu TMA, the 2007 LHFO RMP established two Special Recreation Management Areas (SRMA), the Havasu Urban SRMA and the Lake Havasu SRMA, which encompass six Recreational Management Zones (RMZ). In addition to recreation, the Havasu TMA contains a major utility corridor, two permitted grazing allotments, several active mining operations, one Area of Critical Environmental Concern (ACEC) and wildlife management areas for bighorn sheep and desert tortoise. Figure 1 displays a general overview of the Havasu TMA.

1.3 LAND USE PLAN CONFORMANCE

The proposed action is in conformance with federal regulations pursuant to 43 CFR Subpart 8342 and BLM policies. The Havasu TMP is considered an implementation or an action plan and is in conformance to the 2007 LHFO RMP; The TMP conforms with national goals and objectives set through the following strategic plans and manuals: *Recreation 2000, A Strategic Plan*, and *National Management Strategy for Motorized off- Vehicle Use on Public Lands (2001)*.

1.4 PURPOSE AND NEED

Presently, the Havasu TMA is open to all motorized and non-motorized uses on existing, inventoried routes. Route proliferation has been and continues to be a concern in the area, contributing to increased conflict amongst various recreationists, habitat fragmentation, and erosion. Additionally, the lack of trail markers and associated maps contributes to issues related to navigability and therefore, public safety. The purpose of the Proposed Action entails modifying the existing travel network within the Havasu TMA through designation of inventoried routes as open, limited, or closed. The Proposed Action will enhance outdoor recreational opportunities through increased public safety and navigability, meeting access needs, and protecting both natural and cultural resources on public lands. Guidance for implementing the Proposed Action is driven by Executive Orders 11644 and 11989, 43 CFR 8342.1, Manual 1626, Handbook 8342, and Desired Future Condition TM-1 in the 2007 LHFO RMP.

1.4.1 DECISIONS TO BE MADE

The plan's *Decision Record* will specifically:

- Convert areas that are currently allocated as “limited to existing roads, primitive roads and trails,” to areas that are “limited to designated roads, primitive roads, and trails.”
- Establish a travel network, with each route explicitly designated per the requirements of 43 CFR 8342.1, BLM manual 16266, and Handbook 8342.

1.5 SCOPING AND ISSUES

1.5.1 INTERNAL SCOPING

The BLM interdisciplinary (ID) team analyzed the potential consequences of the Proposed Action and alternatives during route evaluations and meetings held throughout the development of the Havasu TMP. Table 2 displays the resource issues analyzed and addressed in Section 3.0 Affected Environment and Environmental Effects.

TABLE 2: INTERNAL SCOPING

Resource Issue	Not Present	Present Not Impacted	Present Impacted	Rationale
Air Quality*		x		Mohave County is in Attainment Area.
Areas of Critical Environmental Concern			x	See Section 3.1
Cultural/Paleontological Resources			x	See Section 3.2
Environmental Justice		x		No minority or low income group would be disproportionately impacted by health or environmental effects.
Farmlands*	x			No farmlands are present within the Havasu TMA
Fish Habitat*		x		No motorized access near Lake Havasu.
Fish & Wildlife Excluding Federally Listed Species			x	See Section 3.3
Floodplains*		x		No floodplains will be impacted by route designations
Forests and Rangelands*	x			No designated forests/rangelands within the Planning Area
Fuels/Fire Management		x		Fuels/Fire Management will not be impacted by route designations
Grazing		x		Grazing will not be impacted by route designations
Greenhouse Gas Emissions (Climate Change)		x		The Havasu TMP will determine which routes will be open to motorized use, but has no authority over the amount of motorized use within the TMA.
Hazardous or Solid Wastes*			x	See Section 3.4
Migratory Birds*			x	See Section 3.5
Minerals		x		Access for any mining activity is described and approved in the associated mining plan or notice. Includes a reclamation plan for any disturbance created to access mining areas.
Native American Religious Concerns*			x	See Section 3.6
Public Health & Safety			x	See Section 3.7
Recreation			x	See Section 3.8
Socioeconomics			x	See Section 3.9

Soils			x	See Section 3.10
Threatened and Endangered Species*			x	See Section 3.11
Travel Management			x	See Section 3.12
Vegetation/ Invasive & Non-Native Species			x	See Section 3.13
Visual Resources			x	See Section 3.14
Water Quality (Drinking or Groundwater)*		x		No motorized access near Lake Havasu.
Wetlands/Riparian Zones*		x		No motorized access near Lake Havasu
Wild & Scenic Rivers*	x			No Wild & Scenic Rivers in Planning Area
Wilderness*		x		Several routes access the Chemehuevi Mountain Wilderness, but do not enter or impact the designated Wilderness Area

1.5.2 EXTERNAL SCOPING

BLM held three public scoping meetings in Lake Havasu City to encourage and elicit public input on route designation alternatives. BLM initially invited public comment of the proposed route designations for 30 days. As a result of comments received, the public comment period was extended for a period of six months to accommodate seasonal resident input. Communication was encouraged by establishing a website (http://www.blm.gov/az/st/en/prog/travel_mgmt/lhfo/hav-tmp.html) which explained the planning process and provided the public with maps of four alternatives, as well as comment forms.

A final public scoping meeting was held on February 6, 2013 to encourage public review of a preliminary TMP for the Havasu TMA and its associated draft Environmental Assessment. Additional information on previous public comments received is outlined in Appendix B.

1.5.3 ISSUES

Resulting from public scoping, the list below summarizes the identified issues and concerns; Table 3 outlines specific resource issues and where they are addressed in this document.

- Route closures present a potential negative impact on the local economy due to the popularity of OHV use in the area.
- Route closures may reduce opportunity for OHV casual use, as well as access for other recreational uses.
- Public concern is that any route closure intensifies the impacts on the remaining open routes. Public motorized access is being squeezed onto smaller and smaller areas. OHV use is on the rise, but OHV trails are diminishing in number.

TABLE 3: ISSUES

Resource	Resource Issue	Section Addressing Issue
Socioeconomic Resources	How would routes closures impact the local economy, specifically the sales of off-road vehicles, parts, fuel, and the tourism industry?	See Section 3.9
Recreation	How would the route designations impact family recreational opportunities?	See Section 3.8
Wildlife	How would the route designations impact bighorn sheep movement corridors and lambing grounds?	See Section 3.3
Wildlife	How would the proposed action impact desert tortoise habitat quality?	See Section 3.3 and 3.11
Cultural	How would the route designations impact existing cultural resources?	See Section 3.2
Minerals	How would the route designations impact access to mining claims?	See Section 1.5.1
Recreation	How would the route designations contribute to loop routes and connectivity?	See Section 3.8
Recreation	How will the route designations impact access to prospecting, hunting opportunities, geocaching, and scenic view points?	See Section 3.8
Socioeconomic Resources	How would the route designations impact seasonal visitor frequency and use of travel network?	See Section 3.9
Recreation	How would the route designations impact public safety?	See Section 3.8

2.0 PROPOSED ACTION & ALTERNATIVES CONSIDERED

The Proposed Action is one of four alternatives considered in this analysis. Each alternative (except the No Action Alternative), follows the purpose and need as described in section 1.4 of this analysis. While each alternative (except the No Action Alternative) differs in their respective approaches to route network and Technical Vehicle Sites (TVS) designations, they all follow prescriptions outlined in the TMP. Table 4 below, outlines the differences between miles of route designations and the number of TVS for each alternative. Maps of each alternative are contained in Appendix G.

<i>TABLE 4: ROAD/PRIMITIVE ROAD/TRAIL DESIGNATIONS PER ALTERNATIVE</i>				
Designation	No Action Alt A (Miles)	Resource Protection Alt B (Miles)	Proposed Action Alt C (Miles)	Access Alt D (Miles)
Open/Mitigate Open	684.41	334.36	571.44	660.95
Non-Motorized Use Only	69.40	14.19	49.15	53.74
Limited to Authorized Users/Vehicles	28.15	55.51	69.43	55.94
Closed	0	441.27	155.31	74.70
TOTAL (MILES)	781.96	845.33	845.33	845.33
Technical Vehicle Sites (#)	2	2	16	21

2.1 NO ACTION (ALTERNATIVE A)

In the No Action Alternative (Alternative A), current management objectives for the Havasu TMA would be maintained. In this alternative, 684.41 miles (87.5%) of routes existing at the time of the initial route inventory would remain open to all recreational uses as outlined in the 2007 LHFO RMP. Additionally, 69.40 miles (8.9%) would remain open for non-motorized activities, as part of the Aubrey Hills RMZ. Routes limited to authorized users (i.e. private land owners or permittees), single track vehicles, and administrative purposes comprise 28.15 miles (3.6%).

Two TVS exist for rock crawling activities, located in the southeastern portion of the TMA outside of the Standard Wash Open Area. There are two areas which are closed to vehicular travel January through June due to Bighorn Sheep lambing season; these areas are located north of Lake Havasu City on both the west and east sides of Arizona Highway 95.

The No Action Alternative would not provide enhancement of recreational opportunities within the Havasu TMA through signing of routes and improving navigability. Furthermore, it would not address issues pertaining to habitat fragmentation, route proliferation, erosion, public safety, or user conflict.

2.2 RESOURCE PROTECTION (ALTERNATIVE B)

The Resource Protection Alternative (Alternative B) was developed to enhance natural and cultural resources through reducing motorized vehicular activity within the Havasu TMA. Alternative B is the most restrictive for OHV use. Based on extensive route evaluations, Alternative B would have 334.36 miles (39.6%) open to all recreational uses; 14.19 miles (1.7%) would be open for non-motorized activities. The majority of these non-motorized routes are located within the North Aubrey and Aubrey Hills RMZs, both of which were designated as non-motorized areas in the 2007

LHFO RMP. Routes limited to authorized users (i.e. private land owners or permittees), single track vehicles, and administrative purposes comprise 55.51 miles (6.5%). Routes designated as closed comprise 441.27 miles (52.2%) of the inventoried routes.

Two TVS exist for rock crawling activities, located in the southeastern portion of the TMA outside of the Standard Wash Open Area; no additional TVS would be designated.

Seasonal area limitations for motorized vehicular activity across Bighorn Sheep lambing grounds would cease; protection of these areas would be accomplished through the route designations associated with this alternative.

2.3 PROPOSED ACTION (ALTERNATIVE C)

The Proposed Action (Alternative C) was developed to provide an array of outdoor recreational opportunities for motorized and non-motorized users, while protecting natural and cultural resources through route closures. Based on extensive route evaluations, Alternative C would have 571.44 miles (67.6%) open to all recreational uses. Additionally, 49.15 miles (5.8%) would be open for non-motorized activities. The majority of these non-motorized routes are located within the North Aubrey and Aubrey Hills RMZs, both of which were designated as non-motorized areas in the 2007 LHFO RMP. Routes limited to authorized users (i.e. private land owners or permittees), single track vehicles, and administrative purposes comprise 69.43 miles (8.2%). Routes designated as closed comprise 155.31 miles (18.4%) of the inventoried routes.

Of the closed routes, 84% are less than a half a mile in length and 41% are less than one tenth of a mile in length. The majority of the routes proposed for closure under Alternative C do not contribute to overall route connectivity.

In order to encourage a wide range of outdoor recreation opportunities while reducing public safety concerns, the Alternative C would include 16 TVS. In addition to the two TVS allocated in the 2007 LHFO RMP, the Alternative C establishes 14 new sites. With the help of local user groups, these sites were identified as rock crawling areas based on difficulty of maneuvering and potential for vehicle damage. By establishing these sites as TVS, the risk of damaging vehicles and becoming stranded would be reduced for the general public.

Seasonal area limitations for motorized vehicular activity across Bighorn Sheep lambing grounds would cease; all OHV activity would be limited to designated routes in those areas.

2.4 ACCESS (ALTERNATIVE D)

The Access Alternative (Alternative D) was developed to accommodate extensive OHV use throughout the TMA, while limiting access to significant resource sites. Alternative D is the most accommodating for OHV use after the No Action Alternative.

Based on extensive route evaluations, Alternative D would have 660.95 miles (78.2%) open to all recreational uses. Additionally, 53.74 miles (6.3%) would be open for non-motorized activities. The majority of these non-motorized routes are located within the North Aubrey and Aubrey Hills RMZs, both of which were designated as non-motorized areas in the 2007 LHFO RMP. Routes limited to authorized users (i.e. private land owners or permittees), single track vehicles, and

administrative purposes comprise 55.95 miles (6.6%). Routes designated as closed comprise 74.70 miles (8.8%) of the inventoried routes.

In order to encourage a wide range of outdoor recreation opportunities while reducing public safety concerns, Alternative D would include 21 TVS. In addition to the two TVS allocated in the 2007 LHFO RMP, Alternative D establishes 19 new sites. With the help of local user groups, these sites were identified as rock crawling areas based on difficulty of maneuvering and potential for vehicle damage. By establishing these sites as TVS, the risk of damaging vehicles and becoming stranded would be reduced for the general public.

Seasonal area limitations for motorized vehicular activity across Bighorn Sheep lambing grounds would cease; all OHV activity would be limited to designated routes in those areas.

2.5 ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS

During internal scoping for the proposed action, a recommendation was made to close all routes to OHV use with the exception of right-of-ways and administratively accessed sites. This alternative does not meet the purpose and need of the Proposed Action as it does not accommodate OHV use within the Havasu TMA. Furthermore, this alternative does not conform to the 2007 LHFO RMP as it does not provide for the range of recreation opportunities specifically managed for within the Havasu SRMA.

3.0 AFFECTED ENVIRONMENT & ENVIRONMENTAL EFFECTS

3.1 AREA OF ENVIRONMENTAL CONCERN, CROSSMAN PEAK (ACEC)

AFFECTED ENVIRONMENT

Akoke-humi, the Mojave name for Crossman Peak, has been identified as a significant place of traditional cultural importance and is included in oral traditions concerning the creation of the Colorado River. The Crossman Peak ACEC was established to protect and prevent irreparable damage to significant places of traditional cultural importance, the natural scenic backdrop for Lake Havasu City, and major lambing grounds for Bighorn Sheep.

The ACEC is located just northeast of Lake Havasu City and covers 48,855 acres within the planning area. Due to its proximity to Lake Havasu City, it is a popular area for OHV touring, hiking, horseback riding, rock-crawling, hunting, and rock-hounding. Most recreational activities occur on the west side of Crossman Peak and its associated ridges. The inventory of this ACEC encompasses 167.5 miles of existing primitive roads and trails. Based on public input, an additional 25.29 miles of pre-existing routes and TVS, not a part of the inventory, were added for evaluation.

ENVIRONMENTAL EFFECTS

Under Alternative A (No Action), current management for the Crossman Peak ACEC would continue as established in the 2007 LHFO RMP. No routes would be closed for wildlife and cultural resource protection. Within the ACEC, 167.5 miles of routes would remain open to OHV use. Seasonal route closures for Bighorn Sheep lambing grounds would be upheld and enforced. Alternative A would

not establish any TVS within the ACEC. With the absence of route closures, cultural resources continue to be at risk through illegal collection and/or vandalism. Additionally, route proliferation within the ACEC attributed to the absence of signs and maps would persist and thereby continue to impact the resource values for which the ACEC was established.

Under Alternative B, 96.82 miles of routes within the ACEC would be closed to motorized use for natural and cultural resource protection. Additionally, 62.7 miles of routes would remain open for a wide range of motorized recreational opportunities and 14.2 miles of routes would be limited to administrative access and non-motorized public use. In this alternative, miles of routes open for OHV use would be reduced by 54%, compared to the No Action Alternative. Alternative B would not establish any TVS within the ACEC. Reduced OHV use within the ACEC would serve as an added layer of protection for the relevant characteristics and important values of which the ACEC was established.

Under Alternative C, 35.3 miles of routes within the ACEC would be closed for natural and cultural resource protection. Additionally, 131.7 miles of routes would remain open for a wide range of motorized recreational opportunities and 3.9 miles of routes would be limited to administrative access and non-motorized public use. In this alternative, miles of routes open for OHV use would be reduced by 19%, compared to the No Action Alternative. There are 9 TVS proposed under Alternative C, which encompass 14.3 miles that would be made available for rock-crawling activities. Reduced OHV use within the ACEC would serve as an added layer of protection for the relevant characteristics and important values of which the ACEC was established.

Under Alternative D, 17.6 miles of routes within the ACEC would be closed for natural and cultural resource protection. Additionally, 151.3 miles of routes would remain open for a wide range of motorized recreational opportunities and 2.4 miles of routes would be limited to administrative access and non-motorized public use. In this alternative, miles of routes open for OHV use would be reduced by 8%, compared to the No Action Alternative. There are 12 TVS proposed under Alternative D, which encompass 18.1 miles that would be made available for rock-crawling activities. The effects of Alternative D are similar to the No Action Alternative in that a majority of the inventoried routes would remain open to OHV use.

3.2 CULTURAL/PALEONTOLOGICAL RESOURCES

AFFECTED ENVIRONMENT

Within the planning area, there are approximately 76 known sites, 48 sites of which are eligible for inclusion on the National Register of Historical Places (NRHP). Cultural sites vary from individual sites to complexes of prehistoric trails or campsites. There are identified historic sites in the area associated with early mining and ranching activities. Due to the size of the planning area, the potential for unknown cultural resources are high. Specific paleontological sites are unknown within the area; however, paleontological resources have been found within the basic geological formations that make up the area. Currently, there are 127 routes with identified cultural resource concerns.

ENVIRONMENTAL EFFECTS

Alternative A (No Action) would continue to keep all primitive roads and trails “open” without regard to possible conflicts with cultural resources. As identified during route evaluations, 163 routes open to OHV use occur in, through, or lead to known cultural sites. Management of the routes would be left to future site specific project plans. Due to continued OHV use on open routes, this alternative could lead to impacts to these resource values.

Alternative B, through closures or restrictions on most routes would have the least potential for negative impacts to both known and unknown cultural resources. In this alternative, 39 routes open to OHV use would be in, through, or lead to known cultural sites, which represents a 76% reduction from the No Action alternative. Additionally, 19 routes (2.53 miles) would provide non-motorized access to known cultural sites.

Alternative C closes routes or places a restriction on OHV use on those trails which may have the highest potential to impact known and unknown cultural resources. In this alternative, 61 routes open to OHV use would be in, through, or lead to known cultural sites, which represents a 63% reduction from the No Action alternative. Additionally, 31 routes (4.46 miles) would provide non-motorized access to known cultural sites.

Alternative D, due to the number of routes identified open to OHV traffic would still contribute to the intrusion or alteration of cultural resources, and would have a high potential for negative impacts to cultural sites. In this alternative, 83 routes open to OHV use would be in, through, or lead to known cultural sites, which represents a 49% reduction from the No Action alternative. Additionally, 33 routes (4.07 miles) would provide non-motorized access to known cultural sites.

3.3 FISH & WILDLIFE EXCLUDING FEDERALLY LISTED SPECIES

AFFECTED ENVIRONMENT

The Proposed Action occurs in a transition zone between the Mojave and Sonoran Deserts. The interface between these two deserts, along with the occurrence of riparian vegetation along the upland washes, results in remarkable diversity of habitat types and wildlife. The diverse flora and fauna have strong ecological value and attraction for the public. Appendix C contains detailed descriptions of these vegetative communities.

Throughout route evaluations, BLM documented habitat use for the following: Desert Tortoise (both Mojave and Sonoran populations), Bighorn Sheep, a wide variety of bats, Mule Deer, and Bobcat. Within the Havasu TMA, 20,303 acres of sensitive, 116,754 acres of movement corridor, and 22,787 acres of seasonal Bighorn Sheep habitat have been identified. Additionally, approximately 7,256 acres of Mojave Category 3, 71,438 acres of Sonoran Category 2, and 172,513 acres of Sonoran Category 3 Desert Tortoise habitat were identified within the Havasu TMA.

ENVIRONMENTAL EFFECTS

Alternative A (No Action) would continue to keep all primitive roads and trails “open” without regard to possible conflicts with sensitive habitat concerns. Management of the routes would be left to future site specific project plans. The No Action alternative would maintain 39.76 miles of

routes open to OHV use within Category 3 Mojave Desert Tortoise habitat; 205.01 miles of routes open to OHV use within Category 2 Sonoran Desert Tortoise habitat; and 527.34 miles of routes open to OHV use within Category 3 Sonoran Desert Tortoise habitat. Additionally, 51.53 miles of routes would provide non-motorized access throughout Category 3 Sonoran Desert Tortoise habitat. The No Action alternative would not maintain any TVS within Mojave/Sonoran Desert Tortoise habitat. As it pertains to Bighorn Sheep, the No Action alternative would maintain 246.34 miles of routes open to OHV use in and through habitat for the species, 80.77 miles in and through sensitive habitat, and 345.44 miles in and through movement corridors. Foraging habitat for bats may be impacted by OHV use; this alternative maintains 774.82 miles of roads and primitive roads open to OHV use. Furthermore, this alternative maintains 269.52 miles of roads and primitive roads open to OHV use through Bobcat habitat and 605.32 miles through Mule Deer habitat.

Alternative B, by closing or placing restrictions on the most routes would have the least potential for impacts to sensitive habitat values. The Resource Protection alternative would maintain 14.86 miles of routes open to OHV use within Category 3 Mojave Desert Tortoise habitat; 130.56 miles of routes open to OHV use within Category 2 Sonoran Desert Tortoise habitat; and 244.93 miles of routes open to OHV use within Category 3 Sonoran Desert Tortoise habitat. Additionally, 26.14 miles of routes would provide non-motorized access throughout Category 3 Sonoran Desert Tortoise habitat. Compared to the No Action alternative, this represents a 50% reduction of routes within Mojave/Sonoran Desert Tortoise habitat. The Resource Protection alternative would maintain 2 TVS within Category 3 Sonoran Desert Tortoise habitat. As it pertains to Bighorn Sheep, Alternative B would maintain 151.63 miles of routes open to OHV use in and through habitat, 45.87 miles in and through sensitive habitat, and 209.89 miles in and through movement corridors. In comparison to the No Action alternative, this alternative represents a 38% reduction in open routes within Bighorn Sheep habitat, a 43% reduction within sensitive habitat, and a 39% reduction within movement corridors. Foraging habitat for bats may be impacted by OHV use, this alternative maintains 309.13 miles of roads and primitive roads open to OHV use. Furthermore, this alternative maintains 125.04 miles of roads and primitive roads open to OHV use through Bobcat habitat and 244.29 miles through Mule Deer habitat. In comparison to the No Action alternative, this represents a reduction of 60% of open miles in bat foraging habitat, a 54% of open miles in and through Bobcat habitat, and a 60% of open miles in Mule Deer habitat.

Alternative C closes routes or places a restriction on OHV use on those trails which may have the highest potential to impact sensitive habitat values. The Proposed Action alternative would maintain 28.47 miles of routes open to OHV use within Category 3 Mojave Desert Tortoise habitat; 183.31 miles of routes open to OHV use within Category 2 Sonoran Desert Tortoise habitat; and 390.73 miles of routes open to OHV use within Category 3 Sonoran Desert Tortoise habitat. Additionally, 51.28 miles of routes would provide non-motorized access throughout Category 3 Sonoran Desert Tortoise habitat. Compared to the No Action alternative, this represents a 21% reduction of routes within Mojave/Sonoran Desert Tortoise habitat. The Proposed Action alternative would maintain 16 TVS within Category 3 Sonoran Desert Tortoise habitat. As it pertains to Bighorn Sheep, Alternative C would maintain 196.92 miles of routes open to OHV use in and through habitat, 63.81 miles in and through sensitive habitat, and 297.77 miles in and through movement corridors. In comparison to the No Action alternative, this alternative represents a 20% reduction in open routes within Bighorn Sheep habitat, a 21% reduction within sensitive habitat, and a 14% reduction within movement corridors. Foraging habitat for bats may be impacted by OHV use, this alternative maintains 529.34 miles of roads and primitive roads open to OHV use. Furthermore, this alternative maintains 202.54 miles of roads and primitive roads open to OHV use

through Bobcat habitat and 407.83 miles through Mule Deer habitat. In comparison to the No Action alternative, this represents a reduction of 32% of open miles in bat foraging habitat, a 25% of open miles in and through Bobcat habitat, and a 33% of open miles in Mule Deer habitat.

Alternative D, due to the number of route identified open to OHV travel, would still contribute to the intrusion or alteration to sensitive habitat values and would have a high potential for impacts to wildlife values. The Access alternative would maintain 34.4 miles of routes open to OHV use within Category 3 Mojave Desert Tortoise habitat; 200.78 miles of routes open to OHV use within Category 2 Sonoran Desert Tortoise habitat; and 454.9 miles of routes open to OHV use within Category 3 Sonoran Desert Tortoise habitat. Additionally, 60.22 miles of routes would provide non-motorized access throughout Category 3 Sonoran Desert Tortoise habitat. Compared to the No Action alternative, this represents a 9% reduction of routes within Mojave/Sonoran Desert Tortoise habitat. The Access alternative would maintain 21 TVS within Category 3 Sonoran Desert Tortoise habitat. As it pertains to Bighorn Sheep, Alternative D would maintain 219.22 miles of routes open to OHV use in and through habitat, 71.76 miles in and through sensitive habitat, and 326.56 miles in and through movement corridors. In comparison to the No Action alternative, this alternative represents a 11% reduction in open routes within Bighorn Sheep habitat, a 11% reduction within sensitive habitat, and a 5% reduction within movement corridors. Foraging habitat for bats may be impacted by OHV use, this alternative maintains 598.26 miles of roads and primitive roads open to OHV use. Furthermore, this alternative maintains 235.14 miles of roads and primitive roads open to OHV use through Bobcat habitat and 457.13 miles through Mule Deer habitat. In comparison to the No Action alternative, this represents a reduction of 23% of open miles in bat foraging habitat, a 12% of open miles in and through Bobcat habitat, and a 24% of open miles in Mule Deer habitat.

3.4 HAZARDOUS OR SOLID WASTES

AFFECTED ENVIRONMENT

Due to the close proximity to Lake Havasu City, AZ and Havasu Lake, CA, illegal dumping occurs on public land. These illegal dump sites may include hazardous materials and therefore pose a public safety concern. Additionally, extensive historic mining operations have left abandoned mines throughout the Havasu TMA. Other hazard sites may include gas pipelines, evaporation ponds, and power lines.

ENVIRONMENTAL EFFECTS

Alternative A (No Action) would maintain 118 roads, primitive roads, and trails with identified illegal dumping locations. Additionally, 21 roads, primitive roads, and trails with identified hazards, including gas pipelines, abandoned mines, and evaporation ponds, would be open for OHV use.

Alternative B would maintain 37 roads, primitive roads, and trails with identified illegal dumping locations. Additionally, 12 roads, primitive roads, and trails with identified hazards, including gas pipelines, abandoned mines, and evaporation ponds, would be open for OHV use. In comparison to the No Action alternative, this represents a 65% reduction in roads, primitive roads, and trails with identified hazards.

Alternative C would maintain 68 roads, primitive roads, and trails with identified illegal dumping locations. Additionally, 17 roads, primitive roads, and trails with identified hazards, including gas pipelines, abandoned mines, and evaporation ponds, would be open for OHV use. In comparison to the No Action alternative, this represents a 39% reduction in roads, primitive roads, and trails with identified hazards.

Alternative D would maintain 90 roads, primitive roads, and trails with identified illegal dumping locations. Additionally, 17 roads, primitive roads, and trails with identified hazards, including gas pipelines, abandoned mines, and evaporation ponds, would be open for OHV use. In comparison to the No Action alternative, this represents a 23% reduction in roads, primitive roads, and trails with identified hazards.

3.5 MIGRATORY BIRDS

AFFECTED ENVIRONMENT

The Proposed Action occurs in a transition zone between the Mojave and Sonoran Deserts. The interface between these two deserts, along with the occurrence of riparian vegetation along the upland washes, results in remarkable diversity of habitat types and wildlife. The diverse flora and fauna have strong ecological value and attraction for the public. More than 300 bird species occupy the diverse habitats of the planning area, including some neotropical migratory birds that breed in the United States and/or Canada and winter from Mexico to South America. In addition, certain bird species native to Mexico and South America migrate up the Colorado and Bill Williams River systems during the summer months, especially during monsoon storm events. Several raptor and owl species have been documented migrating through, occurring year-round, and/or breeding in the planning area. Additionally, the turkey vulture (*Cathartes aura*) occurs year-round and breeds within the planning area. The greatest variety of bird species (and often the largest numbers) occurs in the riparian and wetland habitats. Natural springs, catchments, and seeps often provide oases within the upland habitats.

ENVIRONMENTAL EFFECTS

There would continue to be routes of all types at varying levels in all alternatives. Thus, implementing any alternative would continue to have some degree of impacts to migratory bird populations and habitat from motorized and non-motorized mechanized travel, in the form of habitat fragmentation, changes to patch size, and barriers to movement, the facilitation of invasions of non-native and/or opportunistic species, species or habitat mortality rates, noise, and other disturbance factors. Direct disturbance to migratory birds due to noise and human actions associated with travel could result in avoidance of suitable habitat or disruption of breeding activities. No current motorized use data on existing roads and trails are available for the project area. Such use data would be helpful when determining actual travel impacts to migratory bird species as well as other wildlife species that inhabit the project area. Travel impacts to migratory birds are also related to topography since topographic features can affect both noise and visual impacts from motorized and non-motorized visitors to the area. Closing and reclaiming roads and trails would improve habitat conditions for migratory birds in the project area. The reduction in the number of miles of routes designated for travel would reduce the area of direct disturbance to migratory birds caused by both motorized and non-motorized travel.

Alternative A (No Action) would continue to keep all primitive roads and trails “open” without regard to possible conflicts with migratory birds. Management of the routes would be left to future site specific project plans. This alternative could lead to impacts to migratory birds and habitat. The No Action alternative would maintain 282.02 miles of routes open to OHV use within washes. In reference to raptors, the No Action alternative would maintain 33.42 miles of routes proximate to cliff sites open to OHV use and 6.34 miles within Gold Eagle habitat.

Alternative B, by closing or placing restrictions on the most routes would have the least potential for impacts to migratory birds or habitat. This alternative would maintain 121.21 miles of routes open to OHV use within washes. In reference to raptors, Alternative B would maintain 21.94 miles of routes proximate to cliff sites open to OHV use and 4.73 miles within Gold Eagle habitat. Compared to the No Action alternative, this alternative represents a 57% reduction in routes open to OHV use within washes, a 34% reduction in open routes proximate to cliff sites, and a 25% reduction in open routes within Golden Eagle habitat.

Alternative C closes routes or places a restriction on OHV use on those trails which may have the highest potential to impact migratory bird habitat values. The Proposed Action would maintain 207.87 miles of routes open to OHV use within washes. In reference to raptors, the Proposed Action would maintain 27.37 miles of routes proximate to cliff sites open to OHV use and 5.21 miles within Gold Eagle habitat. Compared to the No Action alternative, this alternative represents a 26% reduction in routes open to OHV use within washes, a 18% reduction in open routes proximate to cliff sites, and a 17% reduction in open routes within Golden Eagle habitat.

Alternative D, due to the number of routes identified open to OHV travel, would still contribute to the intrusion or alteration to habitat values and would have a high potential for negative impacts to wildlife values. This alternative would maintain 230.39 miles of routes open to OHV use within washes. In reference to raptors, Alternative D would maintain 30.58 miles of routes proximate to cliff sites open to OHV use and 5.21 miles within Gold Eagle habitat. Compared to the No Action alternative, this alternative represents an 18% reduction in routes open to OHV use within washes, a 8% reduction in open routes proximate to cliff sites, and a 17% reduction in open routes within Golden Eagle habitat.

3.6 NATIVE AMERICAN RELIGIOUS CONCERNS

AFFECTED ENVIRONMENT

A need to consider sensitive or traditional use locations of religious and cultural concern to local Native American tribes applies to much of the Havasu TMA. Such areas identified or that become known through Native American notification and consultation will need to be considered during the implementation phase. The tribes to consult with include the Chemehuevi Indian Tribe, the Fort Mojave Indian Tribe, the Cocopah Indian Tribe, the Havasupai Tribe, Hualapai Indian Tribe, Fort Yuman-Quechan Indian Tribe, the Twenty-Nine Palms Band of Mission Indians, the Yavapai-Prescott, and the Colorado River Indian Tribes (CRIT).

ENVIRONMENTAL EFFECTS

Under all Alternatives, the BLM will take no action that would adversely affect areas or sites where Native American Religious Concerns are present without Section 106 and government-to-government consultations as deemed appropriate by Federal guidance and compliance law.

3.7 PUBLIC HEALTH & SAFETY

AFFECTED ENVIRONMENT

Abandoned Mines are the major concern to public safety within the planning area. These include everything from simple prospecting pits to large deep shafts. Many of the inventoried currently used for recreation started as access roads to mines and mill sites. Visitors, especially when traveling at higher rate of speed on ATV's and motorcycles, can encounter these abandoned mines with little warning. During evaluation 59 routes were determined to pose a potential public safety concern to do proximity to open shafts, pits or other concerns.

ENVIRONMENTAL EFFECTS

Alternative A (No Action) would continue to keep all primitive roads and trails "open" without regard to possible conflicts with abandoned mines and other public safety concerns. The No Action alternative would maintain 80.74 miles of routes, identified as a concern for public safety, open to OHV use.

Alternative B, by closing or placing restrictions on some routes, especially those with identified public safety concerns, would reduce the risk of conflict with abandoned mines and other public safety concerns. Physically closing or fencing potential hazards has been identified as appropriate mitigation measures in each alternative. Alternative B would maintain 61.96 miles of routes, identified as a concern for public safety, open to OHV use. Compared to the No Action alternative, this alternative represents a 23% reduction in open routes identified as a concern for public safety.

Alternative C, by closing or placing restrictions on some routes, especially those with identified public safety concerns, would reduce the risk of conflict with abandoned mines and other public safety concerns. Physically closing or fencing potential hazards has been identified as appropriate mitigation measures in each alternative. The Proposed Action would maintain 69.22 miles of routes, identified as a concern for public safety, open to OHV use. Compared to the No Action alternative, this alternative represents a 14% reduction in open routes identified as a concern for public safety.

Alternative D, by closing or placing restrictions on some routes, especially those with identified public safety concerns, would reduce the risk of conflict with abandoned mines and other public safety concerns. Physically closing or fencing potential hazards has been identified as appropriate mitigation measures in each alternative. Alternative D would maintain 71.74 miles of routes, identified as a concern for public safety, open to OHV use. Compared to the No Action alternative, this alternative represents an 11% reduction in open routes identified as a concern for public safety.

3.8 RECREATION

AFFECTED ENVIRONMENT

A wide variety of recreation activities take place within the Havasu TMA. The primary activities include OHV use, hiking, horseback riding, camping, hunting, rock hounding and target shooting. There are two basic seasons of recreation: winter and summer. The winter season runs from late October through late March. Winter activities occur as dispersed recreation, where facilities may not be necessary or needed. Most of the public land is “open” for 14-day camping and OHV use is very popular for back country travel and exploring. Summer’s visitors tend to avoid the desert upland areas, where temperatures often exceed 115°F, and most recreation on the route network is vehicle based at this time.

Special Recreation Permits

Thus far in fiscal year 2013, the LHFO has permitted three motorized and four non-motorized events within the Havasu TMA. Another application has been received for motorized Jeep tours within the Havasu TMA and is currently being processed.

Special Recreation Management Areas/Zones

The planning area is defined in terms of two Special Recreation Management Areas (SRMAs) Lake Havasu SRMA and Havasu Urban SRMA. These SRMA are divided into Recreation Management Zones (RMZ) to manage smaller areas with different or unique planning needs. The rest of the planning area falls under the Extensive Recreation Management Area (ERMA). The major activity within all these requires the use of primitive roads and trails. The 2007 LFHO RMP identified the following as the primary activities within the Lake Havasu SRMA: primitive trekking, ohv touring, wilderness access, rockhounding, wildlife viewing, pet exercise, equestrian, fitness activity, and hunting. Within the Havasu Urban SRMA, the following primary activities were identified: 4x4, ATV,OHV, YTV, hill climbing, motorcycle use, permitted motorcycle and ATV, staging area, dispersed camping opportunities, equestrian/trail riding, rockhounding, back packing, and hiking.

ENVIRONMENTAL EFFECTS

Alternative A (No Action) would continue to keep all roads, primitive roads and trails “open” yet the recreation experiences of trail based users could decline. While the number of routes would stay the same, trail based experiences would not be maximized due to the uncoordinated existing route system. There is the potential for major impacts to natural conditions which is one of the values recreationalists expect to find in the much of the planning area. These impacts come from continuing route proliferation, especially smaller spurs and dumping areas. Parking and staging areas are informal and left to the user to define these areas on their own terms and needs, thus expanding the route footprint. The No Action alternative does increase the opportunities for hunting and rock-hounding activities to access more areas to retrieve game and rocks. Roads, primitive roads, and trails open to

Alternative B, by closing or placing restrictions on the most miles would have an impact to recreational opportunities by reducing geographic extent in which visitors can disperse their use and increase the likelihood of visitor interactions with each other. This alternative would create a defined travel network with monitoring to limit route proliferation. With defined parking, trailheads and staging areas, the footprint of recreational activities can be limited and natural appearing landscape protected. In comparison to the No Action alternative, Alternative B

represents a 53% reduction of miles with documented use of standard four wheel drive vehicles, a 54% reduction of miles with documented use of ATVs, a 52% reduction of miles with documented use of UTVs, and a 55% reduction of miles with documented use of single-track vehicles. Similar to the No Action alternative, this alternative would maintain two TVS. Additionally, this alternative would represent a 54% reduction of miles with document use of non-motorized, mountain bicycles and a 72% reduction in routes identified as access to primitive campgrounds.

Alternative C, closes or abolishes routes that have the highest potential to impact other resources, thus protecting the opportunity for outdoor enjoyment but providing easy access. These alternatives also create a defined travel network with monitoring to limit route proliferation. With defined parking, trailheads and staging areas, the footprint of recreational activities can be limited and natural appearing landscape protected. In comparison to the No Action alternative, the Proposed Action represents a 23% reduction of miles with documented use of standard four wheel drive vehicles, a 23% reduction of miles with documented use of ATVs, a 20% reduction of miles with documented use of UTVs, and a 23% reduction of miles with documented use of single-track vehicles. An increase of 14 TVS, for a total of 16, would be maintained in this alternative. Additionally, this alternative would represent a 5% reduction of miles with document use of non-motorized, mountain bicycles and a 41% reduction in routes identified as access to primitive campgrounds.

Alternative D closes or abolishes routes that have the highest potential to impact other resources, thus protecting the opportunity for outdoor enjoyment but providing easy access. This alternative also creates a defined travel network with monitoring to limit route proliferation. With defined parking, trailheads and staging areas, the footprint of recreational activities can be limited and natural appearing landscape protected. In comparison to the No Action alternative, the Alternative D represents a 12% reduction of miles with documented use of standard four wheel drive vehicles, a 10% reduction of miles with documented use of ATVs, a 8% reduction of miles with documented use of UTVs, and a 10% reduction of miles with documented use of single-track vehicles. An increase of 19 TVS, for a total of 21, would be maintained in this alternative. Additionally, this alternative would represent a 8% reduction of miles with document use of non-motorized, mountain bicycles and a 21% reduction in routes identified as access to primitive campgrounds.

TABLE 5: RECREATIONAL OPPORTUNITIES

Type	Alternative A		Alternative B		Alternative C		Alternative D	
	Miles		Miles	% Reduction from Alt A	Miles	% Reduction from Alt A	Miles	% Reduction from Alt A
4 Wheel Drive	697.80		324.60	53%	538.10	23%	616.94	12%
ATV	707.02		325.16	54%	547.85	23%	634.07	10%
UTV	657.11		316.75	52%	526.44	20%	600.12	8%
Mountain Bike	76.24		35.35	54%	72.54	5%	69.92	8%
Equestrian	333.31		175.02	47%	272.26	18%	307.39	8%
Hunting	536.38		264.60	51%	420.74	22%	468.71	13%
Hiking	495.13		260.40	47%	417.67	16%	456.82	8%

3.9 SOCIOECONOMICS

AFFECTED ENVIRONMENT

“2.2 million visitors come to the Arizona West Coast annually; 69% of those who travel here are from out of Arizona; that equals 1,518,000 out of state visitors.”⁴ The 2008 Lake Havasu City Tourism Survey estimated 31% of the visitors to Lake Havasu would hike or walk trails, another 27% would visit cultural and historical sites, and 8% reported they would participate in Off Road Touring. All these activities require a network of primitive roads and trails. It was also reported in a 2003 study that an estimated 26% of households in Mohave County are OHV Users.⁵ For a complete listing of relevant studies, see Appendix D.

In summary, visitors to the area and their use of the planning area’s routes are important to the local economy. It is the local community members who especially value the availability of access to public lands. According to articles on the American Trails Website (www.americantrail.org), the presences of “trail systems” can be essential to preserve a higher quality of life in the local communities. The actual property values within communities can also increase due to “trails.” The ability of a local community to market their OHV, mountain bike and/or hiking trails requires a system which clearly invites use and meets user objectives. The economic value is not only the quantity of routes available, but also in the quality of the experience provided. No specific revenue data is available for ranching and mining operations located within the planning area.

ENVIRONMENTAL EFFECTS

Alternative A (No Action) will keep all inventoried primitive roads and trails “open” or “limited” without regard to possible conflicts with other resources. The economic value of the primitive roads and trails are not only based on the number of trails, but also in the ability for users to

⁴ Arizona’s West Coast, Regional Tourism Profile, Compiled for the Arizona Department of Tourism, Overview Of Mohave County Population, Earnings, And Personal Income

⁵ The Economic Importance of Off Highway Vehicle Recreation to Arizona., Arizona State Parks, 2003

navigate routes in order to meet their objectives. This alternative would not enhance the recreation opportunity, therefore making it difficult to market OHV recreation to visitors. The No Action alternative would maintain 112.61 miles of published touring roads and primitive roads and 375.26 miles with identified vista/sightseeing/photography use.

Alternative B abolishes the most routes, with the objective to protect natural condition of public lands, yet limits the visitor's opportunity to experience a full range of what the backcountry has to offer. This alternative may have impacts to the socioeconomic resources due to the reduction of OHV riding opportunities. This alternative would maintain 92.24 miles of published touring roads and primitive roads and 221.26 miles roads and primitive roads with identified vista/sightseeing/photography use. In comparison with the No Action alternative, this represents a reduction of 18% of published touring roads and primitive roads and a 41% reduction of roads and primitive roads with identified vista/sightseeing/photography use.

Alternative C will provide a clearly defined travel network and the ability to allow the public to navigate the network to meet their objectives. Similar to the No Action alternative, the following activities will still be available to the public: four wheel drive touring, ATV and UTV exploration, scenic and cultural viewing opportunities, rock crawling, hiking, mountain biking, motorcycle use, equestrian use, and wildlife viewing. Maps and trail markers may serve as a marketing tool for socioeconomic benefits. The Proposed Action would maintain 111.24 miles of published touring roads and primitive roads and 319.66 miles roads and primitive roads with identified vista/sightseeing/photography use. In comparison with the No Action alternative, this represents a reduction of 1% of published touring roads and primitive roads and a 15% reduction of roads and primitive roads with identified vista/sightseeing/photography use.

Alternative D will provide a clearly defined travel network and the ability to allow the public to navigate the network to meet their objectives. Similar to the No Action alternative, the following activities will still be available to the public: four wheel drive touring, ATV and UTV exploration, scenic and cultural viewing opportunities, rock crawling, hiking, mountain biking, motorcycle use, equestrian use, and wildlife viewing. Maps and trail markers may serve as a marketing tool for socioeconomic benefits. This would maintain 112.61 miles of published touring roads and primitive roads and 345.29 miles roads and primitive roads with identified vista/sightseeing/photography use. In comparison with the No Action alternative, this represents a reduction of 0% of published touring roads and primitive roads and an 8% reduction of roads and primitive roads with identified vista/sightseeing/photography use.

3.10 SOILS

AFFECTED ENVIRONMENT

The Soil Conservation Service identified two dominant soil types: Carrizo and Gunsight-Havasus. The Carrizo soils are highly permeable, very gravelly loamy sand contained in floodplains. It comes from rhyolite, andesite and granite. The Gunsight-Havasus Soils are moderately permeable, very gravelly sandy loam located on fan terraces and hillsides. It is derived from andesite, granite, gneiss and schist. Soils in the project area commonly have a rocky surface armor known as desert pavement, which protects finer-textured subsurface soils from erosion in the absence of abundant vegetation. An exception to these described soils can be found in the alluvial bottom lands associated with rivers and ephemeral drainage channels. Alluvial soils can be some of the most productive, and conversely some of the most barren, depending on watershed characteristics. Many

washes, characterized by this soil type, on both private and public lands are used for OHV travel. Erosion can damage areas, such as paths and trails, where vegetative cover has been lost. Soils that have accumulations of salts and sodium are also a concern.

ENVIRONMENTAL EFFECTS

Alternative A (No Action), could over time see an increase in the number and miles of non-authorized routes and hill climbing. Additional surface disturbances would increase soil erosion and sediment loading into the lower Colorado River. This alternative would maintain 56.79 miles of routes with identified impacts to soils.

Alternative B would reduce the geographic extent, but would shift and concentrate use to the remaining open routes. Repeated vehicle use depending on soil type could have a negative effect on travel surfaces and add to local soil erosion for the remaining open routes under Alternative B. This alternative would maintain 26.83 miles of routes, a 53% reduction from the No Action alternative, with identified impacts to soils.

Alternative C increases management by establishing a travel network, and along with reducing the geographic extent, will lower potential for direct impacts to soils. The level of reduction would be dependent on the number of routes closed, along with the type of use, season of use, and the amount use. This alternative would maintain 49.61 miles of routes, a 13% reduction from the No Action alternative, with identified impacts to soils.

Alternative D increases management by establishing a travel network, and along with reducing the geographic extent, will lower potential for direct impacts to soils. The level of reduction would be dependent on the number of routes closed, along with the type of use, season of use, and the amount use. This alternative would maintain 51.99 miles of routes, an 8% reduction from the No Action alternative, with identified impacts to soils.

3.11 THREATENED AND ENDANGERED SPECIES/SPECIAL STATUS SPECIES

AFFECTED ENVIRONMENT

The Proposed Action occurs in a transition zone between the Mojave and Sonoran Deserts. The interface between these two deserts, along with the occurrence of riparian vegetation along the upland washes, results in remarkable diversity of habitat types and wildlife. The diverse flora and fauna have strong ecological value and attraction for the public. Appendix C contains detailed descriptions of these vegetative communities.

BLM manages habitats for species listed by United States Fish and Wildlife Service (USFWS) as endangered, threatened, (T&E species) or proposed under the authority of the Endangered Species Act (ESA). Table 6 outlines eight endangered, three threatened, and two proposed wildlife species which occur or have the potential to occur on lands within the planning area. Sixty-seven special status species, BLM identified species that may be declining or for which habitat may be limited or susceptible to alteration, have the potential to occur within the planning area.

TABLE 6: FEDERALLY THREATENED, ENDANGERED, OR CANDIDATE SPECIES

	Common Name	Scientific Name	Status	Where Species May Occur in Project Area	County
Fish	Bonytail chub	<i>Gila elegans</i>	FE CH	Colorado River	La Paz, Mohave, San Bernardino
	Razorback sucker	<i>Xyrauchen texanus</i>	FE CH	Colorado River	La Paz, Mohave, San Bernardino
Reptiles	Desert tortoise (Mojave population)	<i>Gopherus agassizii</i>	FT	Colorado River	San Bernardino
Birds	California brown pelican	<i>Pelecanus occidentalis</i>	FE	Colorado River	La Paz, Mohave, San Bernardino
	California condor	<i>Gymnogyps californianus</i>	FE	Colorado River	La Paz, Mohave, San Bernardino
	Bald eagle	<i>Haliaeetus leucocephalus</i>	FT	Colorado River, Desert	La Paz, Mohave, San Bernardino
	Mountain plover	<i>Charadrius montanus</i>	FPE	Colorado River	La Paz, Mohave, San Bernardino
	Yuma clapper rail	<i>Rallus Longirostris yumanensis</i>	FE	Colorado River	La Paz, Mohave, San Bernardino
	Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE	Colorado River	La Paz, Mohave
	Yellow-billed cuckoo	<i>Coccyzus americanus</i>	FPE	Colorado River	La Paz, Mohave, San Bernardino
Plants	Munz's onion	<i>Allium munzii</i>	FE	Colorado River	San Bernardino
	Pierson's milk-vetch	<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	FT	Colorado River	San Bernardino
<p>Designations: FE Federally Listed Endangered FT Federally Listed Threatened FPE Federally Proposed Endangered FPT Federally Proposed Threatened CH Critical Habitat designated</p>					

Two species of Desert Tortoise may occur within the planning area. In California, Category 3 Mojave Desert Tortoise habitat, as well as Category 2 and 3 Sonoran Desert Tortoise habitats in Arizona are identified within the planning area. Site specific evaluations have determined much of the flat habitat located throughout the planning is not likely to have resident Sonoran Desert Tortoise. The

Southwestern Willow Flycatcher (*Empidonax traillii extimus*), a listed endangered species, has not been documented using riparian habitat within the planning area; therefore, this species is unlikely to occur there. The 2007 LHFO RMP identifies approximately 20,300 acres of sensitive Bighorn Sheep habitat and six movement corridors within the Havasu TMA.

Potential negative impacts include fragmentation of wildlife habitat, noise disturbance during breeding and/or lambing seasons, movement corridor disruption, and indirect disturbance near water sources. Currently, the number of vehicle users on any one OHV route is low enough that direct wildlife mortality from vehicles is negligible.

TABLE 7: SPECIAL STATUS SPECIES, BLM SENSITIVE, AND STATE DESIGNATED SPECIES

	Common Name	Scientific Name	Status	Where Species May Occur	County
Amphibians	Arizona toad	<i>Bufo microscaphus</i>	CSP	Colorado River	Mohave, San Bernardino
	Couch's spadefoot toad	<i>Scaphiopus couchi</i>	CSC	Colorado River, Desert	Mohave, San Bernardino
	Lowland leopard frog	<i>Rana yavapaiensis</i>	AZ, CSC, CSP	Colorado River, Desert	Mohave, San Bernardino
Reptiles	Arizona skink	<i>Eumeces gilberti arizonensis</i>	AZ	Desert	La Paz
	Banded Gila monster	<i>Heloderma suspectum cinctum</i>	S	Colorado River, Desert	Mohave, San Bernardino
	Chuckwalla	<i>Sauromalus ater</i>	S	Colorado River, Desert	Mohave, San Bernardino
	Desert tortoise (Sonoran population)	<i>Gopherus agassizii</i>	S, AZST Management Agreement Species	Colorado River, Desert	Mohave
	Mojave fringe-toed lizard	<i>Uma scoparia</i>	AZ	Colorado River	Mohave, San Bernardino
	Rosy boa	<i>Charina trivirgata</i>	S	Colorado River, Desert	Mohave, San Bernardino
	Southern rubber boa	<i>Charina bottae umbratica</i>	CSC, CST	Colorado River	Mohave, San Bernardino
	American bittern	<i>Botaurus lentiginosus</i>	AZ	Colorado River	Mohave, San Bernardino
	American peregrine falcon	<i>Falco peregrinus</i>	CSE	Colorado River, Desert	Mohave, San Bernardino
	American white pelican	<i>Pelecanus erythrorhynchos</i>	CSC	Colorado River	Mohave, San Bernardino
	Arizona Bell's vireo	<i>Vireo bellii arizonae</i>	CST	Colorado River, Desert	Mohave, San Bernardino
	Bank swallow	<i>Riparia riparia</i>	CST	Colorado River	Mohave, San Bernardino
	Belted kingfisher	<i>Ceryle alcyon</i>	AZ	Colorado River	Mohave, San Bernardino
	Bendire's thrasher	<i>Toxostoma bendirei</i>	S	Colorado River, Desert	Mohave, San Bernardino
	Brown-crested flycatcher	<i>Myiarchus tyrannulus</i>	CSC	Colorado River, Desert	Mohave, San Bernardino
	California black rail	<i>Rallus longirostris obsoletus</i>	CST	Colorado River	Mohave, San Bernardino

TABLE 7: SPECIAL STATUS SPECIES, BLM SENSITIVE, AND STATE DESIGNATED SPECIES

	Common Name	Scientific Name	Status	Where Species May Occur	County
	Clark's grebe	<i>Aechmophorus clarki</i>	AZ	Colorado River	Mohave, San Bernardino
	Common black-hawk	<i>Buteogallus anthracinus</i>	AZ	Colorado River	Mohave, San Bernardino
	Cooper's hawk	<i>Accipiter cooperii</i>	CSC	Colorado River, Desert	Mohave, San Bernardino
	Double-crested cormorant	<i>Phalacrocorax auritus</i>	CSC	Colorado River	Mohave, San Bernardino
	Elf owl	<i>Micrathene whitneyi</i>	CSE	Colorado River, Desert	Mohave, San Bernardino
	Ferruginous hawk	<i>Buteo regalis</i>	AZ	Colorado River, Desert	Mohave, San Bernardino
	Gila woodpecker	<i>Melanerpes uropygialis</i>	CSE	Colorado River, Desert	Mohave, San Bernardino
	Gilded northern flicker	<i>Colaptes auratus chrysoides</i>	CSE	Colorado River, Desert	Mohave, San Bernardino
	Golden eagle	<i>Aquila chrysaetos</i>	CSC	Colorado River, Desert	Mohave, San Bernardino
	Gray vireo	<i>Vireo vicinior</i>	S	Desert	Mohave
	Great egret	<i>Casmerodius albus</i>	AZ	Colorado River	Mohave, San Bernardino
	Greater sandhill crane	<i>Grus canadensis tabide</i>	CST	Colorado River	Mohave, San Bernardino
	Gray catbird	<i>Dumetella carolinensis</i>	AZ	Colorado River, Desert	Mohave, San Bernardino
	Large-billed savanna sparrow	<i>Passerculus sandwichensis rostratus</i>	S, CSC	Colorado River	San Bernardino
	Least bittern	<i>Ixobrychus exilis</i>	AZ	Colorado River	Mohave, San Bernardino
	Le Conte's thrasher	<i>Toxostoma lecontei</i>	S	Colorado River	Mohave, San Bernardino
	Loggerhead shrike	<i>Lanius ludovicianus</i>	AZ	Colorado River, Desert	Mohave, San Bernardino
	Mississippi kite	<i>Ictinia mississippiensis</i>	AZ	Colorado River	Mohave, San Bernardino
	Northern goshawk	<i>Accipiter gentiles</i>	AZ	Colorado River, Desert	Mohave, San Bernardino
	Northern cardinal	<i>Cardinalis cardinalis superba</i>	CSC	Colorado River	Mohave, San Bernardino

TABLE 7: SPECIAL STATUS SPECIES, BLM SENSITIVE, AND STATE DESIGNATED SPECIES

	Common Name	Scientific Name	Status	Where Species May Occur	County
	Osprey	<i>Pandion haliaetus</i>	AZ	Colorado River	Mohave, San Bernardino
	Redhead	<i>Aythya americana</i>	CSC	Colorado River	Mohave, San Bernardino
	Snowy egret	<i>Egretta thula</i>	AZ	Colorado River	Mohave, San Bernardino
	Snowy plover	<i>Charadrius alexandrinus</i>	AZ	Colorado River	Mohave, San Bernardino
	Summer tanager	<i>Piranga rubra</i>	CSC	Colorado River	Mohave, San Bernardino
	Swainson's hawk	<i>Buteo swainsoni</i>	CSC, CST	Colorado River	Mohave, San Bernardino
	Thick-billed kingbird	<i>Tyrannus crassirostris</i>	AZ	Colorado River	Mohave, San Bernardino
	Tropical kingbird	<i>Tyrannus melancholicus</i>	AZ	Colorado River	Mohave, San Bernardino
	Western burrowing owl	<i>Athene cunicularia hypugea</i>	S, CSC burrow sites	Colorado River, Desert	Mohave, San Bernardino
	White-faced ibis	<i>Plegadis chichi</i>	S, CSC	Colorado River	Mohave, San Bernardino
	Vermillion flycatcher	<i>Pyrocephalus rubinus</i>	CSC	Colorado River	Mohave, San Bernardino
	Willow flycatcher	<i>Empidonax traillii</i>	CSE	Colorado River	Mohave, San Bernardino
	Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	CSE	Colorado River	Mohave, San Bernardino
	Yellow-breasted chat	<i>Icteria virens</i>	CSC	Colorado River, Desert	Mohave, San Bernardino
Mammals - Bats	Allen's big-eared bat	<i>Idionycteris phyllotis</i>	S	Colorado River, Desert	Mohave, San Bernardino
	Arizona myotis	<i>Myotis lucifugus occultus</i>	S	Colorado River	Mohave, San Bernardino
	Big free-tailed bat	<i>Nyctinomops macrotis</i>	S, CSC	Colorado River, Desert	Mohave, San Bernardino
	California leaf-nosed bat	<i>Macrotus californicus</i>	CSC, AZ	Colorado River, Desert	Mohave, San Bernardino

TABLE 7: SPECIAL STATUS SPECIES, BLM SENSITIVE, AND STATE DESIGNATED SPECIES

	Common Name	Scientific Name	Status	Where Species May Occur	County
	Cave myotis	<i>Myotis velifer</i>	S, CSC	Colorado River	Mohave, San Bernardino
	Pallid bat	<i>Antrozous pallidus</i>	S, CSC	Colorado River, Desert	Mohave, San Bernardino
	Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	S, CSC	Colorado River, Desert	Mohave, San Bernardino
	Spotted bat	<i>Euderma maculatum</i>	S, AZ, CSC	Colorado River, Desert	Mohave, San Bernardino
	Townsend's western big-eared bat	<i>Corynorhinus townsendii</i>	S	Colorado River, Desert	Mohave, San Bernardino
	Western mastiff bat	<i>Eumops perotis californicus</i>	S	Colorado River, Desert	Mohave, San Bernardino
	Western red bat	<i>Lasiurus blossevillii</i>	AZ	Colorado River	Mohave, San Bernardino
	Western yellow bat	<i>Lasiurus xanthinus</i>	AZ	Colorado River	Mohave, San Bernardino
	Yuma myotis	<i>Myotis yumanensis</i>	S, CSC	Colorado River, Desert	Mohave, San Bernardino
Mammals - Other	Desert bighorn sheep	<i>Ovis canadensis nelsoni</i>	S, CSC	Colorado River, Desert	Mohave, San Bernardino
	Ringtail cat	<i>Genus bassariscus</i>	CA full protection	Colorado River, Desert	Mohave, San Bernardino
	Southwestern river otter	<i>Lutra canadensis sonora</i>	AZ	Colorado River	Mohave, San Bernardino
Plants	Algodones Dunes sunflower	<i>Helianthus niveus spp. tephrodes</i>	CSE	Colorado River	Mohave, San Bernardino
	Scaly-stemmed sand plant	<i>Pholisma arenaria</i>	S, AZNP	Desert	Mohave, San Bernardino
<p>Designations:</p> <p>S BLM Sensitive</p> <p>AZ Arizona State Wildlife of Special Concern</p> <p>AZNP Arizona Native Plant Law, Highly Safeguarded Species</p> <p>AZST Arizona State Management Agreement Species</p> <p>CSE California State-Listed Endangered</p> <p>CST California State-Listed Threatened</p> <p>CSR California State-Listed Rare</p> <p>CSC California State Candidate for Listing</p> <p>CSP California State Proposed</p>					

ENVIRONMENTAL EFFECTS

Alternative A (No Action) would continue to keep all primitive roads and trails “open” without regard to possible conflicts with sensitive habitat concerns. Management of the routes would be left to future site specific project plans. This alternative could lead to negative impacts to these sensitive habitat values. The No Action alternative would maintain 39.92 miles of routes open to OHV use within Category 3 Mojave Desert Tortoise habitat; 218.73 miles of routes open to OHV use within Category 2 Sonoran Desert Tortoise habitat; and 659.54 miles of routes open to OHV use within Category 3 Sonoran Desert Tortoise habitat. Additionally, 51.53 miles of routes would provide non-motorized access throughout Category 3 Sonoran Desert Tortoise habitat. This alternative would maintain 12.22 miles of non-motorized trails proximate to Bonytail Chub and Razorback Sucker critical habitat. Related to special status species, this alternative would maintain 102.19 miles open to OHV use within Banded Gila Monster habitat, 250.53 miles within Chuckwalla habitat, and 6.34 miles within identified Burrowing Owl habitat.

Alternative B, by closing or placing restrictions on the most routes would have the least potential for negative impacts to sensitive habitat values. This alternative would maintain 14.95 miles of routes open to OHV use within Category 3 Mojave Desert Tortoise habitat; 130.43 miles of routes open to OHV use within Category 2 Sonoran Desert Tortoise habitat; and 258.33 miles of routes open to OHV use within Category 3 Sonoran Desert Tortoise habitat. Additionally, 26.14 miles of routes would provide non-motorized access throughout Category 3 Sonoran Desert Tortoise habitat. Compared to the No Action alternative, this represents a 56% reduction of open routes within Mojave/Sonoran Desert Tortoise habitat. Alternative B would maintain 2 TVS within Category 3 Sonoran Desert Tortoise habitat. This alternative would maintain 4.73 miles of non-motorized trails proximate to Bonytail Chub and Razorback Sucker critical habitat. Related to special status species, this alternative would maintain 52.03 miles open to OHV use within Banded Gila Monster habitat, 84.75 miles within Chuckwalla habitat, and 4.73 miles within identified Burrowing Owl habitat. In comparison to the No Action alternative, this represents a reduction of 61% of non-motorized trails proximate to Bonytail Chub/Razorback Sucker critical habitat, 49% of miles open of OHV use within Banded Gila Monster habitat, 66% of miles open to OHV use within Chuckwalla habitat, and 25% of miles open to OHV use within Burrowing Owl habitat.

Alternative C closes routes or places a restriction on OHV use on those trails which may have the highest potential to impact sensitive habitat values. The Proposed Action would maintain 28.57 miles of routes open to OHV use within Category 3 Mojave Desert Tortoise habitat; 184.21 miles of routes open to OHV use within Category 2 Sonoran Desert Tortoise habitat; and 442.73 miles of routes open to OHV use within Category 3 Sonoran Desert Tortoise habitat. Additionally, 51.28 miles of routes would provide non-motorized access throughout Category 3 Sonoran Desert Tortoise habitat. Compared to the No Action alternative, this represents a 29% reduction of open routes within Mojave/Sonoran Desert Tortoise habitat. The Proposed Action would maintain 16 TVS within Category 3 Sonoran Desert Tortoise habitat. This alternative would maintain 6.77 miles of non-motorized trails proximate to Bonytail Chub and Razorback Sucker critical habitat. Related to special status species, this alternative would maintain 67.38 miles open to OHV use within Banded Gila Monster habitat, 175.06 miles within Chuckwalla habitat, and 5.22 miles within identified Burrowing Owl habitat. In comparison to the No Action alternative, this represents a reduction of 45% of non-motorized trails proximate to Bonytail Chub/Razorback Sucker critical habitat, 34% of miles open of OHV use within Banded Gila Monster habitat, 30% of miles open to OHV use within Chuckwalla habitat, and 17% of miles open to OHV use within Burrowing Owl habitat.

Alternative D, due to the number of route identified open to OHV travel, would still contribute to the intrusion or alteration to sensitive habitat values and would have a high potential for impacts to wildlife values. This alternative would maintain 34.5 miles of routes open to OHV use within Category 3 Mojave Desert Tortoise habitat; 202.76 miles of routes open to OHV use within Category 2 Sonoran Desert Tortoise habitat; and 509.71 miles of routes open to OHV use within Category 3 Sonoran Desert Tortoise habitat. Additionally, 60.22 miles of routes would provide non-motorized access throughout Category 3 Sonoran Desert Tortoise habitat. Compared to the No Action alternative, this represents a 19% reduction of open routes within Mojave/Sonoran Desert Tortoise habitat. Alternative D would maintain 21 TVS within Category 3 Sonoran Desert Tortoise habitat. This alternative would maintain 9.27 miles of non-motorized trails proximate to Bonytail Chub and Razorback Sucker critical habitat. Related to special status species, this alternative would maintain 72.82 miles open to OHV use within Banded Gila Monster habitat, 197.20 miles within Chuckwalla habitat, and 5.22 miles within identified Burrowing Owl habitat. In comparison to the No Action alternative, this represents a reduction of 24% of non-motorized trails proximate to Bonytail Chub/Razorback Sucker critical habitat, 29% of miles open of OHV use within Banded Gila Monster habitat, 21% of miles open to OHV use within Chuckwalla habitat, and 17% of miles open to OHV use within Burrowing Owl habitat.

3.12 TRAVEL MANAGEMENT

AFFECTED ENVIRONMENT

In the planning area there are approximately 798 miles of existing roads, primitive roads and trails. The 2007 LHFO RMP designated the Aubrey Hills area as non-motorized public use, which encompasses 70 miles of routes. The existing route system offers a range of experiences for both motorized and non-motorized users alike; however, the existing route system is not signed and maps are not available for the public.

ENVIRONMENTAL EFFECTS

Under Alternative A (No Action), there would be no change to the existing roads and trails designation. Without adequate signage, route proliferation and illegal cross-country travel will continue to be a concern. Both non-motorized and motorized travel is hindered by a lack of clearly defined travel routes. The No Action alternative would maintain 684.41 miles of roads and primitive roads open to OHV use.

Alternative B, directly impacts transportation as it closes the most routes. These closures limit the size and range of opportunities of the travel network. This alternative would maintain 334.36 miles of roads and primitive roads open to OHV use. In comparison to the No Action alternative, this alternative represents a 51% reduction in miles open to OHV use.

Alternative C establishes a travel network that provides reasonable, safe, and environmentally prudent access to public land. The Proposed Action would maintain 571.44 miles of roads and primitive roads open to OHV use. In comparison to the No Action alternative, this alternative represents a 17% reduction in miles open to OHV use.

Alternative D would provide the least impact to the travel network, allowing the greatest amount of access for OHV use. By allowing more OHV access and a larger route network, OHV opportunities would increase. This alternative would maintain 660.95 miles of roads and primitive roads open to OHV use. In comparison to the No Action alternative, this alternative represents a 3% reduction in miles open to OHV use.

3.13 VEGETATION/ INVASIVE & NON-NATIVE SPECIES

AFFECTED ENVIRONMENT

The planning area occurs in a transition zone between the Mojave and Sonoran Deserts. The planning area encompasses four vegetation communities: Upland Sonoran Desert Scrub, Lower Sonoran Desert Scrub, Mohave Desert Scrub and Riparian. Descriptions of these vegetation communities can be found in Appendix C. Occurring within the planning area are the federally-listed Munz's onion and Peirson's milk-vetch. Also found in the area are the Algodones Dunes sunflower, a California state-listed endangered plant and the Scaly-stemmed sand plant, a highly safeguarded species outlined in the Arizona Native Plant Law.

Within the project area, certain invasive and noxious weed species are present that typically out-compete desirable native plants. Invasive plant species present in the planning area include Bermuda grass, fountain grass, rabbit's foot grass and salt cedar, Sahara mustard, and bufflegress.

ENVIRONMENTAL EFFECTS

Alternative A (No Action) may lead to additional vegetation loss and increased potential for the spread of noxious weeds due increased route proliferation and illegal cross-country travel. The No Action alternative would maintain 280.44 miles of roads and primitive roads with identified invasive/noxious weed concerns open to OHV use.

Alternative B would allow closed routes to recover and rehabilitate to its natural condition, and reduce the potential for the spread of noxious weeds. This alternative would maintain 149.52 miles of roads and primitive roads with identified invasive/noxious weed concerns open to OHV use. In comparison to the No Action alternative, this represents a reduction of 47% of miles with identified invasive/noxious weed concerns open to OHV use.

Alternative C would allow some recovery and rehabilitation of closed routes to its natural condition and slightly reduce the potential for the spread of noxious weeds. The Proposed Action would maintain 214.91 miles of roads and primitive roads with identified invasive/noxious weed concerns open to OHV use. In comparison to the No Action alternative, this represents a reduction of 23% of miles with identified invasive/noxious weed concerns open to OHV use.

Alternative D would allow some recovery and rehabilitation of closed routes to its natural condition and slightly reduce the potential for the spread of noxious weeds. This alternative would maintain 235.25 miles of roads and primitive roads with identified invasive/noxious weed concerns open to OHV use. In comparison to the No Action alternative, this represents a reduction of 16% of miles with identified invasive/noxious weed concerns open to OHV use.

3.14 VISUAL RESOURCES

AFFECTED ENVIRONMENT

Visual Resource Management (VRM) is a process BLM uses to identify and manage scenic values to reduce visual impacts of development or other surface-disturbing activities on public lands. The 2007 LHFO RMP designated 898 acres of public land within the planning area as a VRM Class I (Chemehuevi Mountain Wilderness), 76,319 acres as a VRM Class II, 73,774 acres as a VRM Class III, and 66,037 acres as a VRM Class IV. Definitions for VRM Classes can be found in the 2007 LHFO RMP, page 118.

Primitive roads and trail impact visual resources where existing routes create contrasting lines (often straight) which do not follow natural curves found on the landscape. Changes in color and form from road cuts and cribbing for trails also create visible impacts. Changes to line, color, and form in the landscape are measured from “key observation points.” These are points where the most number of individuals, will observe the different individual routes. Key observation points for the travel network are most often from within adjacent communities, high traveled roads like Arizona Highway 95, or popular routes within the network like Mohave Wash. In the desert environment, the amount of contrast can diminish over time, but vehicle tracks and hiking trails can be visible years after the traffic has stopped.

ENVIRONMENTAL EFFECTS

Alternative A (No Action), there would be no change to the existing roads and trails designation. This situation has failed to manage or control route proliferation and increasing contrasting linear disturbances on the landscape. This alternative would maintain the following miles of roads, primitive roads, and trails within each VRM class: 0 miles of Class I, 240.81 miles of Class II, 203.33 miles of Class III, and 141.31 miles of Class IV.

Alternative B, while closing the most number of routes, will place additional use on the remaining routes and this could increase change in color and line as vegetation and soils are impacted. This alternative would maintain the following miles of roads, primitive roads, and trails within each VRM class: 0 miles of Class I, 71.29 miles of Class II, 93.25 miles of Class III, and 65.24 miles of Class IV. See Table 8 for percent reduction from the No Action alternative.

Alternative C provides a selective route network. Direct visual impact would remain where routes cross the landscape. Over time, visual impacts could decrease as closed routes recover and rehabilitate. This alternative would maintain the following miles of roads, primitive roads, and trails within each VRM class: 0 miles of Class I, 150.72 miles of Class II, 159.41 miles of Class III, and 112.01 miles of Class IV. See Table 8 for percent reduction from the No Action alternative.

Alternative D with the highest number of open routes is the most visually impacting of the three alternatives. This alternative would maintain the following miles of roads, primitive roads, and trails within each VRM class: 0 miles of Class I, 174.69 miles of Class II, 175.06 miles of Class III, and 128.84 miles of Class IV. See Table 8 for percent reduction from the No Action alternative.

TABLE 8: MILES OF OPEN ROADS/PRIMITIVE ROADS/TRAILS PER VRM CLASS BY ALTERNATIVE

	VRM I		VRM II		VRM III		VRM IV	
	Miles	% Reduction from Alt. A	Miles	% Reduction from Alt. A	Miles	% Reduction from Alt. A	Miles	% Reduction from Alt. A
Alternative A	0		240.81		203.33		141.31	
Alternative B	0	0%	71.29	70%	93.25	54%	65.24	54%
Alternative C	0	0%	150.72	37%	159.41	22%	112.01	21%
Alternative D	0	0%	174.69	27%	175.06	14%	128.84	9%

4.0 MITIGATION MEASURES FOR THE PROPOSED ACTION

- (1) Desert Tortoise: Routes that are impassable, and where crews are not able to restore the route to its previous condition without the use of heavy equipment, will have a tortoise monitor on site prior to the use of heavy equipment to ensure no desert tortoises will be harmed and that no new habitat is disturbed.
- (2) Road Signing: After the decision has become effective, all open/limited/non-motorized routes will be signed accordingly. Newly proliferated routes not included in the EA will be closed and restored without further public review.
- (3) Restoration: BLM will implement restoration on any route designated closed which is causing harm to resources. Newly proliferated roads will be restored (see mitigation measure 2 above).
- (4) Route Monitoring Strategy: All routes will be regularly monitored. BLM will develop a monitoring program (see Havasu TMP) with metrics to evaluate route use and impacts to surrounding resources. The routes will be regularly monitored and results compiled. Route monitoring may include, but is not limited to, sign replacement, traffic counts, damage assessments to cultural and biological resources, Site Stewardship reports, sign vandalism, and Law Enforcement contacts. BLM will continue to involve the public in route monitoring efforts.
- (5) Changes to Route Network: Decisions to change route designations will be pursuant to 43 CFR 8342.3 and based on results of information (metrics) collected over time. A separate analysis, public scoping, and decision record will be completed. See Havasu TMP.
- (6) Develop educational materials for users including site specific maps, brochures, interpretive exhibits, trailhead information kiosks.
- (7) All workers onsite will be given a Service approved desert tortoise briefing and the BLM's desert tortoise fact sheet to educate them on various aspects of desert tortoise life history and legal protection, as well as to inform them of the stipulations required as part of the proposed action.

- (8) If a tortoise is encountered, it shall be avoided and allowed to move out of harm's way of its own volition. No tortoises will be handled. The BLM's wildlife staff will be notified at (928) 505-1200 if any tortoises are observed during project activities.
- (9) All workers associated with Havasu TMP implementation will be instructed to check underneath their vehicles and around the tires before moving them to check for tortoises sheltering underneath. The vehicle may not be moved until the tortoise has moved itself out of harm's way. The BLM's wildlife staff will be contacted if a tortoise will not move out from under a vehicle and a work stoppage has resulted.
- (10) No trash or food items will be deposited onsite.
- (11) A speed limit of 15 miles-per-hour shall be required during implementation activities.
- (12) The BLM's TMP representative, Jen House (928) 505-1263, and the Service's Arizona Ecological Services Field Office (602)-242-0210 must be notified of any desert tortoise death or injury due to project activities immediately, or if no phone or radio reception is available by close of business on the following working day.
- (13) All vehicle traffic will be restricted to designated open and limited routes, as identified in the approved Havasu TMP.
- (14) During reclamation activities, only native seed mixtures will be planted. Where soil disturbance will occur, all equipment will be required to be cleaned and inspected prior to use within the monument. Public education and signs promoting the use of clean vehicles preventing the spread of weeds, shall be included in entry kiosks and on literature.

5.0 CUMULATIVE IMPACTS ANALYSIS

As defined in 40 CFR 1508.7 (Council on Environmental Quality [CEQ] regulations for implementing the NEPA) a cumulative impact is an impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or nonfederal) or person undertakes such other actions.

5.1 ANALYSIS AREA

The geographic extent of cumulative impacts varies by the type of resource and impact. The timeframes, or temporal boundaries, for those impacts may also vary by resource. Four different spatial and temporal cumulative impact analysis areas (CIAA) have been developed and are listed with their total acreage in Table 9.

TABLE 9: CUMULATIVE IMPACT ANALYSIS AREA BY RESOURCE

Resource	Cumulative Impact Analysis Area (CIAA)	Total CIAA Acreage	Temporal Boundary
ACEC, Soils, Vegetation, Recreation, Travel Management, Hazardous or Solid Waste, Public Health & Safety, Cultural/Paleontological, Native American Religious Concerns, Visual Resources, Fish & Wildlife Excluding Federally Listed Species, Threatened & Endangered Species, Invasive & Non-Native Species	Havasu TMA	356,312	10 years (estimated life of project)
Greenhouse Gas Emissions, Socioeconomics, Travel Management	Lake Havasu Field Office (LHFO)	2,096,937	10 years (estimated life of project)

5.2 PAST, PRESENT, & REASONABLY FORESEEABLE ACTIONS

The primary past and present actions that would affect the resources analyzed in this EA are mineral exploration and mining operations, various transmission lines, recreational OHV use, and organized OHV events. The BLM LR2000 database was used to query the past and present mineral exploration and mining activities (authorized Notices, expired Notices, and closed Notices) that have been approved in the CIAA. An estimate of existing, land-disturbing Rights-of-Way (ROW) was determined and included within Tables 9 and 10. At the time of route inventory, 781.96 miles of roads, primitive roads, and trails were identified. Acreage of route disturbance was assumed at an average width of three feet.

Reasonably foreseeable future actions (RFFAs) are those for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends. The 2007 LHFO RMP allows for up to 2,000 acres of disturbance for mineral and mining operations, yet within the temporal boundary of the Havasu TMP only 100 acres within the Havasu TMA and 500 acres within the LHFO of disturbance would be considered RFFAs. In relation to ROW and roads/primitive roads/trails, no RFFAs have been identified. The LHFO will be developing TMPs for the Cactus Plain/Bouse and Alamo/Wenden TMAs, but the development of new roads, primitive roads, and trails is expected to be minimal.

TABLE 10: PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS BY CIAA

Cumulative Impact Analysis Area (CIAA)	Past Development Activity (Acres)	Present Development Activities (total acres, incl. routes)	Past or Current Route Disturbance (Miles)	Reasonably Foreseeable Future Actions (RFFAs)
Havasu TMA	18,665.32	57	781.96	100
LHFO	74,107.97	292.68	6,283.96	500
*Route acreage assumes an average route width of 3 feet.				

5.3 CUMULATIVE IMPACT ANALYSIS

Impacts from past and present actions within the Havasu TMA total 18,722.32 acres from activities such as mining operations, roads/primitive roads/trails, and existing ROW on public land. In relation to the 356,312 acres of within the Havasu TMA, public land represents 61%. Therefore, the total acreage of past and present actions is minor in comparison to public lands within the Havasu TMA. Similarly, the 74,400.11 acres of past and present actions on public land is minor in comparison to the 1,359,043 acres of public land within the LHFO. Some of the impacts related to past and present actions included habitat fragmentation, disturbance of cultural sites, Bighorn Sheep movement corridor disruption, soil loss, and reduced opportunity for coordinated recreational opportunities.

Reducing the availability of open routes may not equal a reduction in the amount of OHV use. By implementing a route network, OHV use may become more concentrated on open routes. These routes may likely increase in use, width and size. Creating localized impacts to habitat quality/quantity as routes become larger, wider and more braided.

Cultural resources are impacted through heavy visitor use in the Crossman Peak ACEC. Many sites have routes that lead directly to them. Roads that lead directly to these cultural sites are the main vector for the overuse and abuse that these sites are receiving. These sites receive damage resulting from OHV proliferation and cross country travel.

When the RFFAs are compiled with past and present actions on public land, the percent increase in disturbance within the two CIAA is relatively minor in comparison to the total acreage of public land. The continued effort to designate roads/primitive roads/trails throughout the field office will lead to improved resource management throughout the LHFO.

Cumulatively, the Proposed Action will maintain a variety of recreational opportunities, reduce route proliferation, maintain access to mineral operations, reduce potential for additional habitat fragmentation, improve public safety, and provide an opportunity to improve socioeconomics through the trail maps and signs.

6.0 CONSULTATION AND COORDINATION

6.1 TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

Arizona Game & Fish Department, Region IV,
(AZGFD)
Arizona Department of Transportation
Arizona OHV Coalition
Arizona State Lands Department
Arizona State Parks
Advanced Resource Solutions (ARS)
BLM, Kingman Field Office (KFO)
BLM, Needles Field Office (NFO)
BLM, Arizona State Office (ASO)
BLM's Resource Advisory Council (RAC)
BLM, Colorado River District (CRD)
Bureau of Reclamation (BOR)
The Chemehuevi Indian Tribe, Havasu Lake, CA
US Fish & Wildlife Service (USFWS)

6.2 LIST OF PREPARERS

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APPENDICES

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B. PUBLIC COMMENTS AND NOTES

The first 30-day public comment period started with an Open House event held August 18, 2010. Initially, public comments consisted of requests for an extended comment period to allow the public to check proposed route designations in the field when weather permitted. The first extension added allowed for an additional 43 days, ending October 31st 2010, for public comments. Public input requested even more time to allow seasonal visitors to take part in the comment process. The LHFO authorized a second extension to February 28th 2011. Cumulatively, the LHFO received 2,233 public comments over the six month public comment period. Throughout the summer and fall of 2011, LHFO staff reviewed all public comments and made changes, as appropriate, to the range of alternatives of the Havasu TMP. Below is a synopsis of the public comments received for the Havasu TMP throughout 2010 and 2011.

<i>TABLE 1: HAVASU TMP PUBLIC COMMENTS SYNOPSIS</i>		
Comments	Totals	Percent
Total Comments (Submissions)	2233	
Extend the Public Comment Period	769	34.4%
Keep All Routes Open	200	9.0%
Local Economy	199	8.9%
Alternative/Map D with Changes	166	7.4%
Alternative/Map D	158	7.1%
Family Use	141	6.3%
Disabled/Retired/Senior Use	133	6.0%
Mining Collection Sites	102	4.6%
Alternative A/Map A/No Action	89	4.0%
GIS/GPS Data- Need better data and maps with landmarks for public review	74	3.3%
Jupiter Mine Access	48	2.1%
Mixed-use recreation	45	2.0%
General Complaint	43	1.9%
Extend Open area at top of C to meet east/west southern border on main map , which appears to be at 34.30.0N.Extend western border of insert 5 to the eastern jurisdiction line Southern border of inset 5 Extend open area to interface with state and wilderness lands	38	1.7%
Wing Mine Access	38	1.7%
Increase Law Enforcement	32	1.4%
Route Wear	29	1.3%
Alternative/Map A or D	21	0.9%
Safety	17	0.8%
Economic Impact Study needs to be completed	17	
OHV enthusiasts participate in trash pickups	17	

Havasu Mid Mohave to West Mohave-All are two track stock 4X4 trails. This is a long used cut across from West to Mid Mohave. All are part of a loop trail and a connector to several other trails, and save miles of extra driving over desert trails. All of the routes/trails should be open and not closed or even not open mitigated.	17	
Travel Management Plan should include connector links to move off-road traffic around lambing areas and other sensitive areas	15	
Hunting (2-Close routes to limit OHV hunting/10-keep them open for disabled hunters)	12	
Develop parking areas/trail heads/facilities for off roaders/better signs	11	
History/Historic Value	11	
NEPA - were standards followed - which staff members and consulting agency members were involved	10	
In closed areas, use the natural features as boundaries	9	
Environmental Impact Statement/ EA	9	
BLM has failed to comply with the FLPMA, in designating a travel network	6	
Alternative/Map C	6	
Close routes to protect wildlife	5	
Route Evaluation Tree is flawed	5	
Alternative A with changes	5	
Re-evaluate closures due to plants/tortoise habitat/wildlife	4	
Importance of social network for senior citizen outweighs importance of assumed environmental impacts	4	
Retain single track motorcycle trails	4	
Target Shooting	3	
Unable to Open Public Comment Form Attachment	3	
Paperwork too difficult/Public Comment process confusing	3	
Close Routes	3	
Concern with "open with mitigation"	3	
Request access to the archeological site locations, SHPO status, in order to assist BLM in reestablishing a new more easily defined and enforceable boundary. / Request information on cultural sites	3	
Pittsburg Mine Access	3	
Close Proliferated and Party Routes	3	
Women's Use	2	
Create Routes Instead of Closing Them	2	
Keep looped, long distance routes open	2	
Close routes for Preservation	2	
Yahoo entire stippled area "EVIDENCE of CONSTRUCTION" into the "Regularly Maintained" Under the "SPECIAL RESOURCES" these trails should be considered as an 'Indirect' Public Use' should be changed to read 'Semi- Technical to Technical ROUTE REDUNDANCY should be changed to No' because these are specific stand alone trails	2	
Must Honor BLM's Wild Lands Policy (Secretarial Order 3310) updated inventories and Wild Lands designations are incorporated into revised or amended plans	2	

Errors in trail inventory	2	
TMP must disclose and analyze effects of the human environment in the proper context	2	
Plans for a future trail from the new housing developments	2	
OHV enthusiasts willing to help.	2	
Alternative/Map B	2	
Extend Technical Area	2	
El Campo Mine Access	2	
Need More Information	2	
Develop single track and two track trails	2	
Close redundant 4X4 routes and dead ends	1	
How will SRM areas be managed	1	
Allow rerouting up to 1/4 mile	1	
Implement OHV Sticker Fund	1	
Use 501c3 organizations to help financially	1	
Why Are Some Routes Closed to ATVs and Open to Other Vehicles	1	
Why are River Routes Closed	1	
Define Access Terms	1	
Why Close Trails East of OHV area	1	
Butch Flat	1	
Designate long distance routes connecting to Kingman and Phoenix	1	
Shared mitigation techniques	1	
Thanks for extension	1	
Special Recreation Permitting process can be streamlined in the travel management plan	1	
Has BLM done a "detailed" analysis on each route, road or trail in order to determine? Impact on each specific route if left open or closed. Skill level required to travel on each route.	1	
Determine logical significance criteria for socio-economic and recreational opportunity impacts	1	
Identify any RMZ areas that are appropriate and include them in at least one Alternative.	1	
Keep washes open	1	
impacts on dispersed campsites	1	
Draft Alternatives seem to represent a lack of understanding in the "use pattern." None of the Alternatives seem to make any sense "on the ground."	1	
parallel or redundant routes are not necessarily a bad thing	1	
tertiary road unpaved extension of El Dorado wash, is blocked by various debris with no trespassing signs attached, cattle gate better choice	1	
Open, unmanaged areas are not acceptable	1	
Recognize Lands with Wilderness Characteristics	1	
don't close any of the trails in the area south of Havasu Landing Resort	1	

Standard Wash-The boundaries should extend out to West Mohave Wash and to the North towards the Challenger Wash area.	1	
Majority of local OHV users are responsible citizens	1	
Map C effectively closes 100% of our Havasu 4 Wheelers trails by closing 80 critical segments of the 1143 route HN Segments.	1	
Inadequate publicity and input	1	
Assessment of local users not adequately considered	1	
Many areas already closed to Off Highway travel in area (Wilderness)	1	
Route decisions do not account for current circumstances	1	
Routes should not be categorically excluded from being incorporated into the final plan simply because they lie within a soils or watershed "polygon."	1	
implement policy on existing resource management plans	1	
Very limited area field checked or verified	1	
User input data of use patterns not used	1	
Environmental Stewardship	1	
Use a Citizens' advisory group	1	
Updated inventories and Wild Lands designations are incorporated into revised or amended plans	1	
For land use plans currently under revision or amendment, BLM must inventory for wilderness characteristics in accordance with Secretarial Order 3310 and designate lands with wilderness characteristics as Wild Lands in the RMP	1	
Rescind Attachment 1-9 and 1-10 of Instruction Memorandum No. AZ-2005-007, as this policy is no longer applicable for BLM land use planning in Arizona.	1	
Traffic patterns must be considered	1	

TABLE 2: HAVASU TMP PUBLIC COMMENTS – ROUTES RECEIVING SPECIFIC COMMENTS

Specific Routes	Desired Actions or Comments	Number of Comments
HN 816	Old mining area access.	148
HN004A	Needle Mtn/1-40	113
HN015	Connection to the two crossing points over Interstate 40	97
HN020	Part of Yellowstone Trail	89
HN021A	Family Use, Local Economy	85
HN025	Family Use, Local Economy	82
HN029	Used for prospecting, connects with HN04B.	81
HN032	Route HN032 continues on to land of which the BLM has no jurisdiction	81
HN044	Blankenship Wash	79
HN046	Blankenship Wash	78
HN048	Blankenship Wash	77
HN049	Blankenship Wash	74
HN050	Goat Hill Trail	72

HN053	1 mile connector route	72
HN053A	.79 mile route that connects with HN071 and HN053 a very favorite and scenic route of min	70
HN059	Enjoyable route, Blankenship Wash	69
HN064	Allows access to chalcedony collection site	69
HN065	Enjoyable route	67
HN068	Enjoyable route	66
HN069	Scenic, challenging alternative connecting HN071 to HN064	64
HN069A	Incorrect need to be deleted, Goat Hill	64
HN069B	Scenic, challenging alternative connecting HN071 to HN064	63
HN071	Multiple routes under one HN #. At 34 37'10.39" N-114 degree 22'3.07"W there is a cliff making it impassible- but otherwise good for beginners, Goat Hill	62
HN071A	Incorrect, Red Line Trail , Goat Hill Trail	60
HN071A1	River City 4X4 favorite	60
HN079	Yellowstone trail continues West to HN079	58
HN07A1	Good route for rock-crawling Loop route Red Line Trail	58
HN08J	The Maze Trail, Black Falls Loop	56
HN08J	Spaghetti A, Black Falls Loop	56
HN090	Part of Yellowstone Trail	56
HN091	Part of Yellowstone Trail	55
HN099	Northwest Passage Trail-scenic connector trails challenging	54
HN09J	Public uses are wrong, ATV is incorrect. Should be non-stock 4x4. This is not Route Proliferation it is a technical loop route. Redline Trail	51
HN100	Northwest Passage Trail-leads to a mine view turnaround and scenic view Havasu 4 wheelers will fence for safety	51
HN101	Yellowstone trail continues North to State land Section almost at I 40 , West on State land to open HN 101	50
HN12J	Rattlers Pass- critical track for technical use of out of town users. Yahoo Pass	49
HN130	Northwest Passage Trail-decreases distance to get to pipeline rd. and eliminates need to cross state land	48
HN153	Maze B	46
HN154	The Lost Trail- Standard Wash area HN420 links to these trails to provide scenery and challenges and connections to the South East. Also part of the Maze Trail- part of a 18.5 miles scenic loop. Red Trail This is a Loop and Connector route. It is a Dual Track width, not ATV Track. Route Proliferation is not an issue. Red Line Trail. Connector trail from HN623 to HN624. Opportunities for predator hunting.	45
HN157	GPS and geocache- route that goes to Havasu Heights	44
HN158	Continuation of HN157 GPS and geocache- route that goes to Havasu Heights	43
HN158A	Geocache continuation of HN158 access to HN159	42
HN159A	Highline Trail, Spur off of Northwest Trail with 4 foot falls for training trail climbers, Family Use, Local Economy, Connects HN158 and HN159 access to Havasu Heights	41
HN15A	There is no reason for this route to be closed. Redline Trail	41

HN160A	Family Use, Local Economy	39
HN164	Makes a loop and provides connections between HN162 and HN232A. The southern 1/3 and northern 1/3 of this trail could be closed	39
HN165	Connector trail, Highline Trail	39
HN166	Connector trail	38
HN168	Highline Trail	38
HN16B	Highline Trail Listed at a standard stock 4X4 route. It is a Moderate 3 trail	37
HN176	Connector trail, Family Use, loop and provides connection with HN223A and HN 162, Havasu Heights use	37
HN177 to HN290 to HN291	Allows access to gold mining claim	37
HN181	Access to Rams Peak	37
HN182	Access to Rams Peak/Scotts Well 30 mi trail, Family use, Disabled use	37
HN182A	Cut across to Rams Peak/Scotts Well	36
HN183	Access to Rams Peak/Scotts Well, Family use	36
HN186	Long way around Scotts Well	35
HN19A	There is no reason for this route to be closed. Redline Trail	34
HN200	Yellowstone trail starts at Havasu Heights west turn off on HN200	34
HN218A	allows access for highway legal users to enter to and from highway 95	34
HN222	Highline Trail. Connector trail between HN 223 and HN 224. Gold seeking	34
HN224	HN222 Connects to this route	33
HN224	Connector trail	33
HN229	Family Use, Local Economy, completes a loop starting at HN228A and connecting to HN 232	33
HN22C	Allows access to claim HGS16	33
HN22F	Local Economy, Family Use	33
HN22J	Missed Route Connects to HN890 Snake Pit/Flood's Folly	33
HN230	Connector route from the power line easement to HN 229	33
HN231	Connector running in a wash alongside a gravel pit an mining area from HN 228A to HN 232	33
HN232A	Connector trail to-HN224-HN176- HN166- HN165	32
HN236A	runs into a private parcel of land and offers ohv access to this parcel and continues through the private parcel to HN236	32
HN237	Safer and less traveled route than HN152	32
HN238	Safer and less traveled route than HN152	32
HN239	In a wash that leads to some other missed routes	30
HN23C	Allows access to claim HGS16	29
HN242	Allows access to meteorite collection site, alternative to HN243, connector to HN628	29
HN243	Allows access to meteorite collection site	28
HN245	Allows access to meteorite collection site	28
HN24C	Allows access to claim HGS16	27

HN24F	Older people like to ride in the desert for the scenery	26
HN256	A connector route to HN758A	26
HN258	The Lost Trail- Standard Wash area HN420 links to these trails to provide scenery and challenges and connections to the South East, Family Use, Access to Jupiter Mines A, B and Lower Jupiter, The Maze Trail- part of a 18.5 miles scenic loop, Intermediate level with historic significance and lunch spots. Maze Trail, Spaghetti A	26
HN262	Crossman Peak Trail	26
HN26F	Local Economy, Family use	25
HN273	Access geocache	24
HN279	Crossman Peak Trail	23
HN284	Go-around HN287	22
HN287A	Allows access to mining claims	21
HN28A	Family Use	21
HN28G	Family Use	20
HN291	Allows access to mining claims	18
HN293	Local Economy, Family use, connector off of route HN291	18
HN29A	Acquire From Public Land, Gold Springs Trail	18
HN301 thru HN307	Allows access to one of our member's claims	18
HN302	Access to mining claims	14
HN304	Access to mining claims	13
HN306	Disabled Use	13
HN315	connector route from HN323 and HN387	13
HN317	Allows access to mining claims	12
HN319	Allows access to mining claims	10
HN31A	older people like to ride in the desert for the scenery	10
HN321	Allows access to mining claims	10
HN323	it connect to HN287	10
HN325A	Allows access to common dig area	9
HN326	Allows access to common dig area	9
HN328	Allows access to common dig area	8
HN32A	Shown as a Spur and a Loop. It is not a Spur, it is a Loop and Connector (to HN94A) Redline Trail	8
HN330	Allows access to Mining Claims HGS17 and HGS18	8
HN332	The Lost Trail- Standard Wash area HN420 links to these trails to provide scenery and challenges and connections to the South East	8
HN334	older people like to ride in the desert for the scenery	8
HN336 to HN621	Connector Route. Dual Track/Motorcycle. Public use includes 4x4. Proliferation is not an issue. Redline Trail	8
HN339	Allows access to mining claims	7
HN344 thru HN387	Allows access to HGS1, HGS2, HGS3, HGS4, HGS5, HGS6, HGS7	7
HN346	Allows access to mining claims	7
HN347	continues to HN272 and HN339 in the main road in Franconia wash	6

HN348	Allows access to mining claims for low clearance vehicles	6
HN349	Close as long as HN348 is open	6
HN349	Crossman Peak Trail	6
HN350	Allows access to mining claims	6
HN359	Allows access to mining claims	6
HN35B	Wing Mine- easily accessible loop and connector trails	6
HN376	connects HN377 and HN361	6
HN379	connects HN355 and HN380	5
HN385	it connects HN384 and HN386	5
HN386	connects HN385 and HN384	5
HN415	enjoyable route	5
HN417	Crossman Peak Trail	5
HN420	Crossman Peak Trail	5
HN422	Crossman Peak Trail	5
HN427	Crossman Peak Trail	4
HN429	1.2 mile route	4
HN433	Rattlers Pass and Technical Area south of this route. Yahoo Pass	4
HN443	Rattlers Pass- broken route. Allows a loop back to highway from HN608. Also allows for best obstacles and emergency exit. Yahoo Pass / Gold Springs Trail	4
HN446	Crossman Peak Trail	4
HN452	1 mile connector route	4
HN45C1	Allows access to mineral collection sites	4
HN460 thru HN476	Open for Rattlers Pass, Boulder Gulch	4
HN463	Dos Mohave, Mohave Wash Loop	4
HN464A	Dos Mohave, Mohave Wash Loop	4
HN465	Boulder Gulch Trail-too extreme for administrative use.	3
HN466	Connects to HN478 and is missing off maps. Boulder Gulch. Havasu Mid Mohave to West Mohave All the routes originating from highway 95 south of Standard wash going through the Sharkstooth-Casendra trail area which include McCracken cabin, McGuffies cabin, Swansea, Signal, Maggie Wash, Alamo Lake, etc. use this trail. Mohave Loop	3
HN467	Diamondback/Sidewinder Trail, Redline Trail	3
HN46B	Local Economy, Family Use, loop for Wing Mine	3
HN471	1.3 mile route open the route up the point that HN472 departs from	3
HN472	Connects to 471	3
HN475	This is a Connector route that combined with adjacent routs creates a Loop. This is a Dual Track not a Motorcycle Track width as used with this trail. Redline Trail Public use includes 4x4. Route Proliferation is not an issue.	3
HN476	Cut across to Boulder Gulch, Mohave Wash and Cabin Trail	3
HN478	Cut across to Boulder Gulch, Havasu Mid Mohave to West Mohave	3
HN479	Havasau Mid Mohave to West Mohave	3
HN47B	Bat Cave- Wing Mine	3

HN490	Alternative to McCracken Mine B, departs from HN450 and runs into the Kingman BLM management area where it connects with a network of trails	3
HN492	A short spur trail connects to HN460	3
HN493	Castaneda/Sharktooth Loop & McCracken Mine B Trails	3
HN494	Signal Mine Town A	3
HN497	.14 mile spur departing from approved route HN950 necessary for dry camping RV parking	2
HN54G	Family Use	2
HN55G	Family Use	2
HN589	Mohave Wash and Cabin Trail	2
HN591 to HN608	Gold Springs Trail, HN591-Black Falls Loop	2
HN592	1.22 mile HN621 connector route , Spaghetti C	2
HN594	Close	2
HN599	Rattlers Pass. Yahoo Pass A .44 mile spur trail off of HN589	2
HN605	Yahoo Pass, Mohave Wash and Cabin Trail. Rattler Pass, Red Line Trail	2
HN606	Rattlers Pass. Yahoo Pass / Gold Springs Trail. Castaneda-Sharks Tooth Loop and McCracken Mine B Trail, Red Line Trail	2
HN607	Connects to HN07A1,Family Use	2
HN608	Gold Springs Trail	2
HN610A	Broken	2
HN611	Rattlers Pass- broken route. Yahoo Pass, Mohave Wash and Cabin Trail	2
HN612	leaves HN476 at 34 27'16n -114 08'62w and returns to HN420 at 34 28'45n - 114 07'57w	2
HN613	older people like to ride in the desert for the scenery	2
HN614	Close(2 comments) /Keep Open as Part of Maze Trail	2
HN616	hunting, prospecting, geo-caching, rock hound	2
HN617	Family Use	2
HN619	The Maze Trail- part of a 18.5 miles scenic loop, Red Line Trail, Spaghetti A	2
HN620	The Maze Trail- part of a 18.5 miles scenic loop ties to HN644 a single track route	2
HN621	Rattlers Pass. Yahoo Pass / Gold Springs Trail, Red Line Trail	2
HN623	Red Line Trail	2
HN624	The Maze Trail- part of a 18.5 miles scenic loop, Family Use, Part of Jupiter Mines A and B These are intermediate level drives with historic significance and a good lunch spot. Red Trail. Jupiter Mines, Red Line Trail, Hawks Nest, Lost Trail, Spaghetti A	2
HN625	Rattlers Pass-broken route. Yahoo Pass	2
HN632	The Maze Trail- part of a 18.5 miles scenic loop, Family Use This is a Connector route that combined with adjacent routs creates a Loop. Route Proliferation is not an issue. Redline Trail	2
HN633	older people like to ride in the desert for the scenery	2
HN634	Jupiter Mine Trails	2
HN644	Single track Use, Close Adjacent Duplicates, Used by Havasu 4 Wheelers	2
HN649	Rattler/Python	2

HN651	The Maze Trail- part of a 18.5 miles scenic loop	2
HN652	Emergency out of rattler pass, Boulder Gulch	2
HN654	River City 4X4 favorite	2
HN657	From Scenic View toward Dutch Flats- access from Standard Wash	2
HN661	Family Use	1
HN664	Anniversary Trail / Diamondback/Sidewinder Trail, single track	1
HN675	Family Use	1
HN676	The Lost Trail- Standard Wash area HN420 links to these trails to provide scenery and challenges and connections to the South East, Family Use, Access to Jupiter Mines A, B and Lower Jupiter, Dos Mohave, Hawks Nest, Spaghetti A	1
HN684	Gold Springs Trail, Red Line Trail	1
HN686	Family Use	1
HN687	Family Use	1
HN689	Dutch Flat Road	1
HN690	Diamondback/Sidewinder Trail, Dutch Flat Road, Red Line Trail	1
HN692	Hawks Nest is a semi-technical to technical trail used as a step up challenge and for training. Indirect access from Standard Wash and Dutch Flat Road / Gold Springs Trail falls under evidence of construction into the regularly maintained category. This is a semi-technical to technical trail and is used by beginning off roaders as a step up in challenge. Can be run from north to south or south to north. Under the Special Resources, this trail should be considered as an indirect, not direct Access is from Standard Wash & the Dutch Flat Road which has been in existence since the 1880's.under Public use, this trail is more challenging than a standard stock 4X4 can accommodate. Lost Trail	1
HN693	Close / Keep Open for access to Private Lands	1
HN696	Close to limit Crossing Private Land to HN29A / Gold Springs Trail	1
HN700	Red Line Trail	1
HN700A	Connects to HN07A1, Family Use, Gold Springs Trail, is a maintained route used by all off-road venues. This fact is not noted on the RER under "Public Uses" so the report is in error.	1
HN701	main connector for Hn702	1
HN710	Anniversary Trail/Diamondback/Sidewinder Trail/Gold Springs/ This is a Loop and a Connector. High Density Route Polygon does not apply. Redline Trail	1
HN721	Family Use, Local Economy	1
HN758	Red Line Trail	1
HN764	Access historic mining areas around Jupiter and El Campo Mines.	1
HN765	Access historic mining areas around Jupiter and El Campo Mines.	1
HN766	older people like to ride in the desert for the scenery	1
HN768	Access historic mining areas around Jupiter and El Campo Mines.	1
HN773	Anniversary Trail -Connector Trail	1
HN782	Red Line Trail	1
HN785	Anniversary Trail	1
HN800	Beautiful road	1

HN801	Local Economy, Family Use	1
HN802	Anniversary Trail	1
HN804	short section in an area that provides a unique riding experience	1
HN805	Listed as a spur when in fact it connects to HN802. / 1 comment to close it	1
HN806	connector trail	1
HN807	could be closed with no adverse effects	1
HN808	assists in connecting the other trails	1
HN809	Scenic, Local economy	1
HN810	Family Use	1
HN811	Fork off of HN800, nice dead end area to hike from or target shoot	1
HN812	Lunch spot	1
HN813	provides access to HN818A	1
HN814	no purpose other than to access a hill we should not be operating on with vehicles, close it	1
HN815	Mine road to Pittsburg Mine, an historic route, and great view from the tailings pile of the lake.	1
HN818A	Historic mining area access.	1
HN819	HN819 is not a required spur. OK to CLOSE	1
HN822	Dead ends about 100 feet into a canyon, used by shooters as a good back drop to shoot into.	1
HN826	CLOSE them as they only serve for gun shooting.	1
HN827	It could be CLOSED.	1
HN829	CLOSE them as they only serve for gun shooting.	1
HN830	is a good trail and should not be on the closed	1
HN831	short loop hill climb	1
HN832	Havasu OHV Group sees no particular reason to keep this loop in service, H4W uses route as Copperhead Trail	1
HN834	Havasu Falls/Plan Wreck Trail Havasu 4 Wheeler club will fence off mine if it is left open.	1
HN835	serves no particular need so it could be CLOSED	1
HN836	Close short spurs with no good intentions.	1
HN838	Close short spurs with no good intentions.	1
HN839	required open in this area	1
HN840A	hunt, prospect, geo-cache, rock hound or riding pleasure	1
HN841	This route can be closed	1
HN842	OK to Close	1
HN843	Ok to Close	1
HN858	Access to Target Shooting Area, Disabled Use	1
HN862	Access to Target Shooting Area, Disabled Use	1
HN865	older people like to ride in the desert for the scenery	1
HN867	older people like to ride in the desert for the scenery	1
HN868	older people like to ride in the desert for the scenery	1

HN871	older people like to ride in the desert for the scenery	1
HN874	Highline Trail	1
HN885	Highline Trail	1
HN887	Allows access to mining claim HGS21	1
HN888	Wing Mine- easily accessible loop and connector trails, spur to mine entrance, access for HGS	1
HN889	Good Beginner trail, doesn't connect to HN22J, Snake Pit/ Floods Folly, local economy	1
HN890	River City 4X4 favorite	1
HN890A	Allows access to mining claim HGS21	1
HN893	Snake Pit A	1
HN894	Gold Springs Trail	1
HN895	Rock-hounding, Scenic, Snake Pit/ Floods Folly	1
HN895A	Allows access to mining claims	1
HN895B	Allows access to mining claims, Local Economy	1
HN899	Allows access to mining claims/collection sites	1
HN900	Allows access to crystal collection site	1
HN902	River City 4X4 favorite	1
HN903	Much like HN904, good for spotting Bighorn Sheep	1
HN904	Allows access to mineral collection site, local economy	1
HN905	Allows access to mining claims, Floods Folly Trail	1
HN907	Allows access to crystal collection site. Local economy	1
HN908	Occasional Use, doesn't connect to HN895 or HN923 Floods/Floods Folly Trail/Snake Pit Trail But does connect to Havasu OHV Riders trail	1
HN912	Allows access to crystal collection site, Local economy, Connects to HN982	1
HN915	Allows access to crystal collection site/Floods Folly Trail	1
HN916	Floods Folly Trail (Go-Around HN915)	1
HN919	A .51 mile spur off of HN982	1
HN922	Allows access to mining claims, Floods Folly Trail	1
HN923	Senior Use, Snake pit / Floods Folly , local economy, connecting trail, well used	1
HN924	Snake Pit/ Floods Folly, local economy	1
HN928	.69 trail that with HN922 connects HN915 and HN965. Most of the OHV use from the North end of LHC and Havasu Heights.	1
HN930	.5 mile connector route couples to HN922 after departing HN965	1
HN93F	Family Use	1
HN949	.06 connector loop from HN950 necessary for dry camping RV parking	1
HN94A	Not a Spur, it is a Loop and Connector (to HN32A) Redline Trail	1
HN951	Can't read maps	1
HN95A	Maze Trail, Red Line Trail	1
HN965	Fun	1
HN967	Canyon forks at the end, nice well-worn in trail, the fork to the right has a nice shady palo verde tree.	1

HN980	The Lost Trail- Standard Wash area HN420 links to these trails to provide scenery and challenges and connections to the South East	1
HN982	Gold Springs Trail	1
HN984	Rockhounding, connects to HN985	1
HN985	Rockhounding, single track	1

C. VEGETATIVE COMMUNITIES

The following excerpts on vegetation communities are taken from:

The Proposed Arizona Statewide Land Use Plan Amendment for Fire, Fuels and Air Quality Management-APPENDIX C -VEGETATION COMMUNITIES AND ASSOCIATED WILDLIFE SPECIES
http://www.blm.gov/pgdata/etc/medialib/blm/az/pdfs/nepa/library/fuels.Par.5479.File.dat/appendix_c.pdf

Upland Sonoran Desert Scrub

The Upland Sonoran Desert Scrub vegetation is at times referred to as the Arizona Desert or Paloverde- Cacti Desert. This vegetation is mainly associated with the Lower Sonoran Desert Scrub. It occurs on BLM land in the western part of the state and is the largest vegetation community at 3,280,602 acres. Cacti plants are characteristic of this desert scrub and include buckhorn cholla, cane cholla, chain fruit cholla, teddy bear cholla, desert Christmas cactus, pencil cholla, Klein cholla, Devils club ground cholla, fishhook pincushion, Thornber pincushion, fish-horn barrel cactus, compass barrel cactus, and saguaro. Non-cactus dominant woody plants are blue palo verde, foothill palo verde, ironwood, creosotebush white bursage, whitethorn acacia, limber bush, ocotillo, jojoba, little-leaved ratany, crucifixion thorn, and bush buckwheat. Fire is not common in this vegetation community....

A great majority of this vegetation occurs on slopes and broken ground giving it the name of Upland Sonoran Desert Scrub. Elevations range between 984-3,280 ft. Average annual precipitation is unreliable and bi-seasonal which averages 12-16 inches with approximately 30-60% occurring during summer months. Temperatures are warm and characteristic of subtropical deserts with a winter temperature range of 9-19 °C and summer range of 22-27 °C. Soils are variable but predominately sand characteristically covered with desert pavement. Historic fire had a return interval of decades to hundreds of years and was probably not common in this vegetation community (Rogers and Steele 1980). However, today the risk of wildfire may increase after abnormally high annual precipitation which encourages abundant growth of red brome and buffelgrass (McAuliffe 1995).

Lower Sonoran Desert Scrub

The Lower Sonoran Desert Scrub vegetation on BLM land occurs mainly in western Arizona. It is the second most common vegetation type on BLM land as it occupies 2,727,540 acres. This vegetation type is relatively species rich in comparison with the Great Basin Desert Scrub as there is a mixture of different shrub species throughout this type. The Sonoran Desert Scrub vegetation is associated with Mohave Desert Scrub and Upland Sonoran Desert Scrub. Characteristic shrubs are creosotebush, whitebursage, octillo, brittlebrush, foothill palo verde, fourwing saltbush, and Ironwood. Saguaro is a characteristic cactus. Western honey mesquite, ironwood, catclaw acacia, blue palo verde, desert willow, and smoketree are usually associated with washes. Big galleta grass is an important grass species. Invasive weedy species include exotic species such as buffelgrass, red brome, filaree, prickly lettuce, Russian thistle, and London rocket. Fire is not common in this vegetation community.

As a result of high temperatures and low precipitation, plant growth is typically opened and simple reflecting intense competition for soil water among individuals. Annual precipitation varies between 2 and 9 inches. Winter temperatures are mild but summer months are hot, and desert

pavement is common. Vegetation tends to occur along washes and small drainages. Sand dunes are common in some areas. Historic fire had a return interval of decades to hundreds of years and was probably not common in this vegetation community (Rogers and Steele 1980). However, today the risk of wildfire may increase after abnormally high annual precipitation which encourages abundant growth of red brome and buffelgrass (McAuliffe 1995).

Mohave Desert Scrub

Mohave Desert Scrub vegetation is located on 1,165,687 acres. The Mohave Desert Scrub vegetation mixture is intermediate between Great Basin Desert Scrub and Sonoran Desert Scrub. The characteristic shrubs include creosotebush, Joshua tree, all-scale, brittlebush, desert holly, white burrobrush, shadscale, blackbrush, and many more shrubs. Cacti are well represented and include Engelmann hedgehog, silver cholla, Mohave pricklypear, beavertail cactus, many-headed barrel cactus. Ephemeral plants, many of which are endemic (approximately 90 out of 250 species), are characteristic of Mohave Desert Scrub. These short-lived plants that complete their life cycle in one growing season are divided into two major groups: winter and summer annuals. The winter and summer annuals respond to winter and summer precipitation, respectively.

The Mohave Desert Scrub is a warm temperate desert with scanty precipitation that occurs mainly during winter months. Elevation for the Mohave Desert Scrub is broad in Arizona and ranges from below 980 feet to 4,000 feet. Precipitation is low with annual values ranging between 2 and 8 inches and occurs with a predominately winter and summer bi-modal pattern. Temperatures are relatively low in the winter and high in the summer. Temperatures can range from approximately 0 °C in the winter months to 40 °C in summer months. Dry lakes are common. Historic wildfire was probably not common in this vegetation community.

Riparian

Riparian vegetation is found on 176,927 acres of BLM land in association with streams and rivers. The area occupied by riparian vegetation is relatively small in relationship with other vegetation types but their biological and ecological importance is larger than their limited geographic occurrence. Riparian vegetation is important to wildlife as forage, cover, breeding, and migration corridors. Riparian corridors have been greatly disturbed by a variety of activity such as grazing, mining, tree harvesting, and stream flow alteration.

The nature and species composition of the riparian vegetation changes depending on elevation and associated upland vegetation community. For example, at high elevation stream gradients are steep with relatively high precipitation and cool temperatures, while at low elevations stream gradients are gentle, low precipitation, and warm temperatures. At the higher elevations Pacific willow, bigtooth maple, narrowleaf cottonwood, box elder, black cherry, sycamore, Arizona walnut, velvet ash and western soapberry and red willow are the woody plants. At lower elevations mesquite, Gooddings willow, netleaf hackberry, western soapberry, velvet ash, Wright's sycamore and black cherry characterize riparian vegetation. Russian olive and saltcedar are two invasive woody plants that have colonized large expanses of low- to mid-elevation riparian corridors.

D. SOCIOECONOMIC STUDY

Background for the socioeconomic section of the Environmental Assessment was derived from the following eight published articles and websites found on online. These articles looked at economic value of tourism; recreation trails, and OHV use. These studies, for the most part, were specific to the area of the Havasu Travel Management Area, Western Arizona, Mohave County, and Lake Havasu City, AZ. Some of these articles discussed had a national scope.

Below are listed the articles consulted by title, year, authority with a website link. Also we have included is a short abstract of the information provided in the article for this analysis.

1	Title:	<i>Arizona's West Coast, Regional Tourism Profile, Compiled for the Arizona Department of Tourism, Overview Of Mohave County Population, Earnings, And Personal Income</i>
	Year:	2004
	Author(s):	Ron Walker, County Manager
	Website/Link:	http://resource.co.mohave.az.us/File/General/MohaveEconomy.pdf
	Abstract:	A study of visitors to the "west coast" of Arizona, where do they come from and what is their economic value to the region: <i>"2.2 million visitors come to the Arizona West Coast annually. 69% of those who travel here are from out of Arizona; that equals 1,518,000 out of state visitors. The Los Angeles area provided 37%, or 561,660 of these visitors."</i> <i>"The average Arizona domestic overnight visitor spent \$75 per person per day in 2002. Arizona's West Coast Domestic Overnight Leisure visitors stayed for an average of 3.1 nights. Using these figures, over \$500,000,000 comes into the Arizona West Coast economy annually from tourism."</i>
2	Title:	<i>2010 County Business Patterns (NAICS) for State: Arizona Areadname: Mohave AZ</i>
	Year:	2010/2000
	Author(s):	United States Census
	Website/Link:	http://censtats.census.gov/cgi-bin/cbpnaic/cbpsect.pl
	Abstract:	The total number of business establishments for Mohave county in 2010 was 3,713 that was an increase of 267 from 2000. Over the decade, there was a decrease in "Agriculture, Forestry, Fishing and Hunting" of two, while there was an increase in "Arts, entertainment and recreation" of two business for a total 43 establishments. It is unknown if these were specifically in "recreation." Other business known for using routes within planning area for commercial purposes are mining, which increased by 11 establishments, and utilities which decreased by 2 businesses. So overall the number of the type of business that might have directly use the roads, primitive roads and trails has stayed relatively constant over the past ten years.

3	Title:	<i>Lake Havasu City Tourism Survey</i>																																																																				
	Year:	2008																																																																				
	Author(s):	Prepared for the Arizona Office of Tourism By Arizona Hospitality Research & Resource Center Center for Business Outreach The W. A. Franke College of Business Northern Arizona University.																																																																				
	Website/Link :	http://www.azot.gov/documents/Lake Havasu City Final Report 8 7 08.pdf																																																																				
	Abstract	This visitor survey collected 711 responses from Lake Havasu from July 2007 through June 2008 – <i>“a more than sufficient sample size to provide reliable results”</i> <i>“Generally, the Lake Havasu City area is a primary destination for affluent Baby-boomer aged individuals on leisure vacations, who stay multiple nights, enjoy water recreation, hike and shop in the area...In conclusion, it appears that visitors to Lake Havasu City appreciate the community and the natural resources of the area and choose extended stays in pursuit of many leisure activities, all of which redounds to the economic benefit of local retail, hospitality, and area attractions”</i>																																																																				
	Table from Survey:	<table border="1"> <thead> <tr> <th>Did/Will you participate?</th> <th>Count</th> <th>Percentage participating</th> </tr> </thead> <tbody> <tr><td>Visiting beaches-parks</td><td>230</td><td>54.5%</td></tr> <tr><td>Shopping</td><td>226</td><td>53.6%</td></tr> <tr><td>Lake Tours</td><td>155</td><td>36.7%</td></tr> <tr><td>Boating-Waterskiing-Wakeboarding</td><td>149</td><td>35.3%</td></tr> <tr><td>Playing golf</td><td>139</td><td>32.9%</td></tr> <tr><td>Hiking or walking trails</td><td>134</td><td>31.8%</td></tr> <tr><td>Visiting national and state parks</td><td>120</td><td>28.4%</td></tr> <tr><td>Bird watching and observing wildlife</td><td>120</td><td>28.4%</td></tr> <tr><td>Visiting cultural and historic sites</td><td>116</td><td>27.5%</td></tr> <tr><td>Visiting national Wildlife Refuges</td><td>84</td><td>19.9%</td></tr> <tr><td>Going to movie theatre</td><td>83</td><td>19.7%</td></tr> <tr><td>Fishing</td><td>67</td><td>15.9%</td></tr> <tr><td>Camping - Recreation Vehicle (RV) stay</td><td>67</td><td>15.9%</td></tr> <tr><td>Rock Climbing</td><td>50</td><td>11.8%</td></tr> <tr><td>Special event</td><td>39</td><td>9.2%</td></tr> <tr><td>Kayaking - canoeing</td><td>36</td><td>8.5%</td></tr> <tr><td>Off Road Tours (i.e. Jeep, OHV)</td><td>33</td><td>7.8%</td></tr> <tr><td>Go cart racing</td><td>24</td><td>5.7%</td></tr> <tr><td>Bowling</td><td>22</td><td>5.2%</td></tr> <tr><td>Mountain Biking</td><td>11</td><td>2.6%</td></tr> <tr><td>Totals</td><td>422</td><td>100.0%</td></tr> </tbody> </table>			Did/Will you participate?	Count	Percentage participating	Visiting beaches-parks	230	54.5%	Shopping	226	53.6%	Lake Tours	155	36.7%	Boating-Waterskiing-Wakeboarding	149	35.3%	Playing golf	139	32.9%	Hiking or walking trails	134	31.8%	Visiting national and state parks	120	28.4%	Bird watching and observing wildlife	120	28.4%	Visiting cultural and historic sites	116	27.5%	Visiting national Wildlife Refuges	84	19.9%	Going to movie theatre	83	19.7%	Fishing	67	15.9%	Camping - Recreation Vehicle (RV) stay	67	15.9%	Rock Climbing	50	11.8%	Special event	39	9.2%	Kayaking - canoeing	36	8.5%	Off Road Tours (i.e. Jeep, OHV)	33	7.8%	Go cart racing	24	5.7%	Bowling	22	5.2%	Mountain Biking	11	2.6%	Totals	422	100.0%
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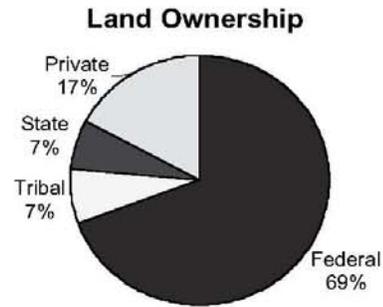
4	Title:	<i>The Economic Importance of Off Highway Vehicle Recreation to Arizona.</i>
Year:		2003
Author(s):		Arizona State Parks
Website/Link:		http://azstateparks.com/ohv/downloads/OHV_Economic.pdf
Abstract:		This report presents the economic impact OHV activities had on Arizona in 2002. In the introduction it was stated that, 21% of Arizonans, or 1.1 million people, consider themselves OHV enthusiasts with 25.5 OHV Days per year . One OHV Recreation Day = One household spending at least part of a day participating in an OHV recreational activity. The following are the 2 pages from this report covering Mohave County.

MOHAVE COUNTY



Economic Importance of Off-Highway Vehicle Recreation to Mohave County

Mohave County is located in the northwestern part of the state. It has 3% (155,032) of the state's population and 11.8% (8,627,206 acres or 13,480 square miles) of the state's land base. This averages out to 11 people per square mile. The landscape ranges from Mohave Desert to forested mountain ranges offering a wide range of outdoor recreation and OHV opportunities. There are many back roads and jeep trails to explore.



- 26% of households in Mohave County are OHV users; state percentage is 21%.
- 11% of all Arizona OHV trip destinations for past 12 months were to Mohave County.
- 780,111 OHV Recreation Days occur annually in Mohave County; 6.4% of Arizona's total.
 - 604,266 OHV Recreation Days (77%) are from Mohave County residents.
 - 175,846 OHV days (23%) are from other Arizona residents traveling to Mohave County.
- 77% of Mohave County OHV households are satisfied with their overall OHV experience.

Total Economic Impact to Mohave County from OHV Recreation is \$219 MILLION/year

DIRECT ECONOMIC IMPACT—(\$ in millions)

<i>Off-Highway Vehicle Related Expenditures</i>	<i>Total for Mohave County</i>	<i>By County Residents</i>	<i>By Other Arizona Residents</i>
OHV Trips—Fuel/Gasoline	\$16.6 M	\$14.7 M	\$1.9 M
Lodging/Campgrounds	\$3.9 M	\$2.0 M	\$1.9 M
Restaurants/Bars	\$8.9 M	\$7.5 M	\$1.4 M
Groceries/Liquor	\$12.4 M	\$10.9 M	\$1.5 M
Other (event fees, souvenirs, etc.)	\$8.1 M	\$5.8 M	\$2.3 M

- Total OHV Recreation Trips \$49.9 M
- Off-Highway Vehicles + \$45.8 M
- Tow Vehicles/Trailers + \$16.7 M
- OHV Equipment + \$69.7 M

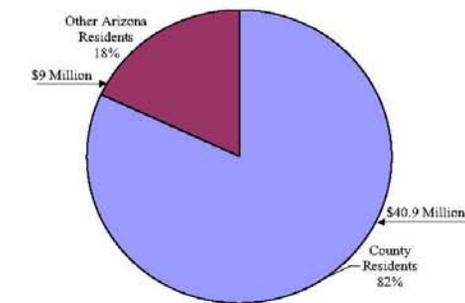
Total OHV Expenditures = \$182.1 Million

TOTAL IMPACT- Multiplier Effect* \$219.5 Million

INDIRECT ECONOMIC IMPACT

- Full-time/Part-time Jobs (#) 1,929
- Salaries/Wages \$40.7 Million
- State Tax Revenues \$9.2 Million

OHV Trip Expenditures—\$49.9 Million



Economic Importance of OHV Recreation to Mohave County

- ☐ Creates a statewide economic impact of \$219.5 million (multiplier effect)*
- ☐ Contributes \$182 million to local economies through OHV-related expenditures
- ☐ Adds \$9.2 million to annual state tax revenues
- ☐ Provides \$40.7 million in income (salaries/wages) for Mohave County residents
- ☐ Supports 1,929 jobs in Mohave County

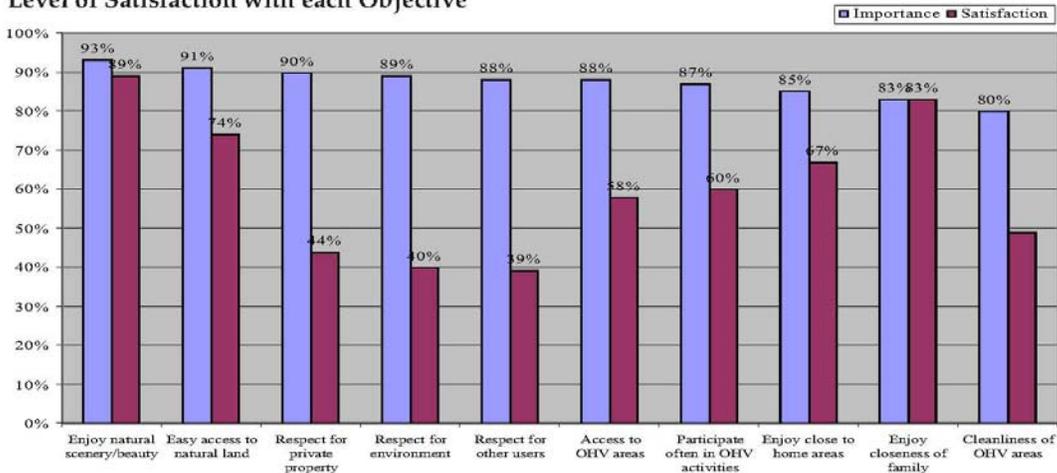
"Top Ten" Main Reason for taking last OHV Trip

- Sightseeing 21%
- Driving backroads 19%
- Trail riding-ATVs 15%
- Camping 8%
- Visiting historic/arch. sites 4%
- Hiking or walking 4%
- Fishing 3%
- Hunting 3%
- Rock crawling 2%
- Trail riding-motorbikes 2%

"Top Ten" Outdoor Activities done on last OHV Trip

- Driving backroads 81%
- Sightseeing 66%
- Hiking or walking 41%
- Picnicking 39%
- Trail riding-ATVs 33%
- Visiting historic/arch. sites 31%
- Hill climbing 27%
- Photography 26%
- Rock crawling 24%
- Camping 23%

Evaluation of Last OHV Recreation Trip—"Top Ten" Objectives Rated as Most Important and Level of Satisfaction with each Objective



Type of Vehicle(s) used on last OHV Trip

- 4WD Pickup Truck 43%
- Sport Utility Vehicle/Jeep 38%
- All Terrain Vehicle (ATV) 28%
- Trail Motorcycle 6%
- Dune Buggy/Sand Rail 5%
- 2WD Pickup Truck 2%
- Snowmobile 0%

*Multiplier Effect: sum of OHV expenditures, secondary effects generated by local re-expenditure of money, and induced impact from salaries paid by directly and indirectly impacted industries.



For more information contact:
 Arizona State Parks
 Recreational Trails
 1300 W. Washington St.
 Phoenix, AZ 85007
 Tel & TTY (602) 542-7174
www.azstateparks.com

5	Title:	<i>The Outdoor Recreation Economy</i>
	Year:	2012
	Author(s):	Outdoor Industry Association
	Website/Link:	http://www.outdoorindustry.org/images/researchfiles/OIA_OutdoorRecEconomyReport2012.pdf
	Abstract:	This report looks at current economic values of outdoor recreation on a national scope. Nationally there is \$646 billion in direct sales of outdoor recreation products and trips and related spending. It also stated that outdoor recreation economy actually grew 5% during the recession rather than contracted. As part of the conclusion the report states that the nation's public recreation lands and waters support this economy and access to quality places is fundamental.

6	Title:	<i>Arizona Trails 2010: A Statewide Motorized & Non-Motorized Trails Plan</i>
	Year:	2010
	Author(s):	Arizona State Parks and Arizona State University.
	Website/Link:	http://azstateparks.com/publications/downloads/2009_Trails_2010_Final_c.pdf
	Abstract:	This planning document details the results of extensive surveys of 5,000 Arizonans' thoughts, preferences and priorities regarding trails and OHV routes. The questions were asked via telephone, online (Internet), mail, at public meetings and open forums, and in the field at trailheads. The survey and workshop results can be found throughout this document and in the appendices. The portion of Executive Summary covering the survey as follows

Summary of Survey Findings

- The telephone survey results show that 68.6% of Arizonans have used a trail for recreation during their time in Arizona; 31.4% of residents do not use trails for recreational purposes.
- Statewide, 63.7% of respondents indicated that they had engaged in non-motorized activities on trails at some point during their time in Arizona, and 58% of trail users indicated that the *majority* of their trail use is non-motorized.
- Statewide, 21.5% of respondents indicated that they had engaged in motorized activities on trails at some point during their time in Arizona, and 10.7% of trail users said that motorized use accounted for the *majority* of their trail use.
- The percentage of non-motorized trail users ranged from a high of 68.3% in Coconino County to a low of 34.6% in Yuma, La Paz, and Mohave Counties. The percentage of motorized trail users ranged from a high of 22.2% in Yuma, La Paz, and Mohave Counties to a low of 7.9% in Pima County.
- Overall, 87% of respondents are either very satisfied or satisfied with non-motorized trails in Arizona, and 65% are either very satisfied or satisfied with motorized trails.
- The most common non-motorized trail activities for non-motorized trail users are: trail hiking, backpacking, mountain biking, and horseback riding.
- The most common motorized pursuits for motorized users are: all-terrain vehicle driving, four wheel driving or other high clearance vehicle driving, and motorized biking/dirt biking.
- Overall, the top three areas of environmental concern for *all trail users* are litter or trash dumping,

decreased wildlife sightings, and erosion of trails. The top three concerns for *motorized users* are litter or trash dumping, damage to vegetation, and decreased wildlife sightings. The top three environmental concerns for *non-motorized users* are litter or trash dumping, erosion of trails, and decreased wildlife sightings.

- Overall, the top concerns about social conditions for *all trail users* are vandalism, urban development limiting trail access or use, and lack of trail ethics by other users. The top three concerns about social conditions for *motorized users* are urban development limiting trail access or use, vandalism, and closure of trails. The top three concerns about social conditions for *non-motorized users* are vandalism, urban development limiting trail access or use, and lack of trail ethics by other users.
- The top three trail planning and management priorities for *motorized users* are acquiring land for trails and trail access, keeping existing trails in good condition, and mitigating damage to environment surrounding trails. The top three issues for *non-motorized users* are keeping existing trails in good condition, mitigating damage to environment surrounding trails, and enforcing existing rules and regulations in trail areas.
- When asked, given limited funding, which one management priority is the most important, motorized trail users indicated acquiring land for trails and access (20%) was most important, whereas non-motorized users replied keeping existing trails in good condition (32%). Non-motorized users are more likely to respond that trails should be designated for multiple activities but with motorized and non-motorized users separated, or trails should be designated for a single activity.
- Both motorized and non-motorized users tend to use trails in groups of 1-5 people, although motorized users were more likely to recreate in groups of 5 or more.
- Nearly half of motorized users (44.4%) believe that access to off-highway vehicle roads and trails has declined in the last five years. In contrast just 11% of both groups believe that access to non-motorized trails has declined.
- On non-motorized trails, both groups tend to prefer social environments with very few or some other people around but not dense social settings with lots of other people present.
- The three most important desired OHV trail features for motorized users are loop trails, trails that offer challenge and technical driving opportunity, and cross-country travel areas (where riding anywhere is permitted).
- The results indicate that, by and large, respondents do not experience recreation conflict with other trail users, although there are some areas of potential concern. For instance, 13.7% of non-motorized users reported experiencing conflict with mountain bikers somewhat or very often. Also, 33.4% of motorized trail users experienced conflict with all-terrain vehicle or quad riders somewhat or very often.
- More than 50% of motorized users and more than 40% of non-motorized users are willing to volunteer their time to build or maintain trails in Arizona. To encourage volunteerism, the most important consideration is providing information about when and where to show up.

7	Title:	<i>California State Parks Off-Highway Motor Vehicle Recreation Division Strategic Plan</i>
	Year:	2009
	Author(s):	California State Parks
	Website/Link:	http://ohv.parks.ca.gov/pages/25010/files/ohmvr%20strategic%20plan.pdf
	Abstract:	This document is less on economic value as on goals for management of OHV use in California. The California State Park's OMVR is the Division that oversees the Green Sticker program and funds Grants for the Maintenance of OHV Trails in California. The report shows where funding has been spent since 2000. It shows a jump in spending in 2007 and 2008 in Education and Safety Grant Funding. It also shows that BLM has been the leader in receiving grants from the OMVR.

8	Title:	<i>American Trails Website</i>
	Year:	etal
	Author(s):	N/A
	Website/Link:	www.american trail.org
	Abstract:	This website is a resource for numerous articles and studies on all types of trails. Including a section on Economic of trails.

E. PLANNING CRITERIA

The methodology provided by ARS served as a tool for documenting current uses and resources, while identifying potential impacts. The table below outlines the planning criteria used to organize potential impacts to current uses and resources. Planning Criteria used in this process fall under three general categories: (1) Commercial, administrative, private- property and economic issues (CAPE); (2) Public uses; (3) Special resource concerns.

CAPE	Resources	Public Uses
Monitoring Site	Areas of Critical Environmental Concern	OHV (Open) Areas
Compliance/Enforcement Monitoring	Bats (Generally)	Route Contributes to Public Safety
Fire Suppression / Management	Bobcat	Camping - Developed
Wildlife Water / Guzzler / Catchment	Bony-tail chub (E) (Critical Habitat)	Route Contributes to User Conflicts
BOR access	Burro	Wilderness Access
Fence	Chuckwalla	Street Legal Vehicles
Livestock Water (Tank, Reservoir, Well, Windmill)	Burrowing Owl (USFWS- SC, BLM-S, AZGFD- WSC)	Public Use Site Access / Interpretative Panel
Pipeline	Desert Bighorn Sheep	ATV Use
Corral	Desert Tortoise (T)	Motorcycle Use
In Allotment	Dumping	Shoreline Fishing
Gate	Gila Monster	Rock hounding
Cattle guard	Hazards	Technical 4 WD
Springs	High Density Route Polygon	Geocaching
Private Property Access	Invasive / Noxious Weeds	Touring (Published)
State Trust Land Access	Ironwoods	Dual Sport Touring
Tribal Nation Land Access	Known Cultural Sites	Hunting
State Park Access	MSCP Habitat Types	Vistas, Sightseeing, Photography
Kingman FO Access (Undesignated)	Mule Deer	Equestrian
National Wildlife Refuge	National Register of Historic Places- Eligible	Hiking
Prospect(s)	Prescribed Recreation Settings (ROS)	Hill-Climbing
Active Mine(s)	Raptors	Mountain Biking
Mining Claim(s)	Razorback sucker (E) (Critical Habitat)	Shooting
Inactive Mine(s)	Route Proliferation	Parking Area
Mineral Material Site(s)	Soils	Staging Area(s)
Airport / Airstrip	Visual Resource Management Zone	Birding
County Assertion	Special Recreation Management Area	Camping - Primitive/Dispersed
Route is recognized as contributing to the local economy (tourism)	Special Cultural Resource Management Areas	4x4 (Standard Stock 4x4)
Route is recognized in a local plan (inter-agency planning)	Wash	Utility Terrain Vehicle (UTV)
Connectivity (inter-regional or intra-regional)	Wilderness	Special Recreation Permit
Electrical Transmission / Power line	Wilderness Characteristics (WC)	Wildlife Watching
Commercial Pipeline (Gas or Water)	Other	Cultural/Historical Sightseeing
Telephone		Route is a Concern for Public Safety
Communication Site		Other
Other		

F. ROUTE DESIGNATION REPORTS

Due to the 3,024 pages, route reports are being provided electronically via the following website: http://www.blm.gov/az/st/en/prog/travel_mgmt/lhfo/hav-tmp/maps.html. Table 1, below, outlines the full list of designations with definitions.

<i>TABLE 1: DESIGNATION DEFINITIONS</i>		
Alternative Code	Authorized Users (for limits)	Description
C		Closed to all uses
ML-TransAllNM		Limited to non-motorized use only with mitigation/maintenance/monitoring
ML-TransMotorized		Limited to motorcycles with mitigation/maintenance/monitoring
ML-TransNonMotorized		Limited to equestrian use with mitigation/maintenance/monitoring
ML-UserAdminMtrPermitteeMtr	Administrative and Permittee	Limited to authorized users only with mitigation/maintenance/monitoring
ML-UserAdminMtrPermitteeMtrPvtPropMtr	Administrative, Permittee, and Private Property Owner	Limited to authorized users only with mitigation/maintenance/monitoring
ML-UserAdminMtrPermitteeMtr-TransPublicNM	Administrative and Permittee	Limited to non-motorized use for the public and motorized use for authorized users with mitigation/maintenance/monitoring
ML-UserAdminMtrPermitteeMtr-TransPublicNMM	Administrative and Permittee	Limited to non-motorized non-mechanized use for the public and motorized use for authorized users with mitigation/maintenance/monitoring
ML-UserAdminMtrPvtPropMtr	Administrative and Private Property Owner	Limited to authorized users only with mitigation/maintenance/monitoring
ML-UserAdminOnlyMtr	Administrative	Limited to authorized users only with mitigation/maintenance/monitoring
ML-UserAdminOnlyMtr-TransPublicNM	Administrative	Limited to non-motorized use for the public and motorized use for authorized users with mitigation/maintenance/monitoring
L-TransAllNM		Limited to non-motorized use only
L-TransMotorized		Limited to motorcycles
L-UserAdminMtrPermitteeMtr	Administrative and Permittee	Limited to authorized users only

L- UserAdminMtrPermitteeMtrPvtPropMtr	Administrative, Permittee, and Private Property Owner	Limited to authorized users only
L-UserAdminMtrPermitteeMtr- TransNonMotorized	Administrative and Permittee	Limited to equestrian use for the public and motorized use for authorized users
L-UserAdminMtrPermitteeMtr- TransPublicNM	Administrative and Permittee	Limited to non-motorized use for the public and motorized use for authorized users
L-UserAdminMtrPvtPropMtr- TransPublicNM	Administrative and Private Property Owner	Limited to non-motorized use for the public and motorized use for authorized users
L-UserAdminOnlyMtr	Administrative	Limited to authorized users only
L-UserAdminOnlyMtr-TransPublicNM	Administrative	Limited to non-motorized use for the public and motorized use for authorized users
MO		Open with mitigation/maintenance/monitoring
O		Open

G. ALTERNATIVE MAPS

H. TECHNICAL REVIEW

Resource Issue	NP	PNI	PI	Rationale	Signature Name/Title	Date
Air Quality*		x		Mohave County is in Attainment Area.	_____ Jen House, Project Lead	
Areas of Critical Environmental Concern			x	See Section 3.1	_____ Jen House, Project Lead	
Cultural/Paleontological Resources			x	See Section 3.2	_____ George Shannon, Archeologist	
Environmental Justice		x		No minority or low income group would be disproportionately impacted by health or environmental effects.	_____ Jen House, Project Lead	
Farmlands*	x			No farmlands are present within the Havasu TMA	_____ Jen House, Project Lead	
Fish Habitat*		x		No motorized access near Lake Havasu.	_____ Doug Adams, Fisheries Biologist	
Fish & Wildlife Excluding Federally Listed Species			x	See Section 3.3	_____ Jen House, Wildlife Biologist	
Floodplains*		x		No floodplains will be impacted by route designations	_____ Jen House, Project Lead	
Forests and Rangelands*	x			No designated forests/rangelands within the Planning Area	_____ Jen House, Project Lead	
Fuels/Fire Management		x		Fuels/Fire Management will not be impacted by route designations	_____ Jen House, Project Lead	
Grazing		x		Grazing will not be impacted by route designations	_____ Jen House, Project Lead	

Greenhouse Gas Emissions (Climate Change)		x		The Havasu TMP will determine which routes will be open to motorized use, but has no authority over the amount of motorized use within the TMA.	_____ Jen House, Project Lead	
Hazardous or Solid Wastes*			x	See Section 3.4	_____ Jen House, Project Lead	
Migratory Birds*			x	See Section 3.5	_____ Jen House, Wildlife Biologist	
Minerals		x		Access for any mining activity is described and approved in the associated mining plan or notice. Includes a reclamation plan for any disturbance created to access mining areas.	_____ Amy Titterington, Geologist	
Native American Religious Concerns*			x	See Section 3.6	_____ George Shannon, Archeologist	
Public Health & Safety			x	See Section 3.7	_____ Jen House, Project Lead	
Recreation			x	See Section 3.8	_____ Amanda Deeds, Outdoor Rec. Spec.	
Socioeconomics			x	See Section 3.9	_____ Jen House, Project Lead	
Soils			x	See Section 3.10	_____ Jen House, Project Lead	
Threatened and Endangered Species*			x	See Section 3.11	_____ Jen House, Wildlife Biologist	
Travel Management			x	See Section 3.12	_____ Jen House, Project Lead	

Vegetation/ Invasive & Non- Native Species			x	See Section 3.13	_____	
Visual Resources			x	See Section 3.14	_____	
Water Quality (Drinking or Groundwater)*		x		No motorized access near Lake Havasu.	_____	
Wetlands/Ripa rian Zones*		x		No motorized access near Lake Havasu	_____	
Wild & Scenic Rivers*	x			No Wild & Scenic Rivers in Planning Area	_____	
Wilderness*		x		Several routes access the Chemehuevi Mountain Wilderness, but do not enter or impact the designated Wilderness Area	_____	
NP = Not Present PNI = Present Not Impacted PI = Present Impacted						

Review:

Prepared by: _____
Jen House, Wildlife Biologist
Project Lead
Date _____

Reviewed by: _____
Dave Daniels
CRD Planning & Environmental Coordinator
Date _____

Reviewed by: _____
Jayson Barangan
Assistant Field Manager
Recreation & Visitor Services
Date _____

Reviewed by: _____
Kimber Liebhauser
Field Manager
Lake Havasu Field Office
Date _____