BUREAU OF LAND MANAGEMENT

ENVIRONMENTAL ASSESSMENT

SAN RAFAEL ROUTE DESIGNATION PLAN

PROJECT INFORMATION:

EA Number:
BLM/UT-067-94-010

Project Type:
Recreation Activity Plan - Implementation of the San Rafael Resource Management Plan

Location:
Generally within T. 16 S. - T. 26. S., R. 6 E. - R. 17 E. Various Portions; Salt Lake B&M (Emery County, Utah)

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Chapter I - Introduction/Purpose and Need

INTRODUCTION

The San Rafael Resource Management Plan (RMP) of May 24, 1991 for the San Rafael Planning Area identifies four categories for off-highway vehicles (OHV) use. These are:
1. *open* to unrestricted (cross country) travel,
2. *closed* to travel,
3. *open with seasonal restrictions* for deer and elk crucial winter ranges (limited to designated road and trails from 12/01 to 4/15) and pronghorn crucial fawning habitat (limited to designated roads and trails from 05/15 to 06/15), and
4. limited to designated roads and trails.

The San Rafael RMP deferred designating specific roads and trails within the "limited to designated roads and trails" category. That is the focus of this San Rafael Route Designation Plan (herein referred to as the "Route Designation Plan"). The open and closed OHV categories are not a subject of this Environmental Assessment, as they are OHV categories that were established through the San Rafael RMP and can only be changed through a plan amendment or a RMP revision.

For the purposes of this Route Designation Plan, BLM roads and trails are collectively called routes. The overall goal of route designation is to provide opportunities for adequate and diverse access for visitor use and administration of BLM lands, while protecting resources, resolving conflicts among users, and promoting public safety.

GEOGRAPHIC SETTING

The San Rafael RMP directs management on the public lands in the southwestern two-thirds of Emery County in south central Utah. The lands affected by this Route Designation Plan are within the “limited” OHV category and comprise some of the lands east of the Wasatch Plateau (west of State Highway 10), and in the San Rafael Swell and San Rafael Desert. Map 1.1 portrays the lands that are the subject of this EA. The Bureau of Land Management's (BLM) office in Price administers the public land within this area.

BACKGROUND

OHV categories were designated in the San Rafael RMP (pgs. 65 and 68; Map 17 pg.69), on approximately 1.4 million acres of public lands and are depicted on Map 1.2. These categories can be changed only through a land use plan amendment, or a new RMP revision. Category changes for OHVs are not a subject for this Route Designation Plan. This Route Designation Plan focuses on route designations for routes within the “limited to existing roads and trails” category and areas that are “limited to designated roads and trails” on a seasonal basis, but are in the “open” OHV category during the rest of the year.

The San Rafael RMP places approximately 190,349 acres of public land in an "open" OHV category (about 13 percent of the public lands under the RMP). This is an area where all types of vehicle use are permitted (including cross country travel) at all times, anywhere in the area,

subject to the operating regulations and vehicle standards set forth in 43 CFR 8340. This document does not change the classification in any of the existing "open" areas, and does not designate routes within this category of "open" areas.

The San Rafael RMP recognized the need to allocate areas for other uses and protect natural resources by entirely closing, on a year-round basis, approximately 135,028 acres to OHV use (about 9 percent of the public lands under the RMP). These areas include four Areas of Critical Environmental Concern and all Primitive (P) class areas identified in the Recreation Opportunity Spectrum (ROS) inventory. These "closed" OHV areas are substantially roadless already. Closed areas prohibit off-road vehicle use. Use of off-road vehicles in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of a BLM authorized officer. This Route Designation Plan will not change the classification of any existing OHV closed area and will not designate any routes within the "closed" area.

In addition, the San Rafael RMP directed that OHVs travel on the lands in the "limited to designated roads and trails" category, approximately 1,031,631 acres, have specific routes designated for OHV use (about 72 percent of the public lands under the RMP). Cross-country travel is not allowed in these areas. These areas were placed in the “limited” category during RMP planning to protect scenic values, critical soils, cultural and historic values, recreational opportunities, and natural values, among other reasons. The lands that encompass this OHV category are the lands that are primarily the subject of this Route Designation Plan.

Other lands that are the subject of this Route Designation Plan include another OHV designation in the San Rafael RMP that incorporates approximately 82,627 acres that limit OHV use on a seasonal basis (about 6 percent of the public lands under the RMP). These are areas which are "open" to OHV use part of the year and "limited to designated roads and trails" for the other part of the year. This seasonal limitation has been put in place to protect and enhance crucial wildlife habitat for deer, elk, and antelope. Specifically this travel restriction applies only to deer and elk crucial winter ranges (areas in the eastern foothills of the Wasatch Plateau) from December 1 to April 15, and habitat crucial to pronghorn for fawning (an area of the San Rafael Desert, roughly, south of the San Rafael River, east of SR 24 and north of the Temple Mountain Junction) from May 15 to June 15. This Route Designation Plan will designate routes in the seasonally restricted areas.[1]

After the San Rafael RMP was completed in 1991, the BLM began implementation of the OHV decisions in the RMP; specifically, to designate routes in the “limited” OHV category through activity level planning. In December 1992, internal and stakeholder scoping (including over 1000 comment letters) provided information to determine where specific vehicle routes existed

[1]For purposes of this Route Designation Plan, reference to the OHV “limited” category will include the miles of routes within the seasonal limitation areas, unless otherwise noted.

within the area categorized as "limited to designated roads and trails". Public scoping provided critical information for a preliminary route designation proposal initiated in June 1994. It was widely released for public review in October 1997, and five public meetings were held. Over 1,500 comments resulted in a range of alternatives for National Environmental Policy Act (NEPA) analysis. Route information gleaned prior to and during the scoping phase was compiled in a Geographic Information System (GIS) database, much of which is being used in this Route Designation Plan. In addition, public comments collected since that time have been considered along with the prior collected information and used to form the basis for the alternatives as presented in this document.

All or portions of seven wilderness study areas (WSAs) are within the "limited to designated roads and trails" category in the San Rafael Swell and San Rafael Desert. Increased OHV use in the WSAs was noted during the previous scoping effort. Use of pre-existing inventoried travel ways was increasing, and cross country travel was also occurring, resulting in the development of new vehicle routes. By late 1998 monitoring documented that impairment of wilderness values was occurring. By February 1999 the Price Field Office collected information to analyze how widespread that OHV use was and to determine to what extent the wilderness characteristics of the WSAs were being affected. This resulted in a staff report entitled “OHV Impairment Assessment Study for the San Rafael Swell Wilderness Study Areas with Recommendations for Emergency Action, November 1999", located in the Price Field Office.

As a result of the impairment study, the Price Field Office initiated an “Emergency OHV Closure” (*Federal Register*, March 21, 2000, Volume 65, Number 55, pgs. 15169-15170)(See Appendix 1) in the seven wilderness study areas (WSAs) affected by OHV travel. This closed all inventoried ways within six of the WSAs, and limited travel in one WSA to specific routes. Four pre-existing inventoried ways, which existed prior to the designation of the Sid's Mountain WSA were left open “conditionally”. Restrictive signing, surveillance, and enforcement was imposed on these pre-existing ways and in each of the other WSAs in order to eliminate cross country travel. With that effort complete, the next priority was to concentrate on completing this Route Designation Plan.

Unauthorized cross-country OHV activity as well as unauthorized use of closed routes remains a concern. There is no existing solution to totally prevent such illegal activity, and simply “closing” an area to OHV use does not stop this use. The intent of this EA is not to focus on the impacts from the few that break the law, but to focus on the impacts of route designation on resources and legal recreational activities.

PURPOSE AND NEED OF THE PROPOSED ACTION

The purpose of designating routes within the "limited to designated roads and trails" OHV category is to carry forth a directive of the San Rafael RMP and implement 43 CFR 8340. The San Rafael RMP analyzed the impacts of OHV categories but deferred designating specific roads and trails within the “limited” category. Specifically, the Record of Decision and Final San Rafael RMP states on page 65: “Off-road vehicles (ORV) use designations developed in the RMP will be made following completion of an ORV implementation plan. Criteria will be

developed to determine the specific course of action needed to implement the ORV allocation decision. ORV designations do not apply to state, county or BLM system roads, or to private or state inholdings. An assessment will be made to determine a purpose and need for public land non-system roads."[2]

To that end this EA takes the final step by implementing the San Rafael RMP OHV decisions by identifying and designating routes open for travel, and specifying what mode of travel is permitted on a few specific routes.

This travel plan is tiered to the San Rafael RMP decision. Consideration of adjusting OHV classification boundaries of closed and open areas is beyond the scope of this EA.

In accordance with the San Rafael RMP, route designations are needed to ensure that the use of OHVs on public lands within the OHV limited category would be designed to (1) provide for protection of critical soils; (2) provide for protection of scenic resources; (3) protect crucial wildlife habitat; (4) provide for recreational opportunities, and (5) provide special management for certain vegetation, cultural, and historic mining resources, among others. More specifically, the San Rafael Record of Decision and Final RMP, on Page 68, places the areas listed below in a "limited to designated roads and trails" category for the following reasons:

1. Copper Globe Area of Critical Environmental Concern (ACEC) - to protect the public values of historic mining use;
2. Dry Lake Archaeological District ACEC- to protect the information values of paleo-indian sites;
3. Pictographs ACEC - to protect and interpret pictographs for public use;
4. Swasey Cabin ACEC - to protect public values associated with historic ranching;
5. Temple Mountain Historic District ACEC - to protect the information values of historic mining.
6. Portions of Highway I-70 Scenic Corridor - to protect scenic values and the surrounding viewshed;
7. Portions of Muddy Creek ACEC - for its scenic and historic values with special emphasis on historic values of Tomsich Butte;
8. Portions of Middle San Rafael Canyon ACEC - for its scenic values and recreational resources;
9. Portions of San Rafael Reef ACEC - for scenic values and relict vegetation;

[2]For many years the "off-highway vehicle" (OHV) term has been used by the public, industry, and BLM interchangeably with the term "off-road vehicle" (ORV). However, only the term off-road vehicle has a legally established definition in the Presidential Executive Orders and the BLM's related 43 CFR 8340 regulations. In general, throughout this EA, we refer to motorized OHV because it is a more popular term. Direct quotes from policy, regulation, or planning documents use the term "off-road vehicle" (ORV).

10. Portions of Segers Hole ACEC - for recreational and scenic values;

11. Portions of Sid's Mountain ACEC - for recreational and scenic values;

12. Existing Land Leases - to protect an existing airport lease (for safety purposes) and other miscellaneous Recreation and Public Purpose Act leases.

13. Wild and Scenic Rivers - to protect the eligibility status and their tentative Wild and/or Scenic classification for all or portions of Segments 1 and 3 of the San Rafael River; and Segments 1, 2, 3, 4, 5, and 6 of the Muddy River; and Segments 1, 2, and 3 of the Green River.

14. San Rafael Swell Special Recreation Management Area (SRMA) and Labyrinth Canyon SRMA - in recognition of their intensive use or special recreation values.

15. Semi Primitive Non-Motorized Recreation Opportunity Spectrum (ROS) class areas - to protect that ROS category in order to provide a predominantly natural environment with limited evidence of human use and restrictions and where possible to provide an environment of isolation.

16. Developed Recreation Sites - to protect the Federal Government's investments in capitol improvements and facilities

17. Critical Soils - to protect highly saline soils or soils highly susceptible to erosion. The goal is to maintain as much vegetative cover as possible.

18. Riparian and Aquatic Habitat - to prevent soil erosion, stabilize critical soils, and protect riparian vegetation and reduce surface disturbance.

19. Bighorn Sheep Crucial Habitat - to protect habitat from deterioration and protect the animals from interference during lambing from 4/15 - 6/1.

20. Deer and Elk Crucial Winter Ranges - to protect forage and browse species from 12/01 - 04/15.

21. Antelope Crucial Habitat - to protect fawning areas from interference by humans from 5/15 to 6/15.

CONFORMANCE WITH THE EXISTING LAND USE PLAN

This Route Designation Plan is in conformance with and implements portions of the San Rafael RMP, as described in the previous section. It is also consistent with Federal regulations, laws, and policies to the maximum extent possible.

This EA is authorized under the San Rafael RMP, May 24,1991; the National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. 4321 *et seq;* the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*) and numerous regulations, laws and executive orders.

RELATIONSHIP TO PRICE FIELD OFFICE LAND USE PLAN REVISION

The Price Field Office initiated a revision of their two existing land use plans (the 1991 San Rafael RMP and the 1983 Price River Management Framework Plan) through a Federal Register Notice released on November 7, 2001 (Volume 66, Number 216, Pages 56343-34). The two existing land use plans will be folded into the one revised RMP. The revised RMP is scheduled to be completed within a two-year time-frame and will ensure that the public lands are managed in accordance with the intent of Congress as stated in FLPMA under the principles of multiple use and sustained yield.

The revised RMP will provide opportunities to revisit the route designations made through this Route Designation Plan, based on planning goals and objectives brought forward in the alternatives. Until such time as the revised RMP is completed, route designations that will be made in the Decision Record for this EA will remain in effect.

RELATIONSHIP TO OTHER PLANS, POLICIES, and PROGRAMS

The Emery County General Plan of August 1996 addresses OHV use on public lands. The County's transportation policy is to "...connect the various communities to one another as well as provide convenient access for residential, cultural, and recreational uses and for access to resources such as grazing, agriculture, oil and gas development, water, and timber. More importantly, the thoroughfares crossing the public domain tie residents and visitors to the land and its unique beauty." The County believes that "continued environmental lockup of County areas with abundant resources that have been historically accessible for traditional uses, is a real threat to our economy. This prospect also threatens development of potential recreational resources and limits access to public lands." (See Appendix 2 for excerpts from the Emery County plan which discuss OHV issues.)

The Price Office BLM has a Cooperative Management Agreement (CMA) with the Pathfinders Motorcycle Club. This CMA mutually establishes routes that are available for use only as a two-wheel motorcycle trail system. This Route Designation Plan respects the terms and agreement of the CMA. The Alternatives 1, 3 and 4 (the Preferred Alternative) makes available for motorcycle travel the routes agreed upon in the CMA. However, the terms of the agreement also provide that BLM can close all or part of the trail system if necessary to prevent significant adverse effects on the environment, or that it may close the trails if land use planning or policy determines that another use of the land would be more appropriate, among others.

CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

Critical elements of the human environment are subject to requirements specified in statute, regulation, or executive order and must be considered in all EA analyses. These include ACECs, Cultural Resources, Native American Religious Concerns, Threatened, Endangered or Candidate Species, Water Quality (drinking/ground), Wetlands/Riparian Zones, Wild and Scenic Rivers (eligible) and Wilderness (WSAs) are critical elements that exist within the Route Designation Plan area and are specifically addressed within this EA.

The following critical elements of the human environment are not present or are not affected by the proposed action or alternatives in the EA: Air Quality, Farm Lands (prime or unique), Floodplains, Environmental Justice, Native American Religious Concerns, designated Wilderness, or Wastes (hazardous or solid)**.** The reasons that they are not an issue for detailed analysis are listed below.

<u>Impacts on Air Quality</u>

The region analyzed in this document is sparsely populated, therefore contributions of air pollutants from homes and automobiles are minor. The Hunter power plant releases gases which

(combined with all other pollutants) reduce visibility from approximately 100+ miles to 50 miles or less depending on atmospheric conditions. This is a long term effect which is addressed in the current valid Utah Division of Air Quality discharge permit. There are no other industries within the area which contribute measurable quantities of air pollutants. Consequences from any of the alternatives discussed in the following chapter would be similar in nature, but vary in magnitude according to miles of route surface open for motorized travel. OHVs and other motorized vehicles raise dust clouds while traveling on unpaved routes. These clouds reduce visibility on a localized short term basis. Consequences to the overall quality of the air are not of concern. Air quality is expected to meet standards throughout the area assessed in this document and therefore will not be analyzed further.

Impacts on Prime and Unique Farmlands

There are no prime or unique farmlands or farmland of Statewide or local importance on public lands impacted by this Route Designation Plan. Therefore, impacts on prime and unique farmlands are not analyzed further in this EA.

Impacts on Floodplains

No projects or activities that would result in permanent fills or diversions in, or placement of permanent facilities on special flood plain areas (as designated by the Federal Emergency Management Agency), would occur with implementation of this Route Designation Plan. Therefore, impacts on flood plains are not analyzed further in this EA.

Impacts on Environmental Justice

The local communities in and around the area encompassing this Route Designation Plan are largely homogenous and would be uniformly affected by the implementation of this Plan. Therefore, there would not be an unequal distribution of risks and benefits in those communities from implementation of this Route Designation Plan.

Native American Religious Concerns

Tribes potentially affected by the travel planning process are being notified and invited to identify specific issues and/or places of concern that may be affected by this route designation process. As of this writing, there are no specific issues or concerns identified by tribes. General concerns that have been expressed by tribes in other regions where similar proposals have been broached are wide ranging. Some tribes may be concerned that vehicular travel exposes cultural resources to direct and indirect impacts (see cultural resources analysis). The same tribes, and others, may also express concern about closure of some routes/areas (through the mechanism of these routes not being designated) due to tribal needs to access remote areas for the conduct of ceremonies and/or for procurement of plant and mineral materials used for traditional purposes.

Impacts on Designated Wilderness

There are no designated wilderness areas on public lands administered by the BLM on the lands affected by the Route Designation Plan. Thus, there would be no impacts on wilderness areas. There are, however, wilderness study areas (WSAs) within the affected lands. The effects of the Proposed Action and alternatives on the WSAs will be analyzed in this EA.

Impacts on or from Hazardous and Solid Wastes

None of the actions, activities, and uses projected to occur with implementation of the Route Designation Plan would require the handling, storage, or release of large quantities of hazardous, toxic or solid wastes. Therefore impacts on or from hazardous and solid wastes are not analyzed in detail.

OTHER CONCERNS THAT ARE NOT ISSUES FOR ANALYSIS

Impacts From Route Designation on Grazing Management

Livestock grazing use is authorized by a grazing permit. Maintenance of authorized range projects and facilities (such as fences, cattleguards, corrals, spring developments, water wells, pipeline/trough systems and reservoirs) is a condition of the permit. Most range projects are accessed by established routes or trails. Linear projects such as fences and pipelines are frequently accessed by routes at certain points, however, maintenance of fences and pipelines is often required under the permit to be by foot or horseback. Some reservoirs and other water developments are not accessible by existing routes, but are accessed by dry washes. Maintenance of reservoirs consists of silt removal and dam stabilization. Livestock grazing operations would not be impacted by this Route Designation Plan because access would continue to be allowed in accordance with the grazing permit, independent of decisions made in this Route Designation Plan. Any new routes, not authorized under permit, would require a NEPA analysis to determine the impacts of such action.

Impacts From Route Designation on Oil and Gas and Coal-bed Methane Development

Oil and gas and coal-bed methane development on public land is allowed by permit. Where such approved BLM permits stipulate that OHV use is authorized, travel shall be allowed in accordance with the permit, whether or not designated as a route available for use in this Route Designation Plan. Therefore, impacts from route designation on these minerals is not an issue for analysis.

Impacts of Route Designation on State Lands

Numerous parcels of state lands are interspersed within the "limited" OHV category area. Alternatives 2, 3, and 4 would close access to some of the state lands. BLM recognizes that many state permits, such as grazing permits, right-of-way easements and permits, and hydrocarbon or other mineral leases exist on state lands. For those permitted state land uses that have historically required access across public land on a closed inventoried route, written authorization from BLM's Price Field Office (Authorized Officer) would be required for continued appropriate access. In those instances where maintenance, upgrades, or new routes are needed, a right-of-way permit would be required from the BLM in accordance with federal regulation. Because it is expected that historical access routes to state land that are needed under a state permit would be authorized, impacts on route designation on state lands is not an issue for analysis. State hunting permits, however, are not considered authorization to use closed routes.

Impacts From Route Designation on Local Economics

It is not anticipated that any of the alternatives would impact local economies in the area around the San Rafael Swell. Although some routes are proposed for closure in three of the alternatives (Alternatives 2, 3, and 4), numerous opportunities for unrestricted OHV use exist within and outside of the "limited" OHV category area. For example, over 190,000 acres of public lands managed under the San Rafael RMP in Emery County remain available for unrestricted OHV use, including cross-country use. Other public lands in Emery and Carbon County managed under the Price River Land Use Plan, have designated over 480,000 acres of public lands as open to unrestricted OHV use. In addition, route designations in the "limited" OHV category area being analyzed under this Route Designation Plan, under any alternative, continue to provide a myriad of OHV opportunities for OHV enthusiasts.

Recent BLM staff personal communication with Rosann Fillmore (1/14/02), Economic Development Coordinator for Emery County, and John Kemp (1/14/02), Utah Travel Council, confirmed that no information concerning OHV recreational activities and their impacts on the local economy has been collected because it has been regarded as too small of an issue to be worth the cost of study. Furthermore, the analysis provided in the 1989 San Rafael Final Environmental Impact Statement and Proposed Resource Management Plan (PRMP), asserts that recreational decisions in the RMP would have little effect on local economic conditions. The PRMP states that all recreation use amounts to less than 0.1 percent of local employment and earnings. For these reasons, economic impacts are not an issue for further analysis.

Impacts From Route Designation on Road Maintenance Agreements

It is not the intent of this document to add or stipulate maintenance requirements for any road or trail identified for use by OHVs. Road construction or maintenance is normally authorized through agreements or rights-of-way. Without such authorization, the casual road users are not permitted to conduct maintenance other than nominal hand work with tools normally carried in a vehicle, or at most through the use of a mounted winch. Removal of fences, obstructions or signs installed to prevent travel and the use of explosives is prohibited.

In the late 1980s, Emery County negotiated with the Bureau as to which roads each entity would maintain. The San Rafael RMP specifically states that OHV "designations do not apply to state, county or BLM system roads, or to private or state inholdings". Therefore, these roads are not part of the scope of this EA, and maintenance agreements would not be affected.

SYNOPSIS OF ISSUES

Issues For Route Designation Carried Forward From The San Rafael RMP

Issues driving the designation of routes from the San Rafael RMP focus on OHV use and its impacts on critical soils and resultant erosion, historic and cultural resources, scenic values, natural values tied to the semi-primitive non-motorized ROS class, crucial wildlife habitat, and recreational opportunities.

New Issues Taken Into Consideration For Route Designation

Since the publication of the San Rafael RMP in 1991, new issues have arisen that have helped to

focus and develop new criteria to consider which routes should or should not be made available for motorized travel in the areas categorized as "limited". Recreation use from all user groups in this area has significantly increased, and the types of use, and the types of vehicles used for motorized travel have changed. The motorized technology of all-terrain vehicles (ATVs) has allowed access into areas that previously were mostly inaccessible by vehicles. In addition, global positioning system (GPS) technology has provided extremely accurate and detailed directions in guidebooks which promote increased use of the area. The resultant impacts to the resources have magnified as well as the conflicts amongst the users. New issues include:

1. A proliferation of routes, many of which have no purpose or go to the same general destination as other routes already established;
2. Conflict between motorized and non-motorized users (users include people who drive motorized vehicles, people who ride mountain bikes or use other mechanized vehicles, equestrians, hikers, river floaters, and participants on pack animal-assisted trips. (Motorized users include those that drive wheeled vehicles such as sport utility vehicles, trucks, jeeps, all-terrain vehicles (ATVs), and motorcycles and any other vehicles which are propelled by other than human or animal powered means).
3. Impacts on federally listed threatened and endangered species based on new data and knowledge, and new listings;
4. Impacts on Wilderness Study Areas;
5. Impacts on lands found to have wilderness character as a result of a wilderness inventory conducted by the BLM and portrayed in the *1999 Utah Wilderness Inventory*.

Other Issues Brought Forward By The Public

Some lands managed under the San Rafael RMP have been identified by the Utah Wilderness Coalition (UWC) for wilderness designation, and are referred to as citizen wilderness proposal areas. The Southern Utah Wilderness Alliance, on behalf of the UWC, submitted Anew information@ on the wilderness character of seven areas in the San Rafael Swell, only about one-third of which is within the "limited" OHV category area. In their submission they requested that this Route Designation Plan assess the wilderness qualities of the proposed wilderness units. Due to a lack of time, BLM was not able to assess the new information in detail to determine whether or not wilderness character exists in these areas. However, for purposes of this analysis, it is assumed that the proposed wilderness character lands that fall within the "limited" OHV category area have a reasonable probability that wilderness character may exist. An impact assessment of route designation on these lands is included in Chapter 4.

Chapter II - Proposed Action and Alternatives

INTRODUCTION

Defining the issues was the first step in narrowing the scope of possible route designations that would be carried forward into this Route Designation Plan. Management objectives were then developed that were aimed at providing viable options for addressing the issues and thus, developing alternatives. The result of the process is the range of alternatives presented in this chapter.

Eight alternatives were initially considered during alternative development. Four alternatives are carried forward for analysis and are described in detail here. One of these alternatives is the "All Route Designation" alternative. The other three alternatives resolve conflicts and concerns with resources and manageability based on specific alternative identified objectives.

Four alternatives were considered but not carried forward for detailed analysis because they were not deemed reasonable or did not meet the purpose and need of this EA. Those alternatives, and the reasons they were eliminated, are discussed in the "Alternatives Considered but Eliminated from Detailed Analysis" section in this chapter.

THE EXISTING DATA BASE

The data base for "existing roads and trails" (collectively referred to as routes) is comprised of data collected prior to February 2001. It represents ten years of data collection. The data base consists of BLM inventoried routes, routes inventoried by Emery County which have been field verified by BLM, mapping work done during public scoping, and information collected from letters from the public and user groups which have been verified in the field by BLM. The data base supplied by Emery County and the user groups was inventoried by GPS and due to the various tools used, there is some variance in the exact location of these routes. Field verifications were done wherever possible. Therefore, the maps included in this EA, although created with meticulous efforts for accuracy, may not in all cases reflect the exact location of routes on the ground. Only those routes that BLM has inventoried and documented on the Alternative 1 inventory map are considered to be motorized routes. All other linear surface disturbances are regarded as cross-country use.

Limiting analysis to routes only in existence when the Record of Decision for the San Rafael RMP was published in 1991 is fallacious and unrealistic. Therefore, as stated above, alternatives have been developed with as current data as possible. Good land management decisions are best made on the most realistic situation to date.

In many places in this document, such as comparison tables for alternatives, there are references to mileages and acreage. The mileages and acreage were calculated in GIS. The miles reported in the analysis are GIS generated and have not been verified on the ground. A five to ten percent error is possible.

ALTERNATIVES

Alternatives Considered But Eliminated From Detailed Analysis

R.S. 2477 Alternative: Numerous publics have brought forth the issue surrounding Revised Statute (R.S.) 2477 assertions, and would like to see this Route Designation Plan bring forth an alternative that designates all R.S. 2477 assertions. Revised Statute 2477 is a repealed section of the Mining Act of 1866 that granted the right-of-way to the State for construction of highways over public lands not reserved for public uses. It was repealed by FLPMA in 1976. The extent and nature of the rights-of-way granted by R.S. 2477 and the access routes that qualify as highways for the grant are in dispute. Some members of the public, including local governments in Utah, regard R.S. 2477 rights-of-way as important components of state and local infrastructure, and as essential to the economic growth and social well-being of western communities. Others are concerned that recognition of extensive R.S. 2477 rights-of-way would interfere with BLM's ability to protect and manage wilderness values and other resources on public lands.

No regulations to either assert or recognize R.S. 2477 rights-of-way currently exist. Courts may ultimately determine the validity of R.S. 2477 assertions. While thousands of R.S. 2477 claims have been asserted by Emery County, it is beyond the scope of this EA to recognize or reject R.S. 2477 assertions, and this issue is not addressed further. Nothing in this EA is intended to provide evidence bearing on or addressing the validity of any R.S. 2477 assertions. At such time as a decision is made on R.S. 2477 assertions, BLM will adjust its travel routes accordingly, if necessary.

Complete Route Closure Alternative: This alternative would not designate any routes available for motorized recreational use. Although this alternative would provide the maximum protection of natural resources in the "limited" OHV category area, it would be at the expense of the motorized recreating public. The San Rafael RMP directs the subject lands to be in a "limited to designated roads and trails" OHV category. This category allows for OHV use on certain routes that have been designated for that use. Closing all routes to such use would not be in conformance with the San Rafael RMP. In effect, the "limited" OHV area would become a defacto "closed" OHV area and would require a land use plan amendment to implement this alternative in its entirety. In addition, it would not meet the purpose and need of this Route Designation Plan. Furthermore, closing all routes in the "limited" area would block access to other areas that remain "open" to OHV use. For these reasons, this alternative is not a viable alternative to carry forward for detailed analysis.

Historical Trails Alternative: BLM has historically permitted motorcycle events on trails that cross the "limited" OHV category area. These permitted events were restricted to specified mapped routes. A motorcycle event permittee has requested that these trails be designated in the Route Designation Plan. Some of these motorcycle tracks are no longer present due to natural processes such as wind and precipitation erasing the route, some are still visible but are not highly evident in the environment, and others coincide with inventoried routes which are mapped and carried forth in some of the alternatives in the area west and east of Highway 24. For these reasons, these historic trails, in whole, will not be considered in this Route Designation Plan, and will not be carried forward for detailed analysis.

However, it will remain the policy of the Price Field Office to consider future applications for permitted motorized events on specified proposed routes within the area. All applications would undergo a NEPA analysis prior to decision making.

Connecting Trails Alternative: A local OHV club has submitted a trails system proposal that connects local communities and the U.S. Forest Service (USFS) trails and roads, west of SR 10, with proposed trails on BLM lands. This trail system proposal includes travel within local towns, on county roads, private land, and in both "open" and "limited" OHV designated areas of public land. New trail construction is proposed in some locations on public land. Coalbed methane development continues to impact this area and has changed the inventoried routes (by both extending and rerouting, as well as closing some segments). Necessary easements, as well as county and city support, are unresolved at this time. Due to the expanse of the trail system proposal and the unresolved issues, it was determined that this proposal was beyond the scope of this EA, and will not be carried forward for detailed analysis. However, portions of the existing trails system proposal that have been inventoried could be designated as routes available for motorized travel in some alternatives.

Management Common To All Alternatives

1) At the completion of this Route Designation Plan, the emergency OHV closure published in the Federal Register Notice on March 21, 2001 for WSAs (Appendix 1) within the area affected by this Route Designation Plan will be discontinued. Under all alternatives where routes would remain available for vehicular use within WSAs, such use could continue on a conditional basis. Use of the existing routes in the WSAs, ("vehicle ways" when located within WSAs) could continue as long as use of these routes does not impair wilderness suitability, as provided by the Interim Management Policy for Lands Under Wilderness Review (BLM, 7/5/95).

2) The San Rafael Wedge (approximately 20,000 acres) currently has limitations on all vehicles, including mountain bikes, to designated roads. It also limits camping to designated campsites. This was done by Emergency Order (*Federal Register*, February 24,1992, Volume 57, Number 36, pg.6330). (Appendix 1) This limitation was considered necessary because of potential conflicts with the high resource values that are present. Some of these resources include endangered plants, foraging areas for the then endangered peregrine falcon, and significant use by desert bighorn sheep. Once route designation is completed for the Wedge Overlook area in this Route Designation Plan, the emergency closure, as it pertains to routes of travel, would be superceded by this plan. The Emergency Closure would continue in place only for mountain bikes and designated campsites until the new Price RMP is completed.

3) The San Rafael RMP specifically states that OHV "designations do not apply to state, county or BLM system roads, or to private or state inholdings". Therefore, these roads are not part of the scope of this EA, and will remain in place under all alternatives. These roads are depicted in black on all the alternative maps. Within BLM's "limited" OHV areas, there are 79 miles of Interstate-70, 199 miles of paved state roads, 650 miles of Emery County-maintained roads, 182 miles of BLM transportation system roads, and 273 miles of routes that cross School

Institutional Trust Lands Administration (SITLA) lands.

4) There are certain roads that have been and continue to be built, under permit, by the oil companies within the coal-bed methane gas fields. These roads have their own set of restrictions (open/closed for public use, or seasonal restrictions). Current restrictions would continue as long as the operations are in effect. Oil company roads are not a part of this Route Designation Plan. Any other routes permitted by a Right-of-Way (ROW) would not be subject to this Route Designation Plan.

5) Designation of routes does not distinguish between recreational or non-recreational vehicle uses.

6) Signs, barricades, maps, kiosks, and public education efforts would direct users to appropriate routes available for motorized travel.

7) Routes designated as available for motorized travel would be monitored to ensure compliance with the goals and objectives of the San Rafael RMP and other applicable laws, regulations, and policy.

8) In accordance with 43 CFR 8340.0-5, an OHV refers to any motorized vehicle capable of travel on land or water, but excludes fire, emergency, or law enforcement vehicles being used for emergency purposes, as well as any vehicle whose use is expressly authorized by the Authorized Officer (permitted/authorized use), among others. This permitted or authorized use, often termed "administrative access" is for motorized travel for purposes specifically related to completing Bureau work or specific work completed by a permittee related to an approved BLM permit. Where such approved BLM permits stipulate that OHV use is authorized, travel shall be allowed in accordance with the permit, whether or not designated as a route available for use in this Route Designation Plan. Examples of BLM permitted projects warranting administrative access could include, but are not limited to, maintenance of fences, ditches, water developments, communication sites, power lines, reservoirs, paleontological or archeological research, and special permitted events.

9) In "limited" OHV areas where routes are not available, new or improved access involving a permit would be considered on a case-by-case basis through a NEPA process.

Alternatives Considered For Detailed Analysis

*ALTERNATIVE ONE (*No Action)*

The objective of Alternative One is to designate the maximum mileage of inventoried routes (inventoried as of February 2001) in the "limited" OHV category as available for motorized travel, while meeting federal laws and regulations. This alternative would optimize and promote motorized recreational opportunities and encourage dispersed motorized use over the entire "limited" OHV category area, where existing inventoried routes are located. This alternative would designate 1074 total miles of routes; 1045 miles that would be available for all motorized

vehicle types, and 29 miles would be designated only as motorcycle trails. Map 4.1 portrays the routes that would be designated under this alternative.

Alternative One would designate all existing inventoried routes in the "limited" OHV category as available for motorized travel. All pre-existing inventoried vehicle ways within the seven wilderness study areas would be available for motorized vehicle travel.[3]

*Note: Although Alternative One is termed the "No Action" alternative, it differs from the existing situation in a number of ways. Presently in the subject area, all but four pre-existing inventoried vehicle ways in the WSAs are closed by emergency order. This alternative would leave them open to vehicle use. In addition, many inventoried routes (except for within and bordering the WSAs) are not currently signed for use, and recreational route maps have not been dispersed to the public. As a result, there is unauthorized cross-country OHV use in many areas. Under Alternative One, it is assumed that all signs and kiosks would be in place, route maps would be provided to the public, and monitoring would be done, thus curbing cross-country use.

ALTERNATIVE TWO

The objective of Alternative Two is to provide maximum protection to natural, scenic and wilderness-related values, and maintain the existing ROS settings, while allowing for a myriad of routes available for motorized recreational opportunities outside of these protected areas. This alternative would designate 819 total miles of routes that would be available for all motorized vehicle types. There would be no routes designated for motorcycle trails only. Map 4.2 portrays the routes that would be designated under this alternative.

Alternative Two would make all existing inventoried routes in the "limited" OHV category available to motorized travel except for those located within:

3. Wilderness Study Areas (WSAs),
4. BLM Wilderness Inventory Areas (WIAs)[4], and
5. Semi-primitive non-motorized (SPNM) ROS class areas.

ALTERNATIVE THREE

[3] Pre-existing inventoried ways are those which were documented by the BLM to exist in 1980 when lands were inventoried for WSA designation. It does not include any routes created after the 1980 inventory.

[4] Wilderness inventory areas (WIAs) require consideration in this EA (although not directed in the San Rafael RMP) because they were inventoried by BLM and found to have wilderness characteristics, as portrayed in the *1999 Utah Wilderness Inventory*.

The objective of Alternative Three is to provide motorized opportunities for the recreating public while balancing the underlying need to protect critical soils, scenic resources, crucial wildlife habitat, and provide special management for certain vegetation, cultural, and historic mining resources, among others. This alternative would designate 580 total miles of routes; 557 that would be available for all motorized vehicle types, and 23 miles would be designated only as motorcycle trails. Map 4.3 portrays the routes that would be designated under this alternative.

In this alternative, resource issues and concerns, as well as public comments, were applied to existing routes within "limited" OHV category area to determine which routes should be left open for use. This alternative is the result of reviewing the San Rafael RMP's directives in light of the affected environment today, (i.e. ten years after the publication of the RMP). This alternative would allow motorized vehicle travel on some routes in WSAs, wilderness inventory areas, and ROS class "semi-primitive non-motorized" category. In turn, it may not designate some routes in the ROS class "semi-primitive motorized" category if they have been assessed to be in conflict with resource concerns. Three pre-existing inventoried ways in Sids Mountain are the only routes that would remain available for motorized use within the seven WSAs.

Alternative Three would generally make existing inventoried routes in the "limited" OHV category available to motorized travel based on the following criteria:

1. Routes that serve as important access for recreation. Routes important for recreation include, but are not limited to, routes to viewpoints and features of interest, scenic loops and routes to trailheads. The designated OHV routes would provide a spectrum of riding difficulties (easy, moderate, challenging) without compromising resource values and the safety of the users.
2. Routes that could be reasonably patrolled and maintained via signs and structural installation.
3. Routes that generally comply with visual resource management (VRM) objectives.

The types of routes which would generally not be considered for designation in this alternative are:

1. Duplicate routes to the same location;
2. Dead end routes that are not manageable (perhaps because they provide easy access to closed areas, routes serving illegal wood cutting areas);
3. Routes causing a conflict between motorized and non-motorized use which affect the expectations and safety of both the non-motorized and motorized user's experience.
4. Routes which cause resource damage by inviting "route proliferation" (multiple parallel trails, hill climbs, "cheat" routes around difficult spots, crushing of cryptogamic soil areas).
5. Routes that are naturally re-vegetating, such as seldom used seismic lines.
6. Routes through riparian areas where OHVs could trample young shoots which would prevent the regrowth and establishment of the riparian area.
7. Routes that have re-established cryptogamic soils or are situated in areas of pristine critical soils susceptible to damage.
8. Routes that have the most potential to affect threatened or endangered species.

9. Routes that could impact the tentative eligibility of wild and scenic river segments, as per the San Rafael RMP.

ALTERNATIVE FOUR (Proposed Alternative)

The objective of Alternative Four is to provide additional motorized opportunities (when compared to Alternative Three) in the form of loop riding opportunities, access within certain washes, and access to specific points of geological interest, while sustaining critical soils, scenic resources, crucial wildlife habitat, and provide special management for certain vegetation, cultural, and historic mining resources, among others. The same basic criteria for route designation was considered as portrayed in Alternative Three, but more intensified OHV opportunities are the overriding factor for route designation in this alternative. This alternative would designate 663 total miles of routes; 640 that would be available for all motorized vehicle types, and 23 miles would be designated only as motorcycle trails. Map 4.4 portrays the routes that would be designated under this alternative.

The "limited" OHV category area west of State Highway 10 remains the same for Alternatives Three and Four. In this alternative, four pre-existing inventoried ways in the Sids Mountain WSA are the only routes that would remain available for motorized use within the seven WSAs. The most well-known routes that are designated available for motorized access in Alternative Four (and not in Alternative Three) are the "Behind-the-Reef" route and Devil's Racetrack (the latter in Sid's Mountain WSA).

Alternative Comparison

Table 2.1 portrays a comparison of miles of routes that would be designated under each of the alternatives within the "limited" OHV category area. This table distinguishes between the miles of routes that would be available to all types of motorized vehicles as well as the routes that would be designated only for motorcycle use (single track trails).

Table 2.1
MILES OF PROPOSED DESIGNATED ROUTES BY ALTERNATIVE

Route Description	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Available for All Vehicle Types	1045 miles	819 miles	557 miles	640 miles
Available for Motorcycles Only (single track)	29 miles	0 miles	23 miles	23 miles
Total Miles	1074	812	580	663

Chapter III - Affected Environment

This chapter describes those portions of the existing environment within the "limited" OHV category (as provided in the San Rafael RMP) which could be affected by the alternatives presented in Chapter II. The description of these resources serves as the baseline for analyzing the environmental consequences of the various alternatives in Chapter IV. It also provides background information and data for use by decision makers and other interested parties.

The focus of the affected environment described in this chapter is framed by the resources and uses identified in the San Rafael RMP and the relevant issues that surfaced during public and internal scoping. Much of the information provided in this chapter refers principally to changes to the affected environment of the "limited" OHV category, as relevant to the issues in this EA, which have occurred in the past ten years (since the publication of the RMP). Resource descriptions are discussed only in as much detail as needed to analyze the effects of route designation.

Additional detailed information concerning the public lands in Emery County is available in the San Rafael RMP and the San Rafael Management Situational Analysis. There is also specific recreational use data and information concerning kiosks and signs already in place. These documents are available for review at the Price BLM Field Office.

RECREATION

Since the San Rafael RMP was published eleven years ago, recreational use in the San Rafael Swell has increased dramatically. The demands on our public lands have changed: there is more national interest in recreation, there are more visitors (especially from in and out-of-state), while the local population has slightly increased. Changes in OHV technology, coupled with increasing public interest in using OHVs for recreation, have created recreation use conflicts that were not anticipated previously. Increases have occurred in both motorized and non-motorized use, and in the number of tour operators that request commercial recreation permits. Recreational uses include floating the desert rivers and creeks, sightseeing or driving for pleasure on the main thoroughfares and dirt routes, riding ATVs, mountain biking, horseback riding, backpacking, hiking, birdwatching and animal viewing (especially bighorn sheep), visiting cultural sites, camping, picnicking, photography, rock-hounding, snowmobiling, and hunting, among others.

Recreation levels are increasing year-around, however the height of the recreational season in the San Rafael Swell peaks around Memorial Day in the spring. The noticeable increase of visitors begins around Easter (depending on the weather) and continues until temperatures approach 100 degrees - usually sometime in June, or when higher elevation venues open in the forests. Visitation remains moderate during the traditional summer vacation dates, peaking again at or just after Labor Day when temperatures return to moderate levels. Recreational use levels drop off around Thanksgiving, when cold weather returns. Both motorized and non-motorized use follow the same seasonal trends.

The increase in visitor uses has been accompanied by conflicts between motorized and non-motorized users. Although conflicts are difficult to quantify, they have manifested themselves in verbal threats to BLM employees and volunteer groups working in the field, verbal clashes between motorized and non-motorized users, vandalism to barricades and signs which were installed to restrict OHV use in protected lands, hundreds of letters, phone calls, and visits from the public to BLM managers and staff specialists promoting their side of the issues, and letters and articles in newspapers and special interest publications. Some of the popular routes where these conflicts occur are in Sid's Mountain WSA, along and behind the San Rafael Reef, and Muddy Creek through the reef. The Behind-the-Reef route borders the exit (or entrance) to the most popular hiking slot canyons in the Swell. The most renowned of these hiking loops is the Little Wild Horse/Bell Canyon Loop where motorized use occurs on the upper link between the canyons.

Increased OHV use in the San Rafael Swell area as a whole, and more specifically in the "limited" OHV category area, has caused changes to the landscape. There are numerous parallel routes along old routes, many created when portions of the old routes were washed out, or created because they offer a more enlivening experience than staying on the existing "flat" or "boring" route. In addition, many places within the "limited" OHV category offer riders looking for skill challenges an opportunity to "hill climb". Hill climbing areas are usually small to moderate sized, sparsely vegetated hills where ATVs can climb up and loop around or over the hills. These types of activities are currently considered illegal cross-country use, and have left hundreds of scars throughout the "limited" OHV category area. Often, hill climbs are found near popular camping spots where riders tend to concentrate their play activities near campsites. Because many camping spots are customarily directly off of main travel routes due to ease of access, the hill climbing scars are usually very visible from main travel routes.

In addition, the incredible scenery and geology of the area has tempted adventurous riders to travel cross-country to seek out new viewsheds and "explore the unexplored" areas where vehicles have previously not ventured and no routes exist. Subsequently, it is common to have additional vehicles follow tracks to see where they may lead, and route proliferation problems ensue. Often, many of these "pioneered" routes have been created to single destination points such as canyon overviews or cultural sites.

Not only does today's OHV use exceed historic levels, but OHV riders use more powerful vehicles capable of accessing steeper and rougher terrain. In the past, visitors drove principally jeeps, trucks, and motorcycles. Today the BLM has seen an increase in use of OHVs of all types and sizes. Increased visitation and the use of more powerful vehicles has contributed to the widening, deepening, braiding and erosion of some existing vehicle routes; an increase in the number of hill climb, play, and camping areas; damage to vegetation; damage to cryptobiotic soils; increased litter; damage to rock formations with resultant black tread marks and dead lichen on slickrock; new "pirate" routes; wildlife disturbance; localized siltation of water courses; and noise in once quiet areas, among others.
To date, many of the routes in and around the boundaries of WSAs in the "limited" OHV category area have recently been signed as closed. Signs and bulletin boards/kiosks have been

installed along WSAs and many ACEC boundaries. The kiosks portray which routes remain open for OHV use, and the conditions placed on that use. Approximately half of the "limited" OHV category area, however, often lacks signs that tell the public which routes are available for use, or that cross-country riding is not permissible in the area. To date, no OHV maps have been created by the Price Field Office that depict which routes are available for use. Public education efforts concerning OHV etiquette within the "limited" OHV category area has been lacking. In addition, OHV monitoring efforts outside of the WSAs has been very limited.

Evidence of increased commercial use throughout the San Rafael Swell area can be found in data collected via BLM's special recreation permitting (SRP) process. Increases in commercial uses, which require a SRP, have increased steadily over the decade. For example, the number of river permits issued for Labyrinth Canyon has almost quadrupled from 11 in 1991 to 43 in 2001. Similarly, permits issued to educational groups, which are non-motorized, have also quadrupled from 1991 to 2001. Special outfitter guide hunting permits have tripled over the same time period. BLM staff specialists believe that the total number of people engaged on commercial trips has also increased. There is a myriad of information at the Price Field Office on SRPs, as well as data collected from user surveys and traffic counters, that helps document the increase in visitor use in the San Rafael Swell area.

Some of the "limited" OHV category area lies outside of the San Rafael Swell and falls within the remote and scenic areas of slickrock and majestic overviews of the Green River in the San Rafael Desert. It is believed that many OHV users in this area are traveling off of the established routes to seek new views and/or test their machines on the slickrock challenges.

BLM Action in Response to Increases in Visitor Management
Increased visitation in the San Rafael Swell has resulted in increased conflicts between recreationists and natural resources during the past ten years. In order to help resolve the conflicts between increased recreational use and impacts that the resources have received from motorized vehicles, the BLM has increased service patrols, constructed information and education kiosks and bulletin boards, increased signing, and engaged in subtle changes in management techniques.

The San Rafael RMP (pg. 63) designated the San Rafael Swell area as a Special Recreation Management Area (SRMA) in recognition of its intensive use or special recreation values. The RMP stipulated that OHV use is restricted to either a "limited" or "closed" category within the boundaries of the SRMA. This Route Designation Plan would designate which routes are available for OHV use within the "limited" OHV category area. To date, a comprehensive recreation management plan has not been completed for the SRMA. However, numerous actions have been taken in order to manage the intensive use and enhance special recreation values within the SRMA. Some of the actions include:

- re-development of a designated campground near the San Rafael River
- installation of 6 permanent vault toilets
- improvements at Buckhorn Wash pictograph recreation site
- visitor improvements at both the Wedge and Copper Globe Mines areas

- a temporary visitor information station at Temple Mountain
- signs and bulletin boards marking WSAs and ACEC boundaries
- closure of six WSAs to motorized vehicles (approximately 25 miles of pre-existing inventoried ways)
- installation of signs and information kiosks along 46 miles of routes available to motorized travel in Sid's Mountain WSA (Historic documentation has provided a range of numbers - 30 to 47 - for the miles of routes open in Sid's Mountain. Newer data now finds that number to be 46.)
- installation of 659 signs (483 WSA signs; 62 "No Vehicle" signs; 114 route markers)
- installation of 37 barricades and 15 kiosks
- increased monitoring efforts.

In addition, in April 2000, an OHV Memorandum of Understanding sponsored by the Natural Resource Coordinating Council was signed jointly by the Utah Department of Natural Resources, Utah School and Institutional Trust Lands Administration, USDA Forest Service, and BLM. The purpose of this agreement was to identify ways to manage rapidly expanding OHV use in the state, while protecting Utah's natural resources. A oversight steering committee and three teams (Technical Team, Communication Team, and Law Enforcement) were formed into a working group called "OHV Interagency Partners," to accomplish the objectives laid out in the MOU. One of the first accomplishments under this MOU was to engage in an initiative aimed at identifying and mapping OHV "hotspots" - those areas experiencing negative OHV impacts throughout the state. The San Rafael Swell was one of the 20 priority areas identified, and efforts are being made to share resources such as law enforcement, patrols, signing, etc., in this area. In addition the teams have developed a vision statement, an OHV communication theme "Protect Your Privilege, Stay on the Trail" logo stickers and posters. These stickers and posters were paid for by the Utah Powersports Dealer. Local broadcasts were presented every Sunday for 10 weeks which provided riding information and user ethics messages. A statewide signing protocol has been developed and approved, a website for user information is being developed, and each region of the state will pull together an interagency "focus" group to assist with carrying out the goals in the MOU.

Even with the installation of new facilities, additional ranger patrols, and public education efforts, visitor management continues to be difficult on public lands. BLM has engaged the volunteer help of numerous organized user groups, including the Emery County Public Lands Council Recreation Subcommittee, Southeast Utah OHV Club, Southern Utah Wilderness Alliance, Wasatch Mountain Club, Boy Scouts of America, Sierra Club, Carbon High School, as well as local community members to help with visitor management, where appropriate. These folks have helped the BLM by marking trails; installing barricades, kiosks, and signs to eliminate unauthorized OHV cross-country use; raking and seeding impacted areas; and recommending management actions that could help reduce impacts to resources and users. Additionally, the Emery County Sheriff's department and the State Division of Parks and Recreation have supported BLM by providing personnel to help enforce compliance on public lands. They also afford an avenue by which OHV public education and safety information is dispersed. In addition, BLM and other partners have established the Castle Country Regional Information Center in Price, Utah, which allows for centralized dispersal of visitor information.

Still, problems do exist. For example, a portion of the single track Lone Man Draw Trail near Temple Mountain was closed in 1985 (EA/UT-067-84-33) in order to protect crucial bighorn sheep habitat, and eliminate the opportunity for OHVs to gain entry into Iron Wash in the San Rafael Reef WSA/ACEC. This trail was part of a much larger motorcycle trail system (known as the Iron Wash Trail system and managed under a cooperative management agreement with the Pathfinders Motorcycle Club) established near Temple Mountain. Due to the popularity of the area for motorcycle riding, as well as lack of proper signing and monitoring in this remote area, the Lone Man Draw Trail is presently being used by motorcycles. In fact, there is now a definitive route with signs, cairns and paint. This route has been included as part of BLM's inventoried route system.

Semi-Primitive Non-Motorized Recreation Opportunity Class Spectrum (SPNM ROS)
Assigning recreation opportunity spectrum classes on public lands is a way of describing and providing a range of recreational uses (opportunities) based on activity, setting and experience. For purposes of inventory, there are six ROS classes, ranging from primitive to urban. One of the classes is termed semi-primitive non-motorized (SPNM), and overlies approximately 219,120 acres within the "limited" OHV category area. This is the only ROS class that is of concern in the "limited" OHV category area. The San Rafael RMP states, "ROS SPNM-class areas outside of ACECs (153,000 acres) will be managed to provide a predominantly natural environment with limited evidence of human use and restrictions, and, where possible, to provide an environment of isolation. ROS SPNM-class would be designated as limited for OHV use, with use limited to designated roads and trails." (San Rafael RMP pgs. 89-90) (Map 58 in Volume 2, 1989 FEIS/PRMP). There are approximately 78 miles of inventoried routes that currently pass through the ROS SPNM-class areas within the "limited" OHV category area. In some areas proliferation (including parallel routes, multiplicity of routes going to one destination, and routes that serve no known purpose) is a detracting factor in the ROS SPNM-class.

Hunting
Big game hunting is a popular activity within Emery County. Antelope and elk hunting would not be affected by route designation because hunting season for these species does not occur during the time that seasonal restrictions (5/15 - 6/15, 12/1 - 5/15 respectively) would be in place to protect crucial habitat. Mule deer occur throughout the "limited" OHV category area in limited numbers and some hunting does occur. Hunting of mule deer and elk west of Highway 10 in the crucial habitat area would not be affected because seasonal closures (12/1 - 5/15) would be outside of the hunting season. Approximately 10 bighorn sheep hunting permits are issued in the "limited" OHV category area each year.

VISUAL RESOURCE MANAGEMENT (VRM)

One of the BLM's general management objectives for public lands is to provide design standards on projects to protect or enhance four defined visual resource management (VRM) classes. These VRM classes were determined through an inventory process and are used to provide guidance to management staff and industry when contemplating proposed surface disturbing

activities. Class I areas are intended to protect an area from visible change, Class II areas allow for visible changes that do not attract attention, Class III areas allow for visible changes that attract attention but are not dominant, and Class IV areas allow for visible changes that can dominate the landscape. More information concerning VRM management classes is found in the San Rafael RMP (pgs. 68-70; Map 18 pg. 71). Because VRM classes were established to help mitigate visual impacts from new surface disturbing proposals, and the designation of existing routes is not considered a new proposal for which design standards are needed, using VRM classes to define which routes should be opened or closed is not appropriate. However, in accordance with the San Rafael RMP, each VRM class has an objective. The objective of VRM Class I areas is to preserve the existing character of the landscape; Class II is to retain the existing character of the landscape; Class III is to partially retain the existing character of the landscape; and Class IV is to allow for major modifications to the landscape. Projects within all VRM classes would require mitigation where appropriate.

Inventoried routes are present in all VRM class areas. VRM Class I areas comprise 181,013 acres (18 percent) within the "limited" OHV category area, and are considered the most sensitive because they overlay many of the ACECs and WSAs. Route proliferation (including parallel routes, multiplicity of routes going to one destination, and routes that serve no known purpose) is a detracting factor in many of these areas, especially where it overlies VRM Class I. In some areas, the extensive amount of cross-country OHV travel and resultant impacts has degraded the VRM class.

To date, placement of Carsonite signs within WSAs and ACECs has not affected the VRM classification of these areas because the signs are considered the minimum tool to manage OHV use, in accordance with the IMP. Carsonite signs are color selected to match the surrounding background, they are thin and flexible, and are generally subtle in the landscape as a whole. They have been found to be effective for trail delineation. In addition, many of the signs that are currently in place are only there temporarily. This is because as compliance increases, and these signs are found unnecessary, many signs would be removed.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACECS)

Within the “limited” OHV category area, the San Rafael RMP designated all of five ACECs and portions of six others (San Rafael RMP, pgs. 80-86; Map 4 pg.12). ACECs are public land where special management attention is required to protect and prevent irreparable damage to important resources, natural systems or processes, or to protect life and safety from natural hazards. The ACECs in the “limited” OHV category were designated to protect cultural/historical, scenic, recreational, and relict vegetation values. Many of the ACECs have more than one of the values listed. A list of ACECs and their values was presented in Chapter 1 under the Purpose and Need of the Proposed Action section.

All or portions of five ACECs were designated to protect their scenic values. These ACECs include: Highway I-70, Muddy Creek, portions of the San Rafael Reef, the Segers Hole, and Sids Mountain. The San Rafael RMP directs that these ACECs be managed according to a VRM Class I objective in order to conserve their unique qualities. VRM Class I areas are where "only

natural ecological changes and very limited management activities are allowed. Any contrast created within the characteristic landscape must not attract attention". In addition, six ACECs, fall within the “limited” OHV category area for the protection of cultural values. Within the "limited" OHV category area, ACECs make up 246,880 acres, or 24% of the "limited" area. Approximately 190 miles of inventoried routes go through them. Route proliferation (including parallel routes, multiplicity of routes going to one destination, and routes that serve no known purpose) is a detracting factor in many of the scenic ACECs. In addition cross-country OHV use is currently impacting the scenic and other natural resource values within portions of some ACECs. This is evident in surface scarring, hill climbs, and vegetation crushing, and provides negative repercussions to cultural resource sites.

WILDERNESS RELATED RESOURCES

Wilderness Study Areas (WSAs)

The Price Field Office manages 12 WSAs totaling 515,050 acres. All or portions of seven WSAs are within the “limited to designated roads and trails” OHV category area. This involves approximately118,562 acres, or 11 percent of the "limited" area. Wilderness study areas are managed under the BLM’s *Interim Management Policy and Guidelines for Lands Under Wilderness Review* (IMP) so as not to impair their suitability for preservation as wilderness. Each of these WSAs has wilderness characteristics. They are greater than 5,000 acres in size, natural in appearance, and provide outstanding opportunities for solitude and/or primitive recreation. Many also possess supplemental wilderness values including cultural resources and wildlife values.

The IMP specifies that, at a minimum, motorized vehicles are only allowed on pre-existing inventoried ways in WSAs. Use of vehicles off boundary routes and on these ways is permitted only for emergencies; search and rescue operations; official purposes for the protection of human life, safety, and property; protection of lands and their resources; and to build and maintain structures and installations permitted under the IMP.

Approximately 71 miles of vehicle ways documented during the 1979-1980 wilderness inventory are in the “limited” OHV category portion of the seven WSAs. These documented routes are referred to as "pre-existing inventoried ways". Appendix 3 (Table 1) lists the WSAs, acres, and miles of routes
within the "limited" OHV category.

In 1998, BLM completed an analysis of OHV intrusions for the WSAs in the San Rafael Swell. As a result of the analysis, all pre-existing inventoried ways and trails, except for four ways in the Sid’s Mountain WSA, were closed by emergency order in March of 2000 under 43 CFR 8341.2 (a) (Appendix 1). The four routes within the Sid’s Mountain WSA form a popular motorized loops of about 46 miles through remote scenic areas, and use by the motorized recreation is increasing. One of the routes known as the Devil’s Racetrack is approximately 7 miles long and is clearly marked with signs, thereby eliminating a majority of off-route tracks that were resulting from riders losing the trail. The other 39 miles of routes were also signed, although not as densely, as they follow washes and established routes that are more easily

identifiable.

Today's OHVs are more varied, powerful machines capable of accessing steeper and rougher terrain than was possible over 20 years ago when the WSAs were designated. Motorized use of the WSAs has increased dramatically, and involves sports utility vehicles (SUVs), trucks, all terrain vehicles (ATVs**)**, and motorcycles. Prior to the March 2000 route closure, the increased OHV use had resulted in some impacts to the land, including overland travel and resultant damage to critical soils, and the creation of "pirate routes" (new overland routes extending from existing routes). If left unchecked, this disturbance could have impacted the suitability of the area for wilderness designation. To prevent cross-country OHV travel from adversely impacting the natural character of the WSAs, the BLM monitors motorized recreation use, has signed WSA boundaries, has signed routes available for use, has signed routes closed to use, has installed kiosks with regulatory and interpretive information, and has cited visitors for violations of rules.

Closing the WSAs to OHV use and signing the four routes that remain open in the Sid's Mountain WSA has reduced the amount of cross-country activity that has been illegally occurring. The number of new pirated trails have diminished. The small percentage of motorized users that abuse the rules and regulations would most likely continue such activities under any circumstances.

The four vehicle routes in Sid's Mountain WSA are only conditionally open to vehicle use. If Congress designates the area as wilderness, the routes will be closed. In the interim, if use and/or non-compliance is found through monitoring efforts to impair the area's suitability for wilderness designation, BLM may take further action to limit use of the routes, or close them. The continued use of these routes, therefore, is based on user compliance. The BLM, Utah State Department of Parks and Recreation, and volunteers monitor these routes for non-compliant activities. Where monitoring has revealed impacts associated with OHV activity, such as vandalism**,** non-compliance with rules, or resource damage, the BLM has responded with management actions, including construction of additional signs and barricades (natural and fencing). Steps are being taken to restore areas impacted by cross-country OHV use. The BLM and its volunteers also patrol the routes and inform visitors about the WSAs and OHV rules. Visitors who violate the rules are cited by law enforcement rangers.

In the Utah Statewide Wilderness Study Report (October, 1991) the Secretary of the Interior made recommendations for which lands which should become part of the National Wilderness Preservation System. In that recommendation, approximately 3,650 acres in three parcels located adjacent to two WSAs (San Rafael Reef and Crack Canyon) were "administratively endorsed" as wilderness even though they are outside those WSAs. These contiguous areas are not WSAs, and are managed in accordance with the San Rafael RMP. Approximately 2-3 miles of routes exist within these parcels.

Wilderness Inventory Areas

All or portions of 12 wilderness inventory areas (lands identified in the 1999 Utah Wilderness Inventory as having wilderness character) are located in the "limited to designated roads and trails" OHV category area. This involves approximately 298,538 acres, or 30 percent of the

"limited" area. Wilderness inventory areas are managed according to the management prescriptions of existing land use plans. These areas will be considered for possible WSA designation through the upcoming Price Field Office Resource Management Plan (RMP).

There are approximately 169 miles of routes available for motorized access in the wilderness inventory areas in the "limited" OHV category area. Appendix 3 (Table 2) lists the wilderness inventory areas, acres, and miles of routes within the "limited" OHV category area. Motorized use of the inventoried routes in the San Rafael Reef, Wild Horse Mesa, Muddy Creek - Crack Canyon, Devils Canyon and Horseshoe Canyon North wilderness inventory areas is increasing. Some of the popular routes include the Iron Wash trail system in the San Rafael Reef wilderness inventory area, the Behind the Reef route, Chute Canyon, and Cistern Wash in the Muddy Creek-Crack Canyon wilderness inventory area.

Cross-country OHV activity is also increasing. This is evident off of the single track Iron Wash motorcycle trail system in the San Rafael Reef wilderness inventory area. This trail system was designated in 1985 (decision record to EA-UT-067-84-33). Through monitoring the BLM has discovered new routes that were not designated, but were marked by motorcycle users with paint, cairns, and wooden signs. Cross-country use off of the designated trail has resulted in readily visible "pirate routes"and hill climb areas, and damage to other resources. The motorcycle community wishes to adopt and maintain this and other trail systems once the Route Designation Plan is completed.

Easier access along the Behind the Reef route in the Muddy Creek-Crack Canyon wilderness inventory area has been facilitated by recent unauthorized hand maintenance. For example, where the route enters (or leaves) Chute Canyon, some persons removed a boulder which had partially blocked passage. In addition, the route was "improved" by with hand work so that ATVs (less than 48" wide) could access its length. Slumped dugways were re-opened, maintained, and waterbarred, and a rock ramp was constructed in Cistern Wash along the WSA boundary.

Citizen Wilderness Proposal Areas That Have Not Been Re-inventoried by the BLM
Some lands managed under the San Rafael RMP that are not WSAs or wilderness inventory areas have been identified by the Utah Wilderness Coalition (UWC) for wilderness designation, and legislation has been introduced into the 107th Congress (H.R. 1613 and S. 786) to designate these lands wilderness. These lands were inventoried by BLM in the late 1970s and early 1980s and were determined to lack wilderness characteristics. These areas are referred to as citizen wilderness proposal areas.

In the summer of 2001, the Southern Utah Wilderness Alliance (SUWA), on behalf of the UWC, submitted "new information" on the wilderness character of seven areas totaling 381,905 acres. In their submission they requested that this Route Designation Plan assess the wilderness qualities of these areas. The information in the submission was carefully reviewed by BLM personnel who found that almost two-thirds of the acreage in the SUWA submission was found to be outside the "limited to designated roads and trails" OHV category area that is the main

subject of this EA. Most of these wilderness proposal lands are included in OHV areas categorized as “open” or “closed” in the San Rafael RMP, or are State managed land and are not addressed further in this analysis. However, 48,500 acres involving portions of two citizen proposal areas are within an OHV category of “seasonally limited". This category limits vehicle use to designated roads and trails for one month each year - during proghorn antelope fawning from May 15 to June 15. There are approximately 21 miles of routes in this area. Appendix 3 (Table 3) lists the citizen proposal area, acres, and miles of routes in this “limited” category. Except for the one month that vehicle use is restricted, these 48,500 acres are in an “open” category, which is not a subject for this EA.

The remaining one-third of the acreage in SUWA’s submission comprising all or portions of the 7 citizen proposal areas is within the year-round “limited” OHV category lands. These comprise approximately 108,718 acres or 11 percent of the year-round "limited" areas. There are approximately 99 miles of routes available for motorized access in these areas. Appendix 3 (Table 3) lists the citizen proposal, acres, and miles of routes in the "limited" category. Levels of motorized use are currently low in the citizen wilderness units. However, BLM specialists believe that recent additional restrictions being imposed on other public lands in the region have displaced some users, resulting in an increase of motorized vehicle travel on routes, as well as cross-country OHV activity within the citizen wilderness proposal areas.

At this time, it is not practicable for BLM to review the new information to determine whether or not there is a reasonable probability the lands within seven citizen proposal area may have wilderness characteristics. This is due to the need to complete this Route Designation Plan in a timely manner to protect the health of the land. However, the information provided by SUWA on these areas will be assessed in conjunction with development with the upcoming Price Field Office RMP. If it is determined that there is a reasonable probability that these areas may have wilderness character, they will be considered for possible WSA establishment at that time. Although no determination of wilderness character has actually been made, for the purposes of this analysis it is assumed that there is a reasonable probability that wilderness character may exist on the proposed lands within the “limited” category. Thus, Chapter 4 analyzes the impacts of route designation on the alleged wilderness character.

In addition to the 7 citizen proposal areas, there are other lands within the "limited" OHV category area that have been identified by the UWC for wilderness designation. At this time, there is no new significantly different information that would compel BLM to reconsider the wilderness character of these lands or to believe that there is a reasonable probability that the lands may have wilderness character, and they are not addressed further in this document.

Trail guides for OHVs, local information, and other data on the San Rafael Swell have recently been published in national magazines, local newsletters, and through other sources. This information has lead to an increase in places to travel by OHVs, many in WSAs, wilderness inventory areas, and citizen proposal areas, that were formerly not known except by a few. BLM has also fielded numerous requests for information on locations people had heard about but didn't know how to find.

WILD AND SCENIC RIVERS

The San Rafael RMP placed nine wild and scenic river segments within the "limited" OHV category (San Rafael RMP, pgs. 87-89). Six of the segments are along Muddy Creek and three segments are along the Green River. Tentative classifications of "wild" or "scenic" were given to each of the nine segments in accordance with the Wild and Scenic Rivers Act. Three of the segments were determined "wild" and the others were determined to be "scenic". A "wild" classification represents "vestiges of primitive America" and are "generally inaccessible" (WSRA). A "scenic" classification is "largely primitive,...but accessible in places by roads" (WSRA). Management activities are not allowed to damage the existing classification.

Of the nine river segments, current OHV use in two of them is of concern. Segment 6 (mile 30 to the Emery County boundary) of Muddy Creek, which was given a tentative classification of "scenic", is currently receiving seasonally heavy OHV traffic in the creek bed and its associated floodplain. The OHV use follows the creek through the San Rafael Reef. Approximately 5 miles of the route goes through Muddy Creek flows in the "limited" OHV category area. The 1989 San Rafael Final EIS/ Proposed RMP (Appendix J, pg. A-90) found "faint remnants of a washed out jeep track," and that "the jeep trail no longer receives any use". In addition, according to "*Castle Country OHV Association*", volume 1, issue 1, "there are about 31 crossings of the Muddy in a 6 mile distance". Continuation of OHV use could jeopardize the tentative classification of "scenic" on this segment.

Segment 2 (miles 96 to 76) of the Green River was given a tentative classification of "wild" in the San Rafael RMP. Although there was an old historic trail that used to exist to an area known as June's Bottom on the Green River, the 1989 San Rafael EIS/RMP found that "no human intrusions are found until Hey Joe Canyon". This would infer that the historic trail had rehabilitated and was no longer evident. Recent OHV guide books and a popular magazine have publicized a cross-country route across slickrock to access the Green River at June's Bottom. As a result, OHVs are now accessing June's Bottom, and the eight and one half mile route is noticeable in this area. This use is jeopardizing the tentative classification of "wild" on this segment of the Green River.

PRIVATE LANDS

There are numerous parcels of private lands that border the "limited" OHV category area lands. These parcels are primarily located along portions of the Green and San Rafael Rivers. Many of the private land parcels do not have public access routes to them, while other private land parcels are accessed by routes that go through the "limited" OHV category area lands. In order for a private landowner to have guaranteed access across public lands to private land, a right-of-way (ROW) for the requested access can be granted by the BLM. In this area, most private land owners who access their properties via public land have not applied for ROWs, and merely rely on the existing routes crossing public land for access.

WILDLIFE HABITAT

The "limited" OHV category area provides habitat for many species of vertebrates, most of which are mentioned in the San Rafael RMP. Some animals are migratory through the area, others are year-round residents, and still others use the land as seasonal habitat. Protection and/or enhancement of crucial wildlife habitat - specifically in bighorn sheep lambing areas, deer and elk winter ranges, and antelope fawning areas - was a key consideration for designation of the "limited" OHV category during the San Rafael RMP (pgs. 73, 90-91).

Although the "limited" OHV category area contains several small mammals (coyotes, cottontail rabbits, black-tailed jackrabbits, antelope ground squirrel, rock squirrels), birds (horned larks, meadow larks, swifts, and swallows), and other game species (black bear, and mountain lion), none of these mammals or birds were a factor in ascertaining the "limited" OHV category determination in the San Rafael RMP. Although some small mammals, reptiles, and birds suffer mortality from collisions with vehicles, the impact from collisions of OHVs to any specific species as a whole is immeasurable and not considered significant. Therefore, these species are not an issue for analysis in this EA.

The San Rafael Wedge (approximately 20,000 acres) has become a destination for many visitors to the San Rafael Swell, and increased visitation in this area has created resource conflicts that required BLM to limit OHV activity in the area. An emergency closure that limits vehicles to designated roads has been in effect since February, 1992 (Appendix 1).

Desert Bighorn Sheep

Desert bighorn sheep were transplanted into the San Rafael Swell in 1983. Since that time, sheep numbers have increased, and the populations continue to be in a stable to upward trend. Current populations are estimated at more than 900 animals, and are stable to increasing. They have expanded their habitat within the Swell, and the habitat appears to be in very good condition. Of the 565,000 acres of bighorn sheep habitat in the San Rafael Swell, the Utah Division of Wildlife Resources (UWDR) has identified 98,000 acres of crucial year-long habitat for desert bighorn sheep (Map, FEIS/PRMP pg.70). This acreage has been placed in the "limited" OHV category area in the San Rafael RMP. Desert bighorn sheep primarily live among steep, rocky slopes where they have escape cover from predators and other disturbances. Crucial habitat is found throughout the San Rafael Reef and Swell where conditions are conducive to their habitat requirements. An extremely important time in the life cycle of the bighorn sheep is from April 15 to June 1, during lambing season.

Studies have demonstrated that disturbance and harassment caused by human recreation activities such as OHV traffic and hiking affect bighorn sheep. Sheep are particularly susceptible to disturbance during the spring lambing period because the ewes are near water. These water sources are often favorite areas for recreationists to visit. The Mountain Sheep Ecosystem Management Strategy in the 11 Western States and Alaska (Sept 1995), which applies to all native sheep species, listed harassment caused by human recreation activities as the third most commonly mentioned factor affecting sheep. Human disturbance causes stress-related problems that result in disease and lowered reproductive rates (Buechner 1960). Disturbance,

including noise, from recreational activities can cause the sheep to avoid areas, reduce the habitat available to them, lead to mortality of lambs from falls, and possibly reduce the use of water sources.

The majority of bighorn habitat is contained within, or borders, on the seven WSAs within the "limited" OHV area. Until the WSA Emergency Closure in March 2000 (Appendix 1), human disturbance by OHVs, especially within several canyons within the bighorn sheep habitat, had been increasing. Some of the canyons closed in the Sid's Mountain WSA included Cottonwood Canyon and Mesquite Wash. However, North and South Coal Washes, which runs through crucial habitat, remains available for use by OHVs. Another area where conflicts occur between motorized users and bighorn sheep is along the single tract of the Lone Man Draw Trail near Temple Mountain. This is a popular motorcycle trail that goes through crucial habitat. Desert bighorn sheep can tolerate some disturbance, but continued frequent disturbance can cause them to avoid an area (Monson, 1981; Schmidt, 1978). This impact varies according to topography, vegetation, amount and type of vehicle use.

Mule Deer and Elk

Large concentrations of wintering mule deer and elk use areas east of Highway 10 in the eastern foothills of the Manti Mountains. Crucial winter habitat has been designated for both species in this area and consists of wintering areas where high-density use occurs. This habitat area is also a highly productive coal-bed methane gas area with many actively producing wells and the potential for others to be developed. Permitted access to the coal-bed methane developments has required the construction of routes into relatively unroaded areas. These industry roads are open to motorized travel unless posted or gated for closure, and some closures have occurred due to crucial wildlife concerns or road conditions. The coal-bed methane roads are continually changing, and therefore, the maps in this EA are only a current depiction of the existing road base at a point in time. Industry roads are permitted under BLM authority and are therefore, not subject to designation or non-designation in this Route Designation Plan.

Of the 36,000 acres of mule deer winter range, approximately 20,000 acres is designated crucial habitat (Map, FEIS/PRMP pg. 73), and falls within in the "limited" OHV category area from December 1 to April 15 in accordance with the San Rafael RMP. The area provides crucial winter habitat for approximately 5,100 mule deer. Habitat conditions are fair to good. During the winters of 1992 and 1993, mule deer populations steeply declined due to severe winter conditions. Although mule deer populations are stable to increasing in the area presently, they have not met the goal numbers established by the UDWR since those harsh winters.

Of the 13,900 acres of elk winter range, approximately 1,500 acres is crucial habitat (Map, FEIS/PRMP pg. 74), and has been placed in the "limited" OHV category area from December 1 to April 15. The area provides crucial winter habitat for approximately 560 elk. Elk numbers appear to be stable to increasing, and the population appears to be in a slightly upward trend. Habitat conditions are fair to good.

The primary concern for mule deer and elk is displacement effects from OHV activities.

Displacement of big game (mule, deer and elk) has been documented by various studies, including Rost and Bailey (1979), Ward et al. (1980), and Lyon (1985) . These studies suggest disturbances associated with human activities and traffic on roads reduces the use of habitats by deer and elk near the activities. The distance the animals in the studies moved away from the disturbance ranges from about 660 feet (200 meters) for deer to more than 2,600 feet (800 meters) for elk. The actual distance the animals moved to avoid vehicular traffic and other human activities was influenced by topography, the presence of vegetation that screened the disturbance, the intensity of the activities or disturbance, speed of traffic, and the amount of out-of-vehicle activity. Given time, both species would eventually habituate to the ongoing OHV use, and avoidance areas would be reduced.

Because some local communities such as Huntington and Castle Dale lie within the vicinity of coal-bed methane development, the new access has subsequently increased OHV use and unauthorized cross-country travel on public lands near these communities. In effect, some public lands adjacent to and near the local communities have become “close to home” OHV playgrounds. During the winter months, local residents drive throughout the crucial habitat area to “watch” the herds, often causing displacement from the habitat near the routes. This displacement often results in overcrowding of the remaining habitat. Sometimes the elk and deer remain on the winter range on the National Forest or move below the disturbances to agricultural land. This overcrowding causes an increase in competition for space and forage, an increase in the animal’s stress, and a decrease in the animals physical condition. Winter mortality may increase and successful reproduction may decrease as a result of this disturbance.

Pronghorn Antelope

Of the 587,000 acres used by pronghorn antelope in the San Rafael Swell and Desert, approximately 150,000 acres has been designated as crucial habitat for antelope and is placed in the “limited” OHV category area in accordance with the San Rafael RMP (Map, FEIS/PRMP pg.71). Crucial habitat is defined as fawning areas utilized by the antelope. The San Rafael RMP has restricted motorized vehicle to designated routes from May 15 to June 15 during their fawning season. Two populations of antelope exist, one north of I-70 along the northern edge of the San Rafael Swell, and the other in the San Rafael Desert. The population north of I-70 appears to be in stable condition, while little information is available about numbers for the San Rafael Desert population. Habitat condition is considered good to excellent for both populations.

The San Rafael RMP states that crucial habitat was designated in a "limited" OHV category during fawning season because "Development activities and ORV use without special or seasonal conditions could cause the direct loss of 100 animals or could displace antelope from at least 340 acres of habitat (340 acres is thought to be a conservative estimate)." (San Rafael Draft RMP/Draft EIS, pg. 4-14)

The North San Rafael Swell Habitat Management Plan states on page 42 “The popularity of the area for spring recreation (camping, hiking, motorcycling, etc.) represents another conflict to wildlife. Such activities can result in disturbance to wildlife during sensitive periods (i.e.

fawning - from May 15 to June 15)." Antelope lambs spend the first two weeks of their life in hiding, thus they have limited mobility and are subject to harassment by human activity. The lambs do not move unless forced, and OHVs may cause direct mortality by running them over. One of the greatest limiting factors for the antelope populations is precipitation with its resulting free water for drinking and flush of forb growth for needed nutrition. Antelope lambs that manage to survive in low precipitation years are subject to stress from low nutrition. Anything that adds to this stress, such as disturbance from OHV activities, could result in the mortality of the lambs.

SPECIAL-STATUS SPECIES

The management objective for special-status species in the San Rafael RMP (pg. 73) is, " To protect and conserve all officially listed and candidate plant and animal species and their habitats as provided by law and to increase animal and plant population where opportunities exist." Numerous species that have a special-status designation associated with them are within the "limited" OHV category area. This special-status designation includes:

- species listed as threatened or endangered, proposed for listing as threatened or endangered or considered as a candidate for listing by the U.S. Fish and Wildlife Service
- species listed as sensitive by the BLM (same as State of Utah listed species).

Fifty-nine sensitive status species of plants, birds, mammals, fish, and reptiles were reviewed for potential of occurring within the "limited" OHV category area. Twelve were determined not to occur in the area, while 26 of the species were determined not to be impacted by the proposed action or alternatives. Appendix 4 lists the species that do not occur, and those that are determined not to be impacted by this action; with reasoning behind the determinations. These species are not discussed further in this analysis.

Twenty-one species were determined to be potentially impacted by the proposed action and alternatives and are analyzed in this document. Of these 21 species, three are listed by the U.S. Fish and Wildlife Service (USFWS) as endangered, five as threatened, and one as candidate. In addition, the BLM and the State of Utah list 12 as sensitive species. Table 3.1 provides a list of the species, the sensitive species category they are in, and their scientific name. A brief discussion of existing conflicts with OHVs follows. More specific species information is available in the EA file.

Table 3.1 Potentially Affected Threatened, Endangered, Candidate, and BLM Special Status Species

COMMON NAME	STATUS*	SCIENTIFIC NAME	OCCUR**
Plants			
San Rafael cactus	FE	*Pediocactus despainii*	2
Wright fishhook cactus	FE	*Sclerocactus wrightiae*	2
Jones cycladenia	FT	*Cycladenia humilis var. jonesii*	2
Maguire daisy	FT	*Erigeron maguirei*	2
Winkler cactus	FT	*Pediocactus winkleri*	2
Last Chance townsendia	FT	*Townsendia aprica*	2
Silver milkvetch	BS	*Astragalus subcinereus var. basalticus*	1
Creutzfeldt-flower	BS	*Cryptantha creutzfeldtii*	2
Mussentuchit gilia	BS	*Gilia tenuis*	2
Low hymenoxys	BS	*Hymenoxys acaulis (depressa)*	2
Entrada skeletonplant	BS	*Lygodesmia grandiflora var. entrada*	2
Utah phacelia	BS	*Phacelia utahensis*	1
Jones indigo bush	BS	*Psorothamnus polyadenius var. jonesii*	2
Psoralea globemallow	BS	*Sphaeralcea psoraloides*	2
Birds			
Mexican spotted owl	FT	*Strix occidentalis lucida*	2
Burrowing owl	BS	*Athene cunicularia*	1
Ferruginous hawk	BS	*Buteo regalis*	1
Yellowbilled Cuckoo	FC	*Coccyzus americanus occidentalis*	1
Common Yellowthroat	BS	*Geothlypis trichas*	2
Blue Grosbeak	BS	*Guiraca caerulea*	1
Mammals			
Black-footed ferret	FE	*Mustela nigripes*	1

*FE - Federally Endangered Species, FT - Federally Threatened Species, FC - Federal Candidate Species, EX/FE -Experimental Population, BS - Bureau Sensitive Species

** Occurrence in the "limited" OHV category area

1. Potentially-suitable habitats occur or may occur in the "limited" OHV category area. However, the species' presence has not been confirmed or documented.
2. Potentially-suitable habitats are present in the "limited" OHV category area and the species' presence in or near the "limited" OHV category area has been confirmed and documented

Plants: The 14 plant species listed in Table 3.1 are potentially being impacted by OHV cross-country use. These plants are being crushed by tires, and there is a potential loss of habitat because of denuding from crushing and soil compaction from OHV travel. Currently, cross-country OHV use, due to lack of signing in certain areas, exacerbates the potential impacts to sensitive plant species.

Many of the routes in the special status plant species habitat area tend to be narrow roads or two tracks that have room for only one vehicle. Use of the existing routes that traverse these plants' habitat subject the plants to being crushed by vehicles that pull off the route to park or pass other vehicles. Mortality to San Rafael cactus, Winkler cactus, Wright fishhook cactus have been documented from OHV use, primarily from cross-country travel and vehicle traffic that has left the road to park or pass other vehicles. These plants are particularly susceptible to damage from vehicle tires.

Approximately 20 miles of routes in North Coal Wash, South Coal Wash, Eva Conover trail, and the Devils Race Track in Sid's Mountain WSA go through threatened, endangered or sensitive species plant habitat and several populations have been found near inventoried routes.

Birds: Six bird species listed as endangered, threatened, or Bureau sensitive occur in the "limited" OHV category area and are potentially impacted by OHV activities. The species that are most affected by vehicles are those that nest on the ground, nest in riparian vegetation, or are susceptible to disturbance near their nests. Ground nesting species would include ferruginous hawks and burrowing owls, and are primarily impacted by cross-country OHV activity. The ferruginous hawk is easily disturbed when setting on a nest and could be driven from a nest site by OHV activity. This could cause the loss of nestlings and possibly cause the birds to abandon that nesting area. There are only two known nest sites for ferruginous hawks within the "limited" OHV category area; however they are not near existing routes. These nests are presently inactive. Burrowing owls tend to use prairie dog towns for their nesting burrows, and at least one large population of prairie dogs exists within the “limited” area.

Four of the sensitive bird species depend on the riparian vegetation for at least part of their habitat requirements: the Mexican spotted owl, yellowbilled cuckoo, common yellowthroat, and blue grosbeak. They are all known to occur in the "limited" OHV category area. There is no designated critical habitat for the Mexican spotted owl identified in the “limited” OHV category area; however, there is evidence that the owl may nest in the area. The U.S. Fish and Wildlife Service lists riparian vegetation as one of the primary constituent elements in the owl’s habitat. Presently there are approximately 30 miles of roads in and through riparian areas that are being used, often year-round, by OHV enthusiasts.

Mammals: Only one Federally listed mammal species, the black-footed ferret, may potentially occur within the “limited” OHV category area; however, there has been no recent documented sighting of this species. The black-footed ferret depends on prairie dog towns for its food and shelter. Vehicles that currently are driving cross-country have the potential of affecting black-footed ferrets and prairie dogs by caving in their burrows. This could result in reducing the number of prairie dogs available as a food source for ferrets, as well as result in direct mortality to the ferrets. The same situation would occur to those burrows that are located on seldom used OHV routes.

RIPARIAN HABITAT

A goal of the San Rafael RMP (pgs. 73, 91-92) is to protect riparian vegetation by reducing surface disturbance, preventing soil erosion, and stabilizing critical soils where possible. BLM’s 1987 policy statement on riparian management defines a riparian area as “an area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lake shores and stream banks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent on free water in the soil.” A number of areas have previously

been classified as riparian because of the presence of some riparian vegetation such as cottonwood trees or tamarisk. General information on riparian systems is available from ecological inventories that have been completed in the past. Most riparian areas in the "limited" category are found to be in proper functioning condition.

There are numerous streams, rivers, and other watercourses that run through the "limited" OHV category area. Approximately 12,430 acres of riparian vegetation lies within these streams, rivers, and other watercourses. Several miles of the streams do not contain riparian habitat because of steep cliffs or bluffs meeting the stream or course edge, precluding any riparian vegetation. Not all riparian areas support aquatic habitats, but permanent pools are scattered along most drainages, and perennial streams also provide permanent aquatic habitats. Recreationists tend to concentrate their use in riparian areas. Routes are often located in riparian areas in canyons and drainage bottoms to avoid the more difficult uplands. There are approximately 27 miles of existing inventoried routes in riparian stretches in the "limited" OHV category area. Most of these routes cross the riparian zones with only a few following along the contiguous riparian stretches. Use of these routes, as well as cross-country use in riparian areas, causes loss of riparian vegetation, breaks down streambanks, and leads to erosion problems. There are also numerous washes within the "limited" OHV category area that do not support riparian vegetation, and merely provide a channel for water during storm events. Again, many OHV routes follow wash bottoms due to ease of access.

A popular OHV route runs up the wash bottom of Coal Wash in the Sid's Mountain WSA. Portions of the Coal Wash have relict riparian vegetation that has established deep root systems while surface water is limited to runoff events. In many cases this riparian vegetation is on the banks or away from the wash with little or no riparian vegetation occurring in the dry wash. The wash is characterized by a wide sandy bottom and scouring from major flood events collected from the slickrock surroundings. This scouring has removed much of the vegetation in the wash bottom. The riparian vegetation is evident only where water comes close to the surface and generally on the banks away from the scouring major events.

There is another popular OHV route that goes through the riparian area of Muddy Creek where it goes through the San Rafael Reef (from the Hidden Splendor Mine to the Emery County boundary). This creek contains riparian vegetation throughout the length of its course. The OHV route is within the riparian area of the creek bottom, and actually crosses the creek numerous times within the five mile segment on public lands. The use of OHVs has removed riparian vegetation and broken down the creek banks. This has exposed the creek bottom and creek banks to accelerated erosion. BLM has classified this riparian area as "functioning at risk" due to the condition of the riparian vegetation.

NONNATIVE, INVASIVE PLANT SPECIES (Weeds)

Nonnative invasive species includes all federal, state and county listed noxious weeds. The BLM Price Field Office and Emery County work cooperatively under a

Memorandum Of Understanding to detect, prevent and eradicate noxious weeds. The Eastern Utah Noxious Weed Inventory (1997-1998) and Emery County Weed Inventories have identified the following noxious weeds on public lands within the "limited" OHV category area:

Broad-leaved Peppergrass (*Lepdium latifolium*)
Whitetop (*Cardaria draba*)
Musk Thistle (*Carduus nutans*)
Russian knapweed (*Centaurea repens*)
Purple Loosestrife (*Lythrum salicaria*)
Salt cedar or Tamarisk (*Tamarix ramosissima*)
Russian Olive (*Elaeagnus angustifolia*)
Buffalo Bur (*Solanum rostratum*)

Natural vectors such as wind, flowing water, native wildlife, and anthropogenic vectors such as livestock, hikers, OHVs and agricultural equipment move seeds into and throughout native plant communities (Roche, Rosenstreter). OHVs are one source of seed spreading for weed species. Seeds from these weed species are often carried in the radiator, undercarriage, within tire treads, and/or are attached to OHVs by mud and other means. These seed sources fall from the vehicles and are often able to establish in areas where the species did not exist prior to the OHV event. In addition, cross-country travel by OHVs creates soil disturbance, often allowing weed species to spread and germinate.

WILD HORSES AND BURROS

Under the Wild Horse and Burro Act of 1971, three wild horse and burro herd management areas (HMAs) were established in the San Rafael Swell and Desert areas, 80 % of which fall into the "limited" OHV category area. Management of wild horses was not a criteria used to create the "limited" OHV category in the San Rafael RMP (pg. 36; Map FEIS/PRMP pg.42). The combined appropriate management level (AML) for the three HMAs are 125 wild horses and 70 wild burros. Every four years or so, wild horses and burros are captured and removed from the HMAs to keep animal numbers at or below the AML. Habitat for the horses and burros is in good condition, and herd numbers increase yearly. Routes throughout the "limited" OHV category area are used by BLM personnel and the general public to access wild horse and burro HMAs.

P. L. 86-234 (1959) prohibits the use of aircraft or motorized vehicles to harass or capture wild horses or burros. FLPMA and the Wild Horse and Burro Act prohibit the harassment of wild horses and burros. Although violators have not been apprehended recently, there have been numerous reports of illegal chasing and capturing of wild horses and burros. These violators are accessing the HMAs with OHVs and stock trucks and trailers on routes within the "limited" designation areas. Such harassment activities, in combination with other factors, may lead to effects on the reproduction rate of wild horses and burros through abandonment of newborn foals or unborn foal

abortions due to chasing.

CRITICAL SOILS

The San Rafael RMP provides a goal to protect highly saline soils or soils highly susceptible to erosion by maintaining as much vegetative cover as possible. Critical soil boundaries were based on unpublished SCS (Soil Conservation Service) soil surveys. Within those boundaries, BLM has agreed to limit surface disturbing activities (San Rafael Proposed RMP/EIS Vol II, pg. 2-68). The term "critical soils" is a designation used to identify soils which pose salinity problems to the Colorado River drainage and/or are very highly susceptible to water erosion. Of all acres which fall within the "limited" OHV category, 450,651 acres or an estimated 40 percent are within the critical soil areas. This classification is based on salinity and erosion susceptibility factors.

Currently the Bureau of Land Management uses a mix of several partial surveys of various accuracies and extrapolations to map out soil association mapping unit boundaries. Lack of a completed county soil survey restricts the use of soil loss equations, such as RUSLE (Revised Universal Soil Loss Equation) or WEPP (Water Erosion Prediction Project) to provide estimated soil loss amounts.

There are currently 87 recognized soil series represented in Emery county. These soils have been derived primarily from sedimentary rock. Much of this sedimentary rock is in the form of marine shales. As a result of their parent material, such soils tend to be highly saline heavy clays. Most vegetation is not well adapted to such soil. The arid climate (6 to 12 inches of precipitation per year (ppt/yr)) and saline soils (salts naturally occurring in the soil) of the San Rafael are other hindrances to vegetation growth. Lack of vegetation cover, fine silty soils, steep slopes all combine to form some highly erosive soils. The salts are released as the soil erodes. Factors such as slope, vegetation, cryptogamic cover, soil type (termed 'series') and water runoff all affect the amount of erosion. Erosion is then accelerated with the contribution of manmade surface disturbances, such as those from OHVs. Erosion is a natural and necessary process which goes on without man's help. It is the management of accelerated erosion of critical soils that is the emphasis of the San Rafael RMP, however all soils can and do erode given the right circumstances. Data are lacking to determine soil erosion amounts for the "limited" areas.

Soil compaction occurs as a result OHV use, among other things. Such compaction creates soils which are less permeable to water and air infiltration, both which are needed to nourish plant roots and soil microbes. (Eckert, Peterson, Wood, Blackburn, 1977) Compaction occurs when the air spaces between soil grains are compressed by the weight of vehicles and the churning tires. In addition, it crushes and kills microrrhiza (soil fungi) which also are needed to provide nutrients to plant roots (Palmer, L. 1994).

Where vegetation fails to thrive, microbes often do. These microbes are made up of bacteria cyanobacteria, fungi, and green algae. In addition lichens and mosses often grow in this mix of microbes to form a protective surface crust. Such soils are called by a myriad of names, such as: cryptobiotic, cryptogamic, and microbiotic, among others. Studies have shown that they help to

prevent erosion. The microbes exude substances which hold the sand particles together and expand when wet to allow water to infiltrate soil below the crust. Trampling by animals, humans, or wheeled conveyances can destroy them. They could many takes years to reestablish.

WATER QUALITY - SURFACE HYDROLOGY

Soils and vegetation (both upland and riparian) are essential components of proper hydrologic function. The mechanisms by which undesirable effects on water quality occur are discussed for purposes of better understanding of those mechanisms.

All of the OHV "limited" area is in arid (desert or semi-desert) climate. Average annual precipitation ranges from 4-6 inches in the Green River Desert (the eastern part of the area) to 10-12 inches in the higher elevations of the San Rafael Swell according to National Weather Service (NWS) reports. Information for these reports is limited to that collected from NWS cooperative stations located in the towns of Green River, Huntington, Ferron, and Castledale. Most of the OHV "limited" area is between these weather stations, leaving large areas officially unmonitored. Year-round precipitation data has been collected by BLM at two additional locations within the OHV "limited" area. Although general climate is similar throughout the OHV "limited" area, precipitation varies in quantity and intensity according to elevation and aspect. (Hydrologic Inventory of the San Rafael River Basin, Utah Division of Water Resources, Jan 1976). Most of the region has an evaporation rate which exceeds rainfall by a factor of three or more. On average, the OHV "limited" area evaporates 50 inches of water per year (Climate of the San Rafael Resource Area, Science Applications, Inc. Jan.1980 - draft report p.83). Soil types (see previous section, this EA) are such that the infiltration rate is quickly exceeded by the intense short duration late summer storms which are the predominant source of precipitation.

Rapid surface run-off with little or no direct aerial recharge to local aquifers is a normal condition throughout the OHV "limited area. Instead, ground water recharge is accomplished primarily by water movement through soils in ephemeral washes during precipitation events, and by infiltration from perennial streams. Some of this ground water resurfaces as springs and seeps according to local geology. Springs and seeps are commonly found along wash bottoms where shallow bedrock or clay soils are encountered. These areas typically support intermittent reaches of channel with riparian habitat, some of which are also important watering sources for wildlife and livestock. Currently, there are approximately 55 miles of wash bottom/stream channel being used as motorized travel routes in the OHV "limited" area which contain areas of intermittent flow. The remaining portions of the ephemeral stream channels do not typically rely on riparian vegetation for stable hydrologic function. There is a 6 mile section of route in the Muddy Creek channel, which is perennial and dependant on properly functioning riparian vegetation for stability.

The entire OHV limited area is within the West Colorado River Basin Management Unit, as defined by the Utah Division of Water Quality. The OHV limited area covers parts of

four sub-basins, which are identified by Hydrologic Unit Codes (HUCs) as follows: 14060009 San Rafael River sub-basin; 14060008 Green River sub-basin; 14070002 Muddy Creek sub-basin; and 14070004 Dirty Devil River sub-basin. All four of these sub-basins are primary or secondary tributaries to the Colorado River, which is managed under the Colorado River Salinity Control Act (CRSCA).

The San RMP (p.70) establishes management objectives for soil, water, and air management. Relevant to this section are "to maintain or improve...water quality..., and to improve watershed conditions..." and " to improve water quality in areas exceeding water quality standards". Water quality concerns related to public land use is widely understood to be primarily associated with soil erosion. The RMP prescribes general management guidance to "...manage actions on the public lands to protect the soil resource, ...manage the soil resource to maintain or increase soil productivity, prevent or minimize accelerated erosion, and prevent or minimize flood and sediment damage, as needed."

The CRSCA includes provisions for cooperative interstate/interagency efforts to reduce sediment and salt loading (measured as Total Suspended Solids (TSS) and Total Dissolved Solids (TDS)) in the Colorado River Basin. The San Rafael and Dirty Devil Rivers and Muddy Creek are all transporting excess levels of TSS and TDS. Each of these three waterbodies are identified in Utah's 2000 Clean Water Act 303(d) submission to Congress (entitled, "Utah's 2000 303(d) List of Waters") as not supporting all designated beneficial uses of water. This is based on routine water quality monitoring results from a few testing locations along the perennial streams. Many of the tributary watersheds within these three sub-basins are ephemeral and have not been monitored or tested for water quality. Further, the lack of continuous site specific precipitation data prohibits precise tracking of sediment transport out of watersheds within the OHV "limited" area. No erosion rate or sediment loading studies have been done within the OHV "limited" area. Therefore, it is not presently possible to separately quantify the contribution of pollutants from a singular activity such as OHV use.

The effects of unmaintained routes on hydrologic processes have been studied, and there are established methods of estimating soil loss where certain hydrologic processes occur, such as gullying. Increase in soil loss due to gullying could be estimated by measuring gully width, depth, and length and the rate of annual increase of these dimensions if enough data were available. Gullying could be considered one of the major preventable soil loss conditions occurring in the OHV "limited" area. Generally, road surfaces could lose 6 times more sediment to the drainages than undisturbed surface. This varies widely according to soil properties, slope, and other factors. (Verbal communication, Gary Rader, Chief Soil Scientist, Price NRCS). In 1977, BLM published a status report called "The Effects of Surface Disturbance on the Salinity of Public Lands in the Upper Colorado River Basin". On page 105 of this report sources are cited which found OHV use to increase sediment loading in watersheds between 50 and 500%. Many factors can influence this range.

The most recent comprehensive study of roads and their effects on public land resources available for reference is the May 2001 U.S. Forest Service report USDA

PNR-GTR-509. According to this report (pp.16-20), roads have three primary effects on hydrologic processes. Two of these primary effects may apply to the landscape found within the OHV "limited" area. These two are surface water effects summarized as: 1) the concentration of flow either on the road/trail surface or in adjacent ditches, and 2) the diversion and concentration of water from one or several watersheds into another, usually into a single drainage.

Both of these primary effects have associated secondary effects which are commonly found throughout the OHV "limited" area. The first, concentration of flow on route surfaces, often scours soil off of the route surface at an increased rate. Good examples of this can be seen in the Sinbad area south of I-70, where routes have been scoured 1-2 feet below the surrounding land surface. Gullies can also form as a result of headcutting action by water pouring onto a route from natural drainage pathways that are elevated above the route, as is the case wherever routes are actively scouring lower and lower with each event. Such is the case with observed OHV "branch" routes off of the Buckhorn Wash road into the campsites along the upslope sides of the road. Another example is the route into Dutchman's Arch, just north of I-70 near mile-marker 123. Approximately 1,000 yards of this route has eroded so severely by rutting and head-cutting that it is unusable. Consequently, motor vehicle operators have created further disturbance by making a by-pass route around the unusable section. Such conditions are commonly observed throughout the OHV "limited" area. Another not uncommon effect of concentrated flow is headcut gullying at entry routes into washes. North Coal Wash is one example. Where OHVs enter (or exit) washes, depressions are formed allowing water to flow in and erode. This erosion frequently progresses into an active headcut gully. In some cases, OHV users have apparently by-passed the gullies and entered the wash at another location, thereby creating one or more additional headcut gullies. This effect, again, is visible in many locations throughout the OHV "limited". An inventory to catalogue all of the specific locations where this is occurring has not been done.

The second primary effect mentioned is the concentration of flow from one or several sub-watersheds into another. This can occur where water is trapped in a route due to wheel track depressions. Water collected from small sub-watersheds follows the route until a deep enough drainage is encountered for the water to pour out of the depressions. This process causes the drainage to receive more water than would naturally occur, which in turn causes the drainage to expand its width and depth to accommodate the additional water. These effects are observed as widened or "blown" channels where improperly drained routes cross both perennial and ephemeral stream channels. This is occurring throughout the OHV "limited" area in some sections where there is a route which crosses a channel.

CULTURAL RESOURCES

The Record of Decision for the San Rafael RMP designated six ACECs, that fall within the "limited" OHV category area, for the protection of cultural values. These ACECs and their

cultural established values are: Copper Globe - historic mining use; Dry Lake Archaeological District - paleo-indian sites; Pictographs - pictographs; Swasey Cabin - historic ranching; Temple Mountain Historic District - historic mining; and portions of Muddy Creek - historic values (with special emphasis on historic values of Tomsich Butte). Additional information on these ACECs and their relevance and importance values can be found on pages 81 - 88 in the San Rafael RMP. These six ACECs make up approximately two and one half percent of the "limited" OHV category area and contain 42 miles of inventoried routes.

Cultural resources consist of (1) physical remains of past human activities, occupations, and endeavors, (2) areas where significant human events occurred, even though evidence of the event no longer remains, and (3) the environment immediately surrounding the actual resource. Cultural resources, include both prehistoric and historic remains, represent a part of a continuum of events from earliest evidences of man to the near present. It is estimated that about 46,000 sites exist in the "limited" OHV category area. The location and extent of most of the resources are unknown, and this applies to the ACECs as well. The area of this route designation plan has neither a complete cultural resource inventory nor a predictive model from which to address specific impacts of this action.

Despite limited inventory data and lack of a predictive model, there is sufficient data to suggest that site densities might average 18 sites per square mile across the study area. Known sites include lithic scatters, open occupation sites, rock shelters and rock art. The limited available data indicate that vehicular traffic and the attendant route proliferation across the area is causing impacts to archaeological and historic resources. Cross-country OHV use is occurring in many areas within the "limited" OHV category due to lack of signing and dissemination of route travel maps to the public. Impacts from motorized vehicles accrue to cultural resources through various direct and indirect mechanisms. These may include, but are not limited to, direct impacts to archaeological resources from vehicles driving across and through sites; indirect impacts from increased erosion (both altering and removing soils from sites, and potentially depositing eroded materials on other sites); inadvertent impacts to sites from recreationists gaining access to sites and impacting them through camping activities; and illegal collecting and excavation of sites facilitated by vehicular access. Although specific data are unavailable, it is clear that there are two key factors which affect the level of impacts which may accrue to cultural resources: 1) available access; and 2) amount of traffic. As available access increases through proliferation of routes, potential impacts to cultural resources increases commensurately. As volume of traffic increases, impacts rates may also climb unless mitigated through management efforts. In recent years there has been a distinct trend to route proliferation, and the assumption is that site impacts have increased proportionally.

PALEONTOLOGIC RESOURCES

The Morrison Formation (Late Jurassic) and the Cedar Mountain Formation (Early Cretaceous) are exposed on about 70,000 acres in the "limited" OHV category area. Both formations are known to produce dinosaurs and other vertebrate fossils. The Morrison Formation has been studied for 140 years, and the Cedar Mountain Formation (once thought to be devoid of fossils) recently has proven to be a rich source of new kinds of dinosaurs, other reptiles, and early

mammals. Other geologic units yield invertebrate and plant fossils, as well as petrified wood, in some locations.

The public may collect reasonable amounts of common invertebrate fossils and plants for personal use without a permit. Petrified wood, a mineral material, may also be collected in limited quantities for personal use. Vertebrate fossils are of interest not only to professional paleontologists but also to the general public. BLM policy allows their collection only by individuals with the training and experience to handle them appropriately. Fossils collected under a permit remain the property of the federal government and must be kept in an approved repository. Illegal collection is a serious problem and may result not only in the damage or loss of important specimens but also the loss of scientific information that should be collected with the specimen.

Negative effects on fossils occur from OHV use. In some areas where fossils are exposed on the surface, they have been inadvertently damaged by vehicles running over them. In other instances, vehicle tracks that are continually eroding often expose fossils to the air and elements - which causes disintegration. Unauthorized collection of petrified wood for sale and of fossil bone, although illegal on public lands, is increasing. The increased ease and speed of access to once isolated areas has exposed fossils to illegal collection by people who prefer not to be near readily visible roads. Numerous routes are located within the 70,000 acres of paleontologically significant formation outcrops. Lack of signing in this area has led to cross-country travel in some areas off of the inventoried routes.

Chapter IV - Environmental Consequences

INTRODUCTION

This chapter provides an analysis of the impacts (environmental consequences) that would result from the implementation of the four alternatives in Chapter II. An environmental impact or consequence is generally considered as a modification or change in the existing environment resulting from an action that is being taken. Impacts can be direct or indirect, temporary, long term or permanent. Impacts may also vary from minor environmental effects of a local nature or be felt on a regional scale. Cumulative impacts are also discussed at the end of this chapter.

ANALYSIS ASSUMPTIONS

In order to complete an analysis of the effects of implementing the proposed action and alternatives, the following assumption were made for purposes of this analysis:

1. This analysis applies only to OHV travel on public lands that were designated in the 1991 San Rafael RMP as limited to designated roads and trails, or "seasonally" limited to designated roads and trails;
2. The BLM will have adequate staff and resources to implement the proposed action and alternatives;
3. Non-motorized and motorized recreational uses would continue to increase in the "limited" OHV category areas;
4. Some designated routes within the "limited" OHV category area could incur widening and deepening. The amount is unquantifiable because it would depend on use patterns, geology, and soil type.
5. BLM will continue to develop and foster partnerships and cooperative efforts with the State of Utah, Emery County, and numerous organized groups and private citizens to help with visitor management, where appropriate.
6. The majority of people will willingly comply with the route designations as determined through this environmental assessment process. (This is because management under all alternatives would require signs, barricades, maps, kiosks, and public education efforts to direct users to appropriate routes available for motorized travel. In addition, routes designated as available for motorized travel would be monitored to ensure compliance with the goals and objectives of the San Rafael RMP and other applicable laws, regulations, and policy - See Chapter IV: Monitoring Plan.) Route designation and OHV compliance is further evidenced in a comment letter from the Utah Wilderness Coalition (UWC) that states: "There is a range of actions that BLM can take that has worked well in other locations on public lands. The first is to inform the public of the special values a given areas contains, the second is to post the area and monitor for compliance." (published in the Utah BLM Statewide Wilderness Final EIS, November 1990, Volume VII-A, pg. 268)
7. Cross country OHV travel and unauthorized OHV use of closed routes will never be completely eliminated. This activity has, and will always be, a part of the unresolved OHV issue. There is a small percentage of the OHV population that will continue to break laws, even if all routes are signed or the areas are closed to vehicle use. Continued monitoring efforts by BLM specialists, actions taken by BLM Rangers, use of

partnerships and the public to report such activities, and public education efforts would provide controls in curbing this unauthorized use. There is no existing solution to totally prevent such illegal activity, and simply "closing" an area to OHV use does not stop this use. The intent of this EA is not to focus on the impacts from the few that break the law, but to focus on the impacts of route designation on resources and legal recreational activities.

8. Lands within the "limited" OHV category area that are included in the new UWC submissions have a reasonable probability that wilderness characteristics exist. In addition, citizen wilderness proposal areas refer to lands outside existing WSAs and wilderness inventory areas (areas found to have wilderness characteristics in the *1999 Utah Wilderness Inventory*).
9. Many route designation signs currently placed in the Sid's Mountain WSA are temporary. Their intent is to focus OHV users onto one route instead of a myriad of braided routes in specific areas. Some of the signs would be removed once definitive route patterns are established.
10. For cultural resources analysis, the assumptions developed for the San Rafael RMP Appendix U are used. Miles were converted to acres. Acres are multiplied by 0.05, which results in a number of sites potentially affected in accordance with these assumptions. As a further assumption, direct and indirect impacts to cultural resources are directly correlated to distance from vehicular access routes, with the heaviest impacts most likely to occur in proximity to routes in actual use for vehicular travel and access. Increasing the number of available routes (through proliferation or designation) is likely to increase impacts; preventing route proliferation and/or reducing the number of routes available is likely to reduce the number of sites subject to impact.

ALTERNATIVE 1 (NO ACTION)
(See Alternative Map 4.1)

Recreation
This alternative allows OHV use on 1,074 miles of designated routes, which provides for the maximum miles of motorized recreational opportunities in the "limited" OHV category. The signing of designated routes would clarify which routes are available for motorized travel, thus curbing cross-country OHV use. Because all of the designated routes would remain available for use, many of the conflicts between motorized users and non-motorized users would continue. This would be especially true on the routes in Sid's Mountain WSA, along and behind the San Rafael Reef , and Muddy Creek. Allowing OHV use on the 25 miles of routes in the six WSAs that had been previously closed by Emergency Order, would create an environment for additional user conflicts between hikers and OHVs.

On the other hand, because cross-country OHV travel would be curbed by signs, barricades, and dissemination of travel route maps and other educational materials that reinforce the expectation of travel on designated routes, some of the conflicts between the non-motorized and motorized users would be precluded. Some non-motorized users may relocate away from areas where OHVs are present.

Semi-Primitive Non-Motorized Recreation Opportunity (SPNM-ROS) Class: This alternative would allow for the greatest amount (78 miles) of inventoried routes designated available for OHV travel within the ROS SPNM-class. Allowing this many miles of OHV use on all of the routes in the ROS SPNM-class areas would continue to conflict with the ROS class objective in some areas. This is because it would not provide a predominantly natural environment with limited evidence of human use and restrictions, or, where possible, provide an environment of isolation.

Hunting: There would be no impacts to hunting access, as this alternative would provide the most access to bighorn sheep and mule deer habitat in the San Rafael Swell.

Visual Resource Management (VRM)

Approximately 150 miles of routes would be available for travel within the VRM Class I areas. Route proliferation (including parallel routes, multiplicity of routes going to one destination, and routes that serve no known purpose) would continue to be a detracting factor in many of these areas, especially in the VRM Class I areas. However, cross-country travel would be curbed by signing and designating routes. In those areas where cross-country use was degrading the VRM class objectives, the situation would be corrected.

Additional Carsonite signs throughout the "limited" OHV category area would be required to designate routes. Although more signs would be required within the WSAs, the signs are considered the minimum tool to manage OHV use, in accordance with the IMP, and should not affect the VRM classifications. Signs placed within VRM Class I areas are not expected to exceed the class objective. This is because Carsonite signs are color selected to match the surrounding background, are thin and flexible, and are generally subtle in the landscape as a whole. In addition, many of the signs would be temporary because as compliance increases, and these signs are found unnecessary, many signs would be removed.

Areas of Critical Environmental Concern (ACECs)

With this alternative all 190 miles of inventoried routes would be designated within the 11 ACECs that fall within the "limited" OHV category area. Continued impacts with natural resource values on some of the designated routes would ensue. However, curbing cross-country OHV use within the ACECs would help preserve and protect those values for which the ACECs were designated.

Wilderness-Related Resources

Wilderness Study Areas

The appearance of naturalness within WSAs would be temporarily reduced by any signs and barricades that may be needed to keep vehicles on existing routes. Such structures would be temporary, limited to the routes, and would not affect the WSA as a whole.

Vehicular use of 71 miles of pre-existing inventoried vehicle routes within the seven WSAs would temporarily reduce the quality of opportunities for an individual to experience solitude during the period of vehicle activity. The sight and sounds of vehicles would impact a visitor's

opportunity to feel alone and isolated from the developed world.

Vehicle use on existing routes would also reduce the quality of the primitive recreation experience. The presence and noise of motor vehicles does not enhance the setting for primitive forms of recreation, like hiking, backpacking, nature study, and wildlife viewing and would conflict with the experience non-motorized users seek (quiet, physical challenge, etc.). But, as with solitude, the impacts are temporary, lasting only for the duration of the encounter.

Because the BLM would monitor motorized use of the WSAs, and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citation, and restoration), there would be no lasting impacts to wilderness values. Further, vehicle routes within WSAs would be available for motorized use only on a conditional basis; as long as there is no impairment of wilderness values, otherwise routes would be closed or otherwise limited.

All in all, because any impacts would be limited in nature and temporary, no lands within the existing WSAs would be disqualified from consideration as wilderness by Congress.

Less than 2 miles of routes would be available for motorized access within the administratively endorsed wilderness area. The types of impacts to wilderness values would be similar to those described for WSAs. Because BLM would monitor motorized use of the administratively endorsed areas and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citations, and restoration), no lands would be disqualified from consideration as WSAs by BLM or Congress.

Wilderness Inventory Areas
Under this alternative, there would be 169 miles of routes available for motorized access in the wilderness inventory areas. The types of impacts to wilderness values would be similar to those described for WSAs.

The wilderness inventory areas were recently inventoried by BLM and found to have wilderness character even with vehicle use occurring on all of the inventoried routes. Because BLM would monitor motorized use of the wilderness inventory areas, and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citations, and restoration), no lands within the existing wilderness inventory areas would be disqualified from consideration as WSAs by BLM.

Citizen Wilderness Proposal Areas
Under this alternative, approximately 99 miles of vehicle routes would be available for motorized access in seven citizen wilderness proposal areas. The types of impacts to wilderness values would be similar to those described for the WSAs and wilderness inventory areas.

The citizen proposal areas were recently inventoried by UWC, and are alleged by them to have wilderness character even with vehicle use occurring on the 99 miles of inventoried routes within the year-long “limited” OHV category of lands, and the 21 miles of inventoried routes within the

"limited seasonally" OHV category of lands. Because BLM would monitor motorized use of the citizen proposal areas, and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citations, and restoration), no lands within these areas would be disqualified from consideration as WSAs by BLM due to this alternative.

Wild and Scenic Rivers

This alternative would designate the five mile Muddy Creek route through the San Rafael reef (Segment 6) for continued OHV use, and would jeopardize the tentative wild and scenic river classification of "scenic". This is because the San Rafael FEIS documented that no use was occurring and the route through the San Rafael Reef was abandoned. Under this alternative, the BLM would not be able to protect the "scenic" classification established for this segment due to increasing OHV activity.

This alternative would also designate an eight and one half mile OHV route to June's Bottom on the Green River (Segment 2), which would exceed the tentative classification of "wild" in the San Rafael RMP. This is because a "wild" segment must show little evidence of human activity and be generally inaccessible.

Private Lands

All inventoried routes within the "limited" OHV category area that access private lands would remain available for use and would not affect the private landowner.

Wildlife Habitat

Desert Bighorn Sheep: This alternative would maximize the number of routes available for OHV use through crucial bighorn sheep habitat by leaving 52 miles of routes available for OHV use through this habitat type. Of these 52 miles, 19 miles of routes are within washes. Some of these washes contain springs and potholes that provide water for bighorn sheep, particularly for lactating ewes. Because these routes would be open on a year round basis, this alternative allows for the greatest amount of OHV harassment to bighorn ewes during the lambing period. The 36 miles of routes designated as open for OHV use in the Sid's Mountain WSA would continue to subject the sheep to frequent disturbance by vehicles. This would result in avoidance of the routes and restricted movement. It would also result in a loss of habitat bordering the roads. It could eliminate the use of an unquantifiable amount of habitat. This alternative would continue to promote conflicts between motorized users and bighorn sheep by allowing motorcycle use of the four mile single track Lone Man Draw Trail near Temple Mountain.

Mule Deer and Elk: Approximately14 miles of inventoried routes would be designated within the crucial mule deer and elk habitat. This alternative would allow the most miles of access into this crucial habitat area. Because this area is located near many of the local communities, continued use of these routes by local OHV enthusiasts is expected; however, cross-country travel would be reduced during the four and one-half month period that vehicles would be restricted due to route signing and dissemination of route vehicle maps to the public. Continued avoidance of the area around these roads could result in the reduced use of approximately 2,240 acres. This loss of habitat could cause the deer and elk to remain on the range on the Manti-

LaSal National Forest later in the winter. This could result in a reduced condition on the forest. The impact would vary according to terrain and vegetative cover that would provide visual barriers from the routes.

Pronghorn Antelope: Approximately 141 miles of routes would be designated for OHV use within the 150,000 acres of antelope crucial habitat area. This designation would only apply during the one month fawning season from May 15 to June 15. This alternative would provide the most amount of access into the fawning area and it is expected to cause the most impact to potential fawn mortality during this time. Heightened recreational use during this season would continue to attract visitors and cause stress. This could potentially impact the does' ability to feed the fawns - which could result in fawn mortality. However, there would be a decrease in cross-country use of this area due to signing and dissemination of travel route maps to the public. This would reduce the potential for fawns being run over by OHVs.

Special-Status Species

Plants: About 54 miles of routes would be designated for OHV use within the known Threatened, Endangered and Sensitive Species (TES) plant habitat. Because many of these routes tend to be narrow or are two tracks that have room for only one vehicle, the plants would continue to be crushed by those vehicles that pull off the routes to park or pass other vehicles. Those routes that provide access to closed OHV areas that contain TES plant species, would remain available for use. Collectors would continue to have easy access to these areas. This alternative would leave open approximately 19 miles of routes in Sid's Mountain WSA, and other routes within the San Rafael Swell that go through TES species habitat.

All fourteen special-status plant species would be beneficially affected by the restriction of OHVs to designated routes. The reduced surface disturbance would protect the plants from being crushed by tires from cross-country use. It would also prevent the loss of habitat because of denuding from crushing and soil compaction from OHVs travel.

Birds: Six TES bird species would be beneficially affected by this alternative. The two ground nesting species, the burrowing owl and ferruginous hawk, would benefit from the restriction of vehicles to designated routes. This is because cross-country activity on or near nest sites would not be allowed, therefore disturbance to the birds would be limited.

Approximately 27 miles of routes in the riparian zones would be designated as open for use by OHVs. This would maintain the present disturbance of the riparian habitat that the four TES bird species (Mexican spotted owl, yellowbilled cuckoo, common yellowthroat, and blue grosbeak) depend on for food or cover. However, cross-country use of riparian areas would not be allowed, thus improving the habitat for these species.

Mammals: Black-footed ferrets would be beneficially affected by designating and signing routes for use by OHVs. This would protect black-footed ferrets' and prairie dogs' burrows from being caved in from cross-country OHV use. However, those burrows that are constructed in designated routes would continue to be impacted by OHVs.

Riparian Habitat

Approximately 27 miles of routes that are within riparian stretches would be designated for OHV use. This would allow for continued loss of riparian vegetation, breakdown of streambanks, and subsequent erosion problems. However, because of signing and dissemination of route travel maps, cross-country use of riparian areas would discontinue, and should improve some of the erosional problems.

The popular OHV route that runs up the wash bottom of Coal Wash in the Sid's Mountain WSA would continue to be designated for OHV use. Because the wash bottom has minimal riparian vegetation, OHV use is not expected to impact the riparian system of the Coal Wash.

The popular OHV route that goes through the riparian area of Muddy Creek where it goes through the San Rafael Reef (from the Hidden Splendor Mine to the Emery County boundary) would continue to be designated for OHV use. The use of OHVs along this route would continue to remove riparian vegetation and break down creek banks, causing subsequent accelerated erosion.

Nonnative, Invasive Species (Weeds)

All inventoried routes would remain open for use. OHV travel along 1,074 miles of existing inventoried routes would continue to pose a threat of spreading nonnative, invasive species. Because this alternative provides the most miles of access routes, more opportunities for seed spread could occur. Cross-country travel would not be permitted, thus eliminating new disturbance that could be susceptible to nonnative species invasion.

Wild Horses and Burros

This alternative would create the most opportunities for wild horse and burro harassment because there are 274 miles of inventoried routes within the HMAs in the "limited" OHV category area that would be available for use. This alternative would also provide the maximum viewing opportunities for the recreating public who use OHVs for such activity. In addition, routes outside of the "limited" OHV area, but still within the HMAs, would remain available for use, and would still provide some limited viewing opportunities, as well as opportunities for continued wild horse and burro harassment. However, harassment and use of OHVs to view horses and burros, is not expected to affect the present management of wild horses and burros within the HMAs.

Critical Soils

To estimate the annual total loss of soil due to erosion is impossible. There are too many variables (soils, slopes, vegetation, precipitation events, uses), too large a scope, and too little data or site specific research. However, the qualitative effects can be analyzed fairly. The more miles of routes across critical soils, the more erosion and compaction would result.

There are 355 miles of inventoried routes that would go through critical soils under this

alternative. For purposes of analysis, miles of linear route were converted to acres of area by assuming that each route, on average, was 10 feet wide. It was also assumed that this width would generally cover the disturbance resulting from the tendency for roads and trails to widen with use (such as from parking or passing), as well as from side-casting of soils on steep slopes. Therefore, OHV use on these routes would continue to expose approximately 430 acres of critical soil to erosion and compaction.

Under this alternative, cross-country OHV use would be curbed by route designation through signing, kiosks, barricades, and dissemination of route travel maps, and monitoring efforts. Therefore, microbiotic soils would be protected from OHV use off designated routes.

Water Quality - Surface Hydrology

By designating routes, it would be possible to confine entry and exit points in these routes, thereby preventing new gully formation on slopes and at ephemeral stream channel (wash) entry and exit points. Some of the existing gullies would continue to erode. Cross country travel on "by-pass routes" would be closed to OHV travel, thus reducing the total disturbed surface acreage. Natural revegetation of the closed route surface is expected to be slow, but once revegetation is accomplished and soil integrity is restored, the total quantity of sediment loading caused by route surface exposure and consequent increased soil erosion should be reduced. Data are not currently available to quantify the reduction, and therefore future changes in TSS/TDS may not be detectable in the San Rafael, Green, or Dirty Devil Rivers, or Muddy Creek.

There would remain 55 miles of wash bottom routes available for OHV use. Curbing cross-country use by designating routes may cause some increased intensity of use on the designated wash bottom routes. Soils are required to retain water for riparian function. Any OHV use that goes through wash bottom areas in riparian habitat (27 miles in the "limited" area) would cause soil loss and may affect spring/seep water availability. This could impair the proper functioning condition of these areas. The 5 miles of route in Muddy Creek channel and floodplain would remain available for OHV use. This route provides continuous pathways for water through the riparian covered floodplain along Muddy Creek and in wheel tracks in the channel bottom at low flow. This would cause erosion and increase sediment loading to Muddy Creek.

Cultural Resources

Under Alternative 1, it is assumed that as many as 650 cultural resource locations (sites) are present in the "limited" OHV category area. There would be 1,074 miles of routes designated. All of these routes are presently used, and most have been used for several years. As a result, and following our assumptions for analysis, as many as 65 sites have been impacted by vehicle activity in recent years. These impacts would continue after route designation. However, route designation will occur on mapped routes only, and is intended to curb ongoing proliferation of routes and cross-country travel. No new routes would be designated and no additional sites beyond those already exposed to impact by existing activities would occur. Forty-two miles of routes would be designated within the six cultural resource ACECs. Unmapped routes in use at the present time would also be closed upon designation. Therefore, although it is impossible to quantify, selection of this alternative would reduce the number of sites accessible to impacts.

Paleontological Resources

Motorized travel would be allowed on 107 miles of inventoried ways within the 70,000 acre paleontologically sensitive area. Restricting OHV use to designated routes would help to minimize deliberate and inadvertent impacts to paleontological resources by not allowing cross-country use. However, because all inventoried routes would be designated under this alternative, access to this sensitive area for both authorized and unauthorized fossil collection would be maximized. There would be no impacts to collectors or other members of the public that are interested in fossils for photography or educational purposes.

ALTERNATIVE 2

(See Alternative Map 4.2)

Recreation

This alternative allows OHV use on 812 miles (76 percent) of designated routes within the "limited" OHV category area. It would not make available for motorized use 262 miles of the inventoried routes in the OHV "limited" category area. The signing of designated routes would clarify which routes are available for motorized travel, thus curbing cross-country OHV use. The 262 miles of routes that would no longer be available for OHV use would be those within WSAs, wilderness inventory areas, and lands within the SPNM ROS class established in the San Rafael RMP (approximately 44 percent or 458,673 acres within the "limited" OHV category area). Popular motorized routes that would not be available to OHV use under this alternative include the Iron Wash Trail system near Temple Mountain, Muddy Creek through the Reef, and routes in the Sid's Mountain WSA. Because the unavailable routes fall within areas that are destination hiking areas, many conflicts between motorized users and non-motorized users would be eliminated. In addition, because cross-country travel would be curbed by signs, barricades, and dissemination of travel route maps and other educational materials that reinforce the expectation of travel on designated routes, some additional conflicts between the non-motorized and motorized users would be precluded outside of the WSAs, wilderness inventory areas, and SPNM ROS category areas. In areas where motorized use is allowed, some non-motorized users may choose to relocate away from those areas.

Although many recreational opportunities would still be available to both motorized and non-motorized users, both groups may be hindered somewhat in access. Motorized users would be precluded from accessing many of the more scenic pristine areas in San Rafael Reef and Swell, while hikers would be required to walk longer distances, in a few areas, to get to many of their destination points. However, hiking opportunities in approximately 44 percent of the "limited" area would be enhanced by an increase in solitude, and lack of interactions with OHVs. Motorized activities could become more concentrated into areas that are, in some cases, not as scenic or rugged. This alternative would negate the Cooperative Management Agreement (CMA) with the Pathfinders Motorcycle Club on the Iron Wash motorcycle trail system, as all routes would be closed to motorized travel.

Semi-Primitive Non-Motorized Recreation Opportunity (SPNM-ROS) Class: Under this

alternative no routes would be designated available for OHV travel within the ROS SPNM-class. It would protect, to the maximum extent, the predominantly natural environment, and provide an environment of isolation.

Hunting: This alternative would have the greatest effect on OHV access to bighorn sheep habitat for hunters. Because most of the bighorn sheep habitat is within the WSAs, wilderness inventory areas, and SPNM ROS categories (about 44 percent of the "limited" OHV area), access to this habitat would be limited to foot or horseback. Mule deer occur throughout the "limited" OHV category area in the San Rafael Swell. Motorized access to mule deer hunting areas would continue to be allowed on 812 miles of routes, or 76 percent of all inventoried routes in the area.

Visual Resource Management (VRM)

Approximately 58 miles of routes would be available for travel within the VRM Class I areas. This would reduce the amount of miles by 39 percent within the VRM Class I areas, offering the least amount of miles of any alternative. Because route proliferation (including parallel routes, multiplicity of routes going to one destination, and routes that serve no known purpose) would be minimized, VRM Class I objectives would be enhanced. Cross-country travel would be curbed by signing and designating routes. In those areas where cross-country use was degrading the VRM class objectives, the situation would be ameliorated.

Additional Carsonite signs throughout the "limited" area would be required to designate routes. However, fewer signs would be required within the WSAs, because there would be no routes available for travel. Signs placed within other VRM Class I areas are not expected to exceed the class objective. This is because Carsonite signs are color selected to match the surrounding background, are thin and flexible, and are generally subtle in the landscape as a whole. In addition, many of the signs would be temporary because as compliance increases, and these signs are found unnecessary, many signs would be removed.

Areas of Critical Environmental Concern (ACECs)

With this alternative approximately 93 miles of inventoried routes would be designated within the 11 ACECs that fall within the "limited" OHV category area. This would reduce the miles of routes within the ACECs by approximately 51 percent. This alternative would protect and enhance ACEC values. In addition, curbing cross-country OHV use within the ACECs would help preserve and protect those values for which the ACECs were designated.

Wilderness-Related Resources

Wilderness Study Areas and Wilderness Inventory Areas

All inventoried routes within WSAs, wilderness inventory areas, and administratively endorsed wilderness areas would no longer be available to motorized users, therefore signs and barricades within the WSAs and inventory areas would be removed. This would enhance the appearance of naturalness. In addition, no lands within these area would be disqualified from consideration as wilderness by Congress, or as WSAs by the BLM.

The quality of opportunities for an individual to experience solitude due to the lack of sights and sounds of vehicles would be enhanced, adding to a visitor's opportunity to feel alone and

isolated from the developed world. Lack of vehicle use on the existing routes would also enhance the quality of the primitive recreation experience. The setting for primitive forms of recreation, like hiking, backpacking, nature study, and wildlife viewing would be in harmony with the experience non-motorized users seek (quiet, physical challenge, etc.). Areas that possess supplemental cultural resources and wildlife values would also benefit from the closure of these routes.

With closure of the vehicle routes in the WSAs and inventory areas to motorized use, the routes would begin to rehabilitate. In the uplands, this natural rehabilitation could take from 2 years to many decades, depending on the soil and vegetation types, amount of precipitation, and the magnitude of the vehicle routes. Routes located in the washes would potentially rehabilitate with a series of storm events that cause the drainage to flood.

Citizen Wilderness Proposal Areas
Under this alternative, approximately 97 miles of vehicle routes would be available for motorized access in seven citizen wilderness proposal areas. The types of impacts to wilderness values would be similar to those described for the WSAs and wilderness inventory areas in Alternative 1.

The citizen proposal areas were recently inventoried by UWC, and are alleged by them to have wilderness character even with vehicle use occurring on all miles of inventoried routes within the year-long "limited" OHV category of lands, and the 21 miles of inventoried routes within the "limited seasonally" OHV category of lands. Because BLM would monitor motorized use of the citizen proposal areas, and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citations, and restoration), no lands within these areas would be disqualified from consideration as WSAs by BLM due to this alternative.

Wild and Scenic Rivers
This alternative would not designate the five mile Muddy Creek route through the San Rafael reef (Segment 6). Thus, BLM would be able to maintain the tentative wild and scenic river classification of "scenic" along this segment. This is because the San Rafael FEIS documented that no use was occurring and the route through the San Rafael Reef was abandoned. Under this alternative, the conditions that existed at the time of wild and scenic river inventory would be maintained.

This alternative would not designate an eight and one half mile OHV route to June's Bottom on the Green River (Segment 2). Thus, BLM would be able to maintain the tentative wild and scenic river classification of "wild" along this segment. This is because a "wild" segment must show little evidence of human activity and be generally inaccessible.

Private Lands
All inventoried routes within the "limited" OHV category area that access private lands would remain available for use and would not affect the private landowner.

Wildlife Habitat

Desert Bighorn Sheep

This alternative would minimize the number of routes available for OHV use through crucial bighorn sheep habitat by leaving three miles of routes available for OHV use through this habitat type. No routes would be in washes or riparian areas. Because so few of the miles of routes would be open for OHV use, this alternative would provide the greatest protection from OHV harassment to bighorn ewes during the lambing period. Because no routes would be designated as open for OHV use in the Sid's Mountain WSA, distribution of sheep would be improved, there would be no potential loss of habitat, and potential lamb mortality rates caused by stress from OHVs should decrease. This alternative would eliminate conflicts between motorized users and bighorn sheep along the four mile single track of the Lone Man Draw Trail near Temple Mountain.

Mule Deer and Elk

Impacts from this alternative would be the same as Alternative 1, since all inventoried routes in this habitat would be designated for OHV use.

Pronghorn Antelope

Approximately 132 miles of routes would be designated for OHV use within the 150,000 acres of antelope crucial habitat area. This designation would only apply during the one month fawning season from May 15 to June 15. This alternative would reduce 9 miles of designated routes in the crucial habitat. Closing these routes would reduce the amount of disturbance within the habitat for the antelope by 6 % percent. However, heightened recreational use during this season would continue to attract visitors which would cause stress and potentially impact the does' ability to feed the fawns - this could result in fawn mortality. However, there would be a decrease in cross-country use of this area due to signing and dissemination of travel route maps to the public. This would reduce the potential for fawns being run over by OHVs.

Special-Status Species

Plants: About 35 miles of routes would be designated for OHV use within the known Threatened, Endangered and Sensitive Species (TES) plant habitat. Approximately 19 miles of routes would be closed to OHV use. This would decrease access into TES habitat by over 35 percent. However, because many of these routes tend to be narrow or are two tracks that have room for only one vehicle, the plants would continue to be crushed by those vehicles that pull off the routes to park or pass other vehicles on the 35 miles. All routes that provided access to closed OHV areas containing TES plant species would be closed, making it more difficult for collectors to access the area. This alternative would close approximately 19 miles of routes in Sid's Mountain WSA that go through TES habitat. This would eliminate any potential for effect to these species in this area.

All fourteen special-status plant species would be beneficially affected by the restriction of OHVs to designated routes. The reduced surface disturbance would protect the plants from being crushed by tires from cross-country use. It would also prevent the loss of habitat because

of denuding from crushing and soil compaction from OHVs travel.

Birds: Six TES bird species would be beneficially affected by this alternative. The two ground nesting species, the burrowing owl and ferruginous hawk, would benefit from the restriction of vehicles to designated routes. This is because cross-country activity near/on nest sites would not be allowed, therefore disturbance to the birds would be limited.

Approximately14 miles of routes in the riparian zones would be designated as open for OHV use. This would reduce the amount of miles of designated routes in riparian zones by 52 percent. In turn, this would reduce the disturbance to the four TES bird species (Mexican spotted owl, yellowbilled cuckoo, common yellowthroat, and blue grosbeak) that depend on riparian vegetation for food or cover. In addition, cross-country use of riparian areas would not be allowed, thus improving the habitat for these species. The 13 miles of routes that would remain available for use in the riparian zones would continue to disturb the birds and degrade the riparian vegetation that these birds depend upon.

Mammals: Black-footed ferrets would be beneficially affected by designating and signing routes for use by OHVs. This would protect black-footed ferrets' and prairie dogs' burrows from being caved in from cross-country OHV use. However, those burrows that are constructed in designated routes would continue to be impacted by OHVs.

Riparian Habitat

Approximately 14 miles of routes that are within riparian stretches would be designated for OHV use. This would close 13 miles of routes through riparian zones, and decrease the potential for erosion from the loss of riparian vegetation by 52 percent. The 3 miles of designated routes that would continue to run through riparian vegetation would allow for continued loss of riparian vegetation, breakdown of streambanks, and subsequent erosion problems. Use of signing and dissemination of route travel maps would discontinue cross-country use of riparian areas, and should improve some of the erosional problems.

The popular OHV route that runs up the wash bottom of Coal Wash in the Sid's Mountain WSA would be closed. However, it is not expected to improve riparian vegetation along the wash bottom because of heavy runoff from the slickrock surroundings that continue to scour the wash of vegetation.

The popular OHV route that goes through the riparian area of Muddy Creek where it goes through the San Rafael Reef (from the Hidden Splendor Mine to the Emery County boundary) would also be closed to OHV use. This should improve the riparian vegetation along this creek and allow the creek banks to stabilize, thereby reducing the erosion potential. This would improve the overall condition of the riparian system.

Nonnative, Invasive Species (Weeds)

OHV travel along 826 miles of existing inventoried routes would continue to pose a threat of spreading nonnative, invasive species. This alternative would close 255 miles of routes to OHV

use, which would reduce the potential of weed spread on these routes. Cross-country travel would not be permitted, thus eliminating new disturbance that could be susceptible to nonnative species invasion.

Wild Horses and Burros

This alternative would limit opportunities for wild horse and burro harassment and viewing opportunities, because 101 miles of inventoried routes within the HMAs would be closed to OHV use. However, 173 miles, or 63 % of the inventoried routes within the HMAs would remain available for use, and would still provide adequate viewing opportunities. In addition, routes outside of the "limited" OHV area, but still within the HMAs, would remain available for use, and would still provide some limited viewing opportunities, as well as opportunities for continued wild horse and burro harassment. Harassment and use of OHVs to view horses and burros is not expected to affect the present management of wild horses and burros within the HMAs.

Critical Soils

To estimate the annual total loss of soil due to erosion is impossible. There are too many variables (soils, slopes, vegetation, precipitation events, uses), too large a scope, and too little data or site specific research. However, the qualitative effects can be analyzed fairly. The more miles of routes across critical soils, the more erosion and compaction would result.

There are 300 miles of inventoried routes that would go through critical soils in the "limited" OHV category area under this alternative. This would reduce the amount of miles for OHV travel by 55 miles, or 15 percent within the critical soil areas. For purposes of this soil analysis, miles of linear route were converted to acres of area by assuming that each route, on average, was 10 feet wide. It was also assumed that this width would generally cover the disturbance resulting from the tendency for roads and trails to widen with use (such as from parking or passing), as well as from side-casting of soils on steep slopes. Therefore, OHV use on these routes would continue to expose approximately 363 acres of critical soil to erosion and compaction. The remaining 67 acres would eventually revegetate if left undisturbed.
Under this alternative, cross-country OHV use would be curbed by route designation through signing, kiosks, barricades, and dissemination of route travel maps, and monitoring efforts. Therefore, microbiotic soils would be protected from OHV use off designated routes.

Water Quality - Surface Hydrology

This alternative designates 812 miles of routes, thereby reducing the miles of routes by 262 miles. Of the 812 miles, 21 miles (the fewest of the alternatives analyzed) of routes would be designated in wash bottoms for OHV use, reducing available miles in washes by 34 miles. Therefore this alternative would result in a reduction in soil loss and possible sediment loading to drainages. Because 34 miles of routes through wash bottoms would be closed to OHV use, threats to springs and seeps would be reduced. At this time it is not possible to determine if this reduction would be detectable as lowered TSS/TDS in the major streams and rivers. In some areas, headcut gullies which exist would continue to erode and increase in size; however, new gully formation would be reduced. The 5 miles of route in the Muddy Creek channel and

floodplain would not be available for OHV use. This would decrease erosion and sediment loading to Muddy Creek.

Cultural Resources

Under this alternative, approximately 812 miles of routes would be designated for OHV use. This would close 262 miles (or 25 percent) to OHV use. Fewer cultural resource sites would be exposed to direct and indirect impacts. Under this alternative, and following the assumptions for analysis, 492 sites may exist in the area of the designated routes, and some 49 of them would continue to be subject to some level of ongoing impact similar to impacts which have accrued to the same sites during recent years. There is an unquantifiable potential for some or all of the routes designated under this alternative to receive more traffic, as vehicular activity is restricted to fewer available routes. Impacts to sites along these routes could see an unquantifiable increase in intensity of impacts to the sites in the area. No new routes would be designated and no additional sites beyond those already exposed to impact by existing activities would occur. Thirty-four miles of routes would be designated inside the six cultural ACECs. Unmapped routes in use at the present time would also be closed upon designation. Therefore, although it is impossible to quantify, selection of this alternative would reduce the number of sites accessible to impacts.

Paleontological Resources

This alternative would close one six mile route in a paleontologically sensitive area, leaving 101 miles, or 94 percent, of routes available for OHV use within the 70,000 acres of paleontologically sensitive areas. Closure of this one route would significantly decrease casual access to known paleontological sites in an area on the Morrison formation outcrop. Other than this one route, the same routes in the paleontologically sensitive areas would be available for OHV use in this alternative as in Alternative 1. Thus, the rest of the analysis would be essentially the same as Alternative 1.

ALTERNATIVE 3

(See Alternative Map 4.3)

Recreation

This alternative allows OHV use on 580 miles (54 percent) of designated routes within the "limited" OHV category area. It would eliminate OHV travel on 494 miles (including the seasonally limited areas). The signing of designated routes would clarify which routes are available for motorized travel, thus curbing cross-country OHV use. The 494 miles of routes not available for motorized use are not limited to one particular area or areas, but are distributed throughout the "limited" OHV area in accordance with the criteria used for this alternative (see Chapter 2). This alternative focuses on resolving resource conflicts with OHVs, such as motorized use in crucial wildlife habitat and impacts on critical soils. In addition, it resolves some of the user conflicts on certain routes.

A few of the popular motorized routes that would remain available to OHV travel include: three

routes in Sid's Mountain WSA and the Iron Wash single track system (except for a four mile portion of the single track Lone Man Draw Trail near Temple Mountain). Popular OHV routes that would no longer be available for travel include Devil's Racetrack in the Sid's Mountain WSA, Behind the Reef Route, and Muddy Creek through the Reef. User conflicts on Muddy Creek through the Reef would be eliminated, thus providing an enhanced back-county experience for hikers and kayakers. In addition, restoration of the riparian zone would augment the attributes of this experience. Many unnamed, redundant (multiple routes to a destination), and rarely used routes would not be recommended for designation under this alternative.

Access to views of the Green River in the San Rafael Desert would continue to be available to the motorized travel. Although some OHV access would be eliminated, most routes to popular viewing sites would remain open.

In addition, because cross-country travel would be curbed by signs, barricades, and dissemination of travel route maps and other educational materials that reinforce the expectation of travel on designated routes, some additional conflicts between the non-motorized and motorized users would be precluded. In areas where motorized use is allowed, some non-motorized users may choose to relocate away from those areas.

Although many recreational opportunities would still be available to both motorized and non-motorized users, motorized users may feel the affects of this alternative more than the non-motorized users. There would be fewer opportunities for motorized users to access some of the more scenic pristine areas in San Rafael Swell. However, hiking opportunities in certain areas would be enhanced by an increase in solitude, and lack of interactions with OHVs.

Semi-Primitive Non-Motorized Recreation Opportunity (SPNM-ROS) Class: This alternative would allow for 24 miles of inventoried routes to be designated available for OHV travel within the ROS SPNM-class. This would decrease the amount of miles by approximately 70 percent within this ROS class, thereby reducing evidence of human use and increasing the opportunities for isolation.

Hunting: This alternative would provide OHV access for bighorn sheep hunting on 39 miles of routes in the Sid's Mountain WSA. In addition, it would restrict some of the access to bighorn sheep habitat around the San Rafael Reef. Access to some of the areas would be required by foot or horseback. Because mule deer occur throughout the "limited" OHV category area in the San Rafael Swell, access would be allowed on 580 miles, and should not impact the deer hunters to any great extent.

Visual Resource Management (VRM)

Approximately 75 miles of routes would be available for travel within the VRM Class I areas. This would reduce the amount of miles by 50 percent within the VRM Class I areas. Because route proliferation (including parallel routes, multiplicity of routes going to one destination, and routes that serve no known purpose) would be decreased, VRM Class I objectives would be enhanced. Cross-country travel would be curbed by signing and designating routes. In those

areas where cross-country use was degrading the VRM class objectives, the situation would be ameliorated.

Additional Carsonite signs throughout the "limited" area would be required to designate routes. Only four routes within the Sid's Mountain WSA would require route designation signs, as all other routes within the WSAs would not be available for motorized travel. Signs placed within Sid's Mountain WSA and other VRM Class I areas are not expected to exceed the class objective. This is because Carsonite signs are color selected to match the surrounding background, are thin and flexible, and are generally subtle in the landscape as a whole. In addition, many of the signs would be temporary because as compliance increases, and these signs are found unnecessary, many signs would be removed.

Areas of Critical Environmental Concern (ACECs)

With this alternative approximately 96 miles of inventoried routes would be designated within the 11 ACECs that fall within the "limited" OHV category area. This would reduce the miles of routes within the ACECs by approximately 50 percent. This alternative would protect and enhance ACEC values. In addition, curbing cross-country OHV use within the ACECs would help preserve and protect those values for which the ACECs were designated.

Wilderness-Related Resources

Wilderness Study Areas

Under this alternative, motorized access would be permitted on three routes, totaling about 39 miles, in the Sid's Mountain WSA, but not in any of the other WSAs. Allowing motorized access on the three routes would continue to make this WSA a destination for OHVs. One seven mile route, the Devil's Racetrack, which provides a shortened loop alternative up out of the North Fork Coal Wash canyon bottom, would no longer be available for use. However, opportunities for OHV touring on 39 miles within Sid's Mountain WSA are still provided. For example, from I-70 an OHV operator could enter the South Fork Coal Wash via the Eva Conover route. From here they would continue up North Fork Coal Wash to Fix-it Pass, Cane Wash, and on to the Head of Sinbad. Beyond this point, there are numerous options to complete the trip. It would no longer provide the shortened route crossing the Devil's Racetrack (near the Head of Sinbad) and continuing to North Fork Coal Wash through Fix-it Pass. Not allowing use on this route would reduce the amount of signs along the 7 mile stretch.

The appearance of naturalness within WSAs would be temporarily reduced by any signs and barricades that may be needed to keep vehicles on existing routes. Such structures would be temporary, limited to the routes, and would not affect the WSA as a whole. However, the appearance of naturalness would be enhanced on the 32 miles where routes would not be designated in the WSAs, including the Devil's Racetrack, because signing would not be needed within them.

Vehicular use of the 39 miles of pre-existing inventoried vehicle routes in the Sid's Mountain WSA would temporarily reduce the quality of opportunities for an individual to experience solitude during the period of vehicle activity. The sight and sounds of vehicles would impact a

visitor's opportunity to feel alone and isolated from the developed world. Vehicle use on those routes would also reduce the quality of the primitive recreation experience. The presence and noise of motor vehicles does not enhance the setting for primitive forms of recreation, like hiking, backpacking, nature study, and wildlife viewing and would conflict with the experience non-motorized users seek (quiet, physical challenge, etc.). But, as with solitude, the impacts are temporary, lasting only for the duration of the encounter. On the other hand, opportunities for solitude would be enhanced on the 32 miles where routes would not be designated.

Because the BLM would monitor motorized use of the WSAs, and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citation, and restoration), there would be no lasting impacts to wilderness values. Further, the three vehicle routes within Sid's Mountain WSA would be available for motorized use only on a conditional basis; as long as there is no impairment of wilderness values, otherwise routes would be closed or otherwise limited. All in all, because any impacts would be limited in nature and temporary, no lands within the existing WSAs would be disqualified from consideration as wilderness by Congress.

Approximately 1.5 miles of routes would be available for motorized access within the administratively endorsed wilderness area. These routes are established access ways to canyon trailheads in the San Rafael Reef WSA. The longer route would replace an access route through a wash bottom with riparian vegetation. The shorter route ends at a small, self-contained parking area, and thus is more manageable to leave accessible for motorized vehicle access than terminating the route elsewhere. The types of impacts to wilderness values would be similar to those described for WSAs. Because BLM would monitor motorized use of the administratively endorsed areas and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citations, and restoration), no lands would be disqualified from consideration as WSAs by BLM or Congress.

Wilderness Inventory Areas

There would be 19 miles of routes available for motorized access under this alternative. This would reduce the miles of routes available to OHVs by 89%, yet would still provide access to scenic viewpoints and popular loop rides. Impacts of motorized use on wilderness values would be similar to those described in for WSAs. Impacts of not allowing use on 150 miles of routes within these areas would be similar to the discussion of impacts to WSAs in Alternative 2.

The wilderness inventory areas were recently inventoried by BLM and found to have wilderness character even with vehicle use occurring on all of the inventoried routes. Because BLM would monitor motorized use of the wilderness inventory areas, and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citations, and restoration), no lands within the existing wilderness inventory areas would be disqualified from consideration as WSAs by BLM.

Citizen Wilderness Proposal Areas

Under this alternative, approximately 29 miles of vehicle routes would be available for motorized access in seven citizen wilderness proposal areas. This would reduce the amount of miles available for use by 71 percent. Impacts of motorized use on wilderness values would be

similar to those described in for WSAs. Impacts of not allowing use on 70 miles of routes within these areas would be similar to the discussion of impacts to WSAs in Alternative 2.

The citizen proposal areas were recently inventoried by UWC, and are alleged by them to have wilderness character even with vehicle use occurring on all miles of inventoried routes within the year-long "limited" OHV category of lands, and the 21 miles of inventoried routes within the "limited seasonally" OHV category of lands. Because BLM would monitor motorized use of the citizen proposal areas, and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citations, and restoration), no lands within these areas would be disqualified from consideration as WSAs by BLM due to this alternative.

Wild and Scenic Rivers

This alternative would not designate the five mile Muddy Creek route through the San Rafael Reef (Segment 6). Thus, BLM would be able to maintain the tentative wild and scenic river classification of "scenic" along this segment. This is because the San Rafael FEIS documented that no use was occurring and the route through the San Rafael Reef was abandoned. Under this alternative, the conditions that existed at the time of wild and scenic river inventory would be maintained.

This alternative would not designate an eight and one half mile OHV route to June's Bottom on the Green River (Segment 2). Thus, BLM would be able to maintain the tentative wild and scenic river classification of "wild" along this segment. This is because a "wild" segment must show little evidence of human activity and be generally inaccessible.

Private Lands

Private land parcels that are accessed by inventoried routes within the "limited" OHV category area would continue to have public access to them by designated routes. However, in some cases, where there was more than one access route to the private parcel, some specific routes were closed. Although designated access would continue to be available to the private parcels, in some cases, the designated route may not be the route preferred by the private land owner. This could incur additional hardship on the landowner if he/she had to drive additional miles to access the designated route.

Wildlife Habitat

Desert Bighorn Sheep

This alternative would decrease the number of routes available for OHV use through crucial bighorn sheep habitat. Approximately 25 miles of routes would be designated for OHV use through this habitat type. Of these 25 miles, 14 miles of the routes are within washes. Some of these washes contain springs and potholes that provide water for bighorn sheep, particularly for lactating ewes. Because these routes would be open on a year round basis, OHV harassment to bighorn ewes during the lambing period would continue from use on these routes. This would result in avoidance of the roads and restricted movement. It would also result in a loss of habitat bordering the roads or would reduce use along these routes. It could eliminate the use of an unquantifiable amount of habitat. Approximately 52 percent of the routes within the habitat

would be closed to OHV use, thus providing some protection to bighorn ewes during the lambing period from OHV harassment.

Approximately 39 miles of routes would be designated as open for OHV use in the Sid's Mountain WSA, which include both year-long and crucial habitat for bighorn sheep. Closing 15 percent of the miles of routes in this area would help improve the distribution of sheep, reduce potential loss of habitat, and reduce potential lamb mortality rates caused by stress from OHVs. This alternative would also eliminate conflicts between motorized users and bighorn sheep along the four mile single track of the Lone Man Draw Trail near Temple Mountain.

Mule Deer and Elk
Approximately 6.5 miles of inventoried routes would be designated within the crucial mule deer and elk habitat. This alternative would close 7.5 miles of routes through this crucial habitat. Because this area is located near many of the local communities, continued use of these routes by local OHV enthusiasts is expected; however, cross-country travel would be reduced during the four and one-half month period that vehicles would be restricted due to route signing and dissemination of route vehicle maps to the public. Closing these routes should reduce the amount of habitat avoidance by 54 percent. Continued avoidance of the area around these roads could result in the reduced use of approximately 1,040 acres. This loss of habitat could cause the deer and elk to remain on the range on the Manti-LaSal National Forest later in the winter. This could result in a reduced condition on the forest. The impact would vary according to terrain and vegetative cover that would provide visual barriers from the routes. The impact would vary within the habitat according to the terrain and vegetative cover that would provide visual barriers from the routes.
Pronghorn Antelope
Approximately 72 miles of routes would be designated for OHV use within the 150,000 acres of antelope crucial habitat area. This designation would only apply during the one month fawning season from May 15 to June 15. This alternative would reduce 69 miles of designated routes in the crucial habitat. Closing these routes would reduce the amount of disturbance within the habitat for the antelope by 49 % percent during this crucial time. However, heightened recreational use during this season would continue to attract visitors which would cause stress and potentially impact the does' ability to feed the fawns - this could result in fawn mortality. Still, there would be a decrease in cross-country use of this area due to signing and dissemination of travel route maps to the public. This would reduce the potential for fawns being run over by OHVs.

Special-Status Species
Plants: About 30 miles of routes would be designated for OHV use within the known Threatened, Endangered and Sensitive Species (TES) plant habitat. Approximately 24 miles of routes would be closed to OHV use. This would decrease access into TES habitat by over 44 percent. However, because many of these routes tend to be narrow or are two tracks that have room for only one vehicle, the plants would continue to be crushed by those vehicles that pull off the routes to park or pass other vehicles on the 30 miles. All routes that provided access to closed OHV areas containing TES plant species would be closed, making it more difficult for

collectors to access the area. This alternative would leave open approximately 18 miles of a routes in Sid's Mountain WSA that go through TES plant habitat.

All fourteen special-status plant species would be beneficially affected by the restriction of OHVs to designated routes. The reduced surface disturbance would protect the plants from being crushed by tires from cross-country use. It would also prevent the loss of habitat because of denuding from crushing and soil compaction from OHVs travel.

Birds: Six TES bird species would be beneficially affected by this alternative. The two ground nesting species, the burrowing owl and ferruginous hawk, would benefit from the restriction of vehicles to designated routes. This is because cross-country activity near/on nest sites would not be allowed, therefore disturbance to the birds would be limited.

Approximately 7 miles of routes in the riparian zones would be designated as open for OHV use. This would reduce the amount of miles of designated routes in riparian zones by 74 percent. In turn, this would reduce the disturbance to the four TES bird species (Mexican spotted owl, yellowbilled cuckoo, common yellowthroat, and blue grosbeak) that depend on riparian vegetation for food or cover. In addition, cross-country use of riparian areas would not be allowed, thus improving the habitat for these species. The 7 miles of routes that would remain available for use in the riparian zones would continue to disturb the birds and degrade the riparian vegetation that these birds depend upon.

Mammals: Black-footed ferrets would be beneficially affected by designating and signing routes for use by OHVs. This would protect black-footed ferrets' and prairie dogs' burrows from being caved in from cross-country OHV use. However, those burrows that are constructed in designated routes would continue to be impacted by OHVs.

Riparian Habitat

Approximately 7 miles of routes that are within riparian stretches would be designated for OHV use. This would close 20 miles of routes through riparian zones, and decrease the potential for erosion from the loss of riparian vegetation by 74 percent in these areas. The 7 miles of designated routes that would continue to run through riparian vegetation would allow for continued loss of riparian vegetation, breakdown of streambanks, and subsequent erosion problems. Use of signing and dissemination of route travel maps would discontinue cross-country use of riparian areas, and should improve some of the erosional problems.

A popular OHV route, the Devil's Racetrack, that runs up a portion of the wash bottom of Coal Wash in the Sid's Mountain WSA would be closed. However, it is not expected to improve riparian vegetation along the wash bottom because of heavy runoff from the slickrock surroundings that continue to scour the wash of vegetation.

The popular OHV route that goes through the riparian area of Muddy Creek where it goes through the San Rafael Reef (from the Hidden Splendor Mine to the Emery County boundary) would also be closed to OHV use. This should improve the riparian vegetation along this creek

and allow the creek banks to stabilize, thereby reducing the erosion potential. This would improve the overall condition of the riparian system.

Nonnative, Invasive Species (Weeds)

OHV travel along 587 miles of existing inventoried routes would continue to pose a threat of spreading nonnative, invasive species. This alternative would close 504 miles of existing routes to OHV use, which would reduce the potential of weed spread on these routes. Cross-country travel would not be permitted, thus eliminating new disturbance that could be susceptible to nonnative species invasion.

Wild Horses and Burros

This alternative would limit opportunities for wild horse and burro harassment and viewing opportunities, because 133 miles of inventoried routes within the HMAs would be closed to OHV use. However, 141 miles, or 51 % of the inventoried routes within the HMAs would remain available for use, and would still provide adequate viewing opportunities. In addition, routes outside of the "limited" OHV area, but still within the HMAs, would remain available for use, and would still provide some limited viewing opportunities, as well as opportunities for continued wild horse and burro harassment. Harassment and use of OHVs to view horses and burros is not expected to affect the present management of wild horses and burros within the HMAs.

Critical Soils

To estimate the annual total loss of soil due to erosion is impossible. There are too many variables (soils, slopes, vegetation, precipitation events, uses), too large a scope, and too little data or site specific research. However, the qualitative effects can be analyzed fairly. The more miles of routes across critical soils, the more erosion and compaction would result.

There are 179 miles of inventoried routes that would go through critical soils in the "limited" OHV category area under this alternative. This would reduce the amount of miles for OHV travel by 176 miles, or 50 percent within the critical soil areas. For purposes of this soil analysis, miles of linear route were converted to acres of area by assuming that each route, on average, was 10 feet wide. It was also assumed that this width would generally cover the disturbance resulting from the tendency for roads and trails to widen with use (such as from parking or passing), as well as from side-casting of soils on steep slopes. Therefore, OHV use on these routes would continue to expose approximately 217 acres of critical soil to erosion and compaction. The remaining 213 acres would eventually revegetate if left undisturbed.

Under this alternative, cross-country OHV use would be curbed by route designation through signing, kiosks, barricades, and dissemination of route travel maps, and monitoring efforts. Therefore, microbiotic soils would be protected from OHV use off designated routes.

Water Quality - Surface Hydrology

This alternative designates 580 miles of routes, thereby reducing the total miles of inventoried

routes by 494 miles. Of the 580 miles designated, 33 miles of routes are in wash bottoms, reducing available miles in washes by 22 miles. Therefore this alternative would result in a substantial reduction in soil loss and possible sediment loading to drainages. Because 22 miles of routes through wash bottoms would not be designated for OHV use, threats to springs and seeps would be reduced. At this time it is not possible to determine if this reduction would be detectable as lowered TSS/TDS in the major streams and rivers. In some areas, headcut gullies which exist would continue to erode and increase in size; however, new gully formation would be reduced. The 5 miles of route in the Muddy Creek channel and floodplain would not be available for OHV use. This would decrease erosion and sediment loading to Muddy Creek.

Cultural Resources

Under this alternative, 580 miles of routes would be available for OHV use. This would close 494 miles (or 46 percent) to OHV use. This is the least amount of miles designated under all alternatives. Fewer cultural resource sites would be exposed to direct and indirect impacts. Under this alternative, and following the assumptions for analysis, 352 sites may exist in the area of the designated routes, and some 35 of them would continue to be subject to some level of ongoing impact similar to impacts which have accrued to the same sites during recent years. There is an unquantifiable potential for some or all of the routes designated under this alternative to receive more traffic, as vehicular activity is restricted to fewer available routes. Impacts to sites along these routes could see an unquantifiable increase in intensity of impacts to the sites in the area. No new routes would be designated and no additional sites beyond those already exposed to impact by existing activities would occur. Twenty-five miles of routes would be designated inside the six cultural ACECs. Unmapped routes in use at the present time would also be closed upon designation. Therefore, although it is impossible to quantify, selection of this alternative would reduce the number of sites accessible to impacts.

Paleontological Resources

Motorized travel would be limited to 30 miles of inventoried routes within the 70,000 acre paleontologically sensitive area. This alternative would be the most restrictive, closing 77 miles of existing routes, or 72% of the routes, in the sensitive areas. Restricting OHV use to designated routes would help to minimize deliberate and inadvertent impacts to paleontological resources by not allowing cross-country use. Road closures in many of the areas would provide a beneficial effect on paleontological resources by reducing the amount of vehicle access to areas with scientifically important localities. Access to these sensitive areas for authorized hobby collection of petrified wood would be limited by the closure of these routes because of the increased difficulty of transportation of the petrified wood to the motorized vehicle. Hobby collectors or other members of the public that are interested in fossils for photography or educational purposes may have to walk longer distances in some instances.

ALTERNATIVE 4 (PROPOSED ACTION)

(See Alternative Map 4.4)

Recreation

This alternative allows OHV use on 663 miles (60 percent) of designated routes within the

"limited" OHV category area. It would eliminate OHV travel on 411 miles (including the seasonally limited areas). The signing of designated routes would clarify which routes are available for motorized travel, thus curbing cross-country OHV use. The 411 miles of routes not available for motorized use are not limited to one particular area or areas, but are distributed throughout the "limited" OHV area in accordance with the criteria used for this alternative (see Chapter 2). This alternative resolves many resource conflicts with OHVs, while providing more opportunities for motorized use than Alternative 3.

This alternative designates approximately 83 more miles of routes for motorized travel than does Alternative 3. It provides more opportunities for motorized loop trails and motorized access to scenic areas and points of geological interest than the previous alternative. This alternative may discourage some visitation by hikers who prefer not to experience motorized vehicles or their impacts when accessing some areas.

Some of the well-known routes that are designated for OHV use under this alternative (but not in Alternative 3) are the Behind-the-Reef Route, Upper Little Wild Horse Canyon, and Devil's Racetrack in Sid's Mountain WSA. As in Alternative 3, other routes in Sid's Mountain, and the Iron Wash single track system (except for a four mile portion of the single track Lone Man Draw Trail near Temple Mountain) would remain available for OHV use. Designation of these routes would provide access for the motorized user to some of the pristine back country in the San Rafael Swell. Because the Behind-the-Reef Route borders the exit (or entrance) to the most popular hiking slot canyons in the Swell, there would be continued conflicts between motorized and non-motorized users in this area. The same is true within the Sid's Mountain WSA.

Because access through Muddy Creek through the Reef would be eliminated, an enhanced back-county experience for hikers and kayakers would be provided. In addition, restoration of the riparian zone would augment the attributes of this experience. Some unnamed, redundant (multiple routes to a destination), and rarely used routes would not be recommended for designation under this alternative.

Access to views of the Green River in the San Rafael Desert would continue to be available to the motorized travel. Although some OHV access would be eliminated, most routes to popular viewing sites would remain open.

In addition, because cross-country travel would be curbed by signs, barricades, and dissemination of travel route maps and other educational materials that reinforce the expectation of travel on designated routes, some additional conflicts between the non-motorized and motorized users would be precluded. In areas where motorized use is allowed, some non-motorized users may choose to relocate away from those areas.

Although many recreational opportunities would still be available to both motorized and non-motorized users, non-motorized users may feel the effects of this alternative more than the motorized users. There would be more opportunities for motorized users to access some of the more scenic pristine areas in San Rafael Swell. However, back country hiking opportunities in

certain areas would be diminished by OHV activities and their impacts.

Semi-Primitive Non-Motorized Recreation Opportunity (SPNM-ROS) Class: This alternative would allow for 33 miles of inventoried routes to be designated available for OHV travel within the ROS SPNM-class. This would decrease the amount of miles by approximately 58 percent within this ROS class, thereby reducing evidence of human use and increasing the opportunities for isolation.

Hunting: This alternative would provide OHV access for bighorn sheep hunting around the San Rafael Reef, and on the four routes conditionally-available for use (46 miles) in the Sid's Mountain WSA. Because mule deer occur throughout the "limited" OHV category area in the San Rafael Swell, the 663 miles of routes that would remain available for OHV access, should not impact the deer hunter to any great extent.

Visual Resource Management (VRM)

Approximately 84 miles of routes would be available for travel within the VRM Class I areas. This would reduce the amount of miles by 56 percent within the VRM Class I areas. Because route proliferation (including parallel routes, multiplicity of routes going to one destination, and routes that serve no known purpose) would be decreased, VRM Class I objectives would be enhanced. Cross-country travel would be curbed by signing and designating routes. In those areas where cross-country use was degrading the VRM class objectives, the situation would be ameliorated.

Additional Carsonite signs throughout the "limited" area would be required to designate routes. Only four routes within the Sid's Mountain WSA would require route designation signs, as all other routes within the WSAs would not be available for motorized travel. Signs placed within Sid's Mountain WSA and other VRM Class I areas are not expected to exceed the class objective. This is because Carsonite signs are color selected to match the surrounding background, are thin and flexible, and are generally subtle in the landscape as a whole. In addition, many of the signs would be temporary because as compliance increases, and these signs are found unnecessary, many signs would be removed.

Areas of Critical Environmental Concern (ACECs)

With this alternative approximately 96 miles of inventoried routes would be designated within the 11 ACECs that fall within the "limited" OHV category area. This would reduce the miles of routes within the ACECs by approximately 50 percent. This alternative would protect and enhance ACEC values. In addition, curbing cross-country OHV use within the ACECs would help preserve and protect those values for which the ACECs were designated.

Wilderness-Related Resources

Wilderness Study Areas

Motorized access in WSAs under this alternative would only be permitted on four routes (about 46 miles) in the Sid's Mountain WSA. Allowing motorized access in Sid's Mountain WSA would continue to make this WSA a destination for OHVs. Motor vehicles would not be

permitted on routes in any of the other wilderness study areas. Thus, the effects of motor vehicle use on the wilderness character of the WSAs would be similar to those described under Alternative 3. The seven mile Devil's Racetrack route would be opened for use, and would a provide a shortened loop alternative up out of the North Fork Coal Wash canyon bottom.

The appearance of naturalness within WSAs would be temporarily reduced by any signs and barricades that may be needed to keep vehicles on existing routes. Such structures would be temporary, limited to the routes, and would not affect the WSA as a whole. However, the appearance of naturalness would be enhanced on the 25 miles where routes would not be designated in the WSAs, because signing would not be needed within them.

Because the BLM would monitor motorized use of the WSAs, and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citation, and restoration), there would be no lasting impacts to wilderness values. Further, the four vehicle routes within Sid's Mountain WSA would be available for motorized use only on a conditional basis: as long as there is no impairment of wilderness values, otherwise routes would be closed or otherwise limited. All in all, because any impacts would be limited in nature and temporary, no lands within the existing WSAs would be disqualified from consideration as wilderness by Congress. Approximately 1.5 miles of routes would be available for motorized access within the administratively endorsed wilderness area. These routes are established access ways to canyon trailheads in the San Rafael Reef WSA. The longer route would replace an access route through a wash bottom with riparian vegetation. The shorter route ends at a small, self-contained parking area, and thus is more manageable to leave accessible for motorized vehicle access than terminating the route elsewhere. The types of impacts to wilderness values would be similar to those described for WSAs. Because BLM would monitor motorized use of the administratively endorsed areas and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citations, and restoration), no lands would be disqualified from consideration as WSAs by BLM or Congress.

Wilderness Inventory Areas

There would be 32 miles of routes available for motorized access under this alternative. This would reduce the miles of routes available to OHVs by 81%, yet would still provide access to scenic viewpoints and popular loop rides. Impacts of motorized use on wilderness values would be similar to those described in Alternative 1 for WSAs. Impacts of not allowing use on 137 miles of routes within these areas would be similar to the discussion of impacts to WSAs in Alternative 2.

The citizen proposal areas were recently inventoried by UWC, and are alleged by them to have wilderness character even with vehicle use occurring on all miles of inventoried routes within the year-long "limited" OHV category of lands, and the 21 miles of inventoried routes within the "limited seasonally" OHV category of lands. Because BLM would monitor motorized use of the citizen proposal areas, and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citations, and restoration), no lands within these areas would be disqualified from consideration as WSAs by BLM due to this alternative.

Citizen Wilderness Proposal Areas
Under this alternative, approximately 52 miles of vehicle routes would be available for motorized access in seven citizen wilderness proposal areas. This would reduce the amount of miles available for use by 53 percent. Impacts of motorized use on wilderness values would be similar to those described in Alternative 1 for WSAs. Impacts of not allowing use on 47 miles of routes within these areas would be similar to the discussion of impacts to WSAs in Alternative 2.

The citizen proposal areas were recently inventoried by UWC, and are alleged by them to have wilderness character even with vehicle use occurring on the all miles of inventoried routes. Because BLM would monitor motorized use of the citizen proposal areas, and take the actions needed to keep vehicles on the designated routes (signs, education, barricades, citations, and restoration), no lands within these areas would be disqualified from consideration as WSAs by BLM.

Wild and Scenic Rivers
This alternative would not designate the five mile Muddy Creek route through the San Rafael reef (Segment 6). Thus, BLM would be able to maintain the tentative wild and scenic river classification of "scenic" along this segment. This is because the San Rafael FEIS documented that no use was occurring and the route through the San Rafael Reef was abandoned. Under this alternative, the conditions that existed at the time of wild and scenic river inventory would be maintained.

This alternative would not designate an eight and one half mile OHV route to June's Bottom on the Green River (Segment 2). Thus, BLM would be able to maintain the tentative wild and scenic river classification of "wild" along this segment. This is because a "wild" segment must show little evidence of human activity and be generally inaccessible.

Private Lands
All but one private land area (T. 19 S., R. 9 E., sec 21) would continue to have designated access by inventoried routes within the "limited" OHV category area. Access to the private land area that would not have access designated through this Route Designation Plan, could be applied for under a ROW application to the BLM. In some cases, where there was more than one access route to the private parcel, some specific routes were closed. Although designated access would continue to be available to the private parcels (except one), in some cases, the designated route may not be the route preferred by the private land owner. This could incur hardship on the landowner if he/she had to drive additional miles to access the designated route.

Wildlife Habitat
Desert Bighorn Sheep
This alternative would decrease the number of routes available for OHV use through crucial bighorn sheep habitat. Approximately 36 miles of routes would be designated for OHV use

through this habitat type. Of these 36 miles, 15 miles of routes are within washes. Some of these washes contain springs and potholes that provide water for bighorn sheep, particularly for lactating ewes. Because these routes would be open on a year round basis, OHV harassment to bighorn ewes during the lambing period would continue from use on these routes. This would result in avoidance of the roads and restricted movement. It would also result in a loss of habitat bordering the roads or would reduce use along these routes. It could eliminate the use of an unquantifiable amount of habitat. Approximately 31 percent of the routes within the habitat would be closed to OHV use, thus providing some protection to bighorn ewes during the lambing period from OHV harassment.

The 36 miles of routes designated as open for OHV use in the Sid's Mountain WSA would continue to subject the sheep to frequent disturbance by vehicles. This would result in avoidance of the routes and restricted movement. It would also result in a loss of habitat bordering the roads. It could eliminate the use of an unquantifiable amount of habitat. However, this alternative would eliminate conflicts between motorized users and bighorn sheep along the four mile single track of the Lone Man Draw Trail near Temple Mountain.

Mule Deer and Elk

Approximately 11 miles of inventoried routes would be designated within the crucial mule deer and elk habitat. This alternative would close 3 miles of routes through this crucial habitat. Because this area is located near many of the local communities, continued use of these routes by local OHV enthusiasts is expected; however, cross-country travel would be reduced during the four and one-half month period that vehicles would be restricted due to route signing and dissemination of route vehicle maps to the public. Approximately 21 percent of the inventoried routes would be closed to OHV use. Continued avoidance of the area around these roads could result in the reduced use of approximately 1,760 acres. This loss of habitat could cause the deer and elk to remain on the range on the Manti-LaSal National Forest later in the winter. This could result in a reduced condition on the forest. The impact would vary according to terrain and vegetative cover that would provide visual barriers from the routes. The impact would vary within the habitat according to the terrain and vegetative cover that would provide visual barriers from the routes.

Pronghorn Antelope

Approximately 74 miles of routes would be designated for OHV use within the 150,000 acres of antelope crucial habitat area. This designation would only apply during the one month fawning season from May 15 to June 15. This alternative would reduce 66 miles of designated routes in the crucial habitat. Closing these routes would reduce the amount of disturbance within the habitat for the antelope by 48 % percent. Heightened recreational use during this season would continue to attract visitors which would cause stress and potentially impact the does ability to feed the fawns - this could result in fawn mortality. However, there would be a decrease in cross-country use of this area due to signing and dissemination of travel route maps to the public. This would reduce the potential for fawns being run over by OHVs.

Special-Status Species

Plants: About 38 miles of routes would be designated for OHV use within the known

Threatened, Endangered and Sensitive Species (TES) plant habitat. Approximately 16 miles of routes would be closed to OHV use. This would decrease access into TES habitat by over 30 percent. However, because many of these routes tend to be narrow or are two tracks that have room for only one vehicle, the plants would continue to be crushed by those vehicles that pull off the routes to park or pass other vehicles on the 38 miles of routes that would remain open. All routes that provided access to closed OHV areas containing TES plant species would be closed, making it more difficult for collectors to access the area. This alternative would leave open approximately 19 miles of routes in the Sid's Mountain WSA that go through TES plant habitat.

All fourteen special-status plant species would be beneficially affected by the restriction of OHVs to designated routes. The reduced surface disturbance would protect the plants from being crushed by tires from cross-country use. It would also prevent the loss of habitat because of denuding from crushing and soil compaction from OHVs travel.

Birds: Six TES bird species would be beneficially affected by this alternative. The two ground nesting species, the burrowing owl and ferruginous hawk, would benefit from the restriction of vehicles to designated routes. This is because cross-country activity near/on nest sites would not be allowed, therefore disturbance to the birds would be limited.

Approximately 10 miles of routes in the riparian zones would be designated as open for OHV use. This would reduce the amount of miles of designated routes in riparian zones by 63 percent. In turn, this would reduce the disturbance to the four TES bird species (Mexican spotted owl, yellowbilled cuckoo, common yellowthroat, and blue grosbeak) that depend on riparian vegetation for food or cover. In addition, cross-country use of riparian areas would not be allowed, thus improving the habitat for these species. The 10 miles of routes that would remain available for use in the riparian zones would continue to disturb the birds and degrade the riparian vegetation that these birds depend upon.

Mammals: Black-footed ferrets would be beneficially affected by designating and signing routes for use by OHVs. This would protect black-footed ferrets' and prairie dogs' burrows from being caved in from cross-country OHV use. However, those burrows that are constructed in designated routes would continue to be impacted by OHVs.

Riparian Habitat

Approximately 10 miles of routes that are within riparian stretches would be designated for OHV use. This would close 17 miles of routes through riparian zones, and decrease the potential for erosion from the loss of riparian vegetation by 63 percent. The 10 miles of designated routes that would continue to run through riparian vegetation would allow for continued loss of riparian vegetation, break down of streambanks, and subsequent erosion problems. Use of signing and dissemination of route travel maps would discontinue cross-country use of riparian areas, and should improve some of the erosional problems.

The popular OHV route that runs up the wash bottom of Coal Wash in the Sid's Mountain WSA would continue to be designated for OHV use. Because the wash bottom has minimal riparian

vegetation, OHV use is not expected to impact the riparian system of the Coal Wash.

The popular OHV route that goes through the riparian area of Muddy Creek where it goes through the San Rafael Reef (from the Hidden Splendor Mine to the Emery County boundary) would also be closed to OHV use. This should improve the riparian vegetation along this creek and allow the creek banks to stabilize, thereby reducing the erosion potential. This would improve the overall condition of the riparian system.

Nonnative, Invasive Species (Weeds)

OHV travel along 670 miles of existing inventoried routes would continue to pose a threat of spreading nonnative, invasive species. This alternative would close 411 miles of existing routes to OHV use, which would reduce the potential of weed spread on these routes. Cross-country travel would not be permitted, thus eliminating new disturbance could be susceptible to nonnative species invasion.

Wild Horse and Burros

This alternative would limit opportunities for wild horse and burro harassment and viewing opportunities, because 103 miles of inventoried routes within the HMAs would be closed to OHV use. However, 171 miles, or 62 % of the inventoried routes within the HMAs would remain available for use, and would still provide adequate viewing opportunities. In addition, routes outside of the "limited" OHV area, but still within the HMAs, would remain available for use, and would still provide some limited viewing opportunities, as well as opportunities for continued wild horse and burro harassment. Harassment and use of OHVs to view horses and burros is not expected to affect the present management of wild horses and burros within the HMAs.

Critical Soils

To estimate the annual total loss of soil due to erosion is impossible. There are too many variables (soils, slopes, vegetation, precipitation events, uses), too large a scope, and too little data or site specific research. However, the qualitative effects can be analyzed fairly. The more miles of routes across critical soils, the more erosion and compaction would result.

There are 207 miles of inventoried routes that would go through critical soils in the "limited" OHV category area under this alternative. This would reduce the amount of miles for OHV travel by 148 miles, or 42 percent within the critical soil areas. For purposes of this soil analysis, miles of linear route were converted to acres of area by assuming that each route, on average, was 10 feet wide. It was also assumed that this width would generally cover the disturbance resulting from the tendency for roads and trails to widen with use (such as from parking or passing), as well as from side-casting of soils on steep slopes. Therefore, OHV use on these routes would continue to expose approximately 250 acres of critical soil to erosion and compaction. The remaining 180 acres would eventually revegetate if left undisturbed.

Under this alternative, cross-country OHV use would be curbed by route designation through signing, kiosks, barricades, and dissemination of route travel maps, and monitoring efforts.

Therefore, microbiotic soils would be protected from OHV use off designated routes.

Water Quality - Surface Hydrology

This alternative designates 663 miles of routes, thereby reducing the total miles of inventoried routes by 411 miles. Of the 663 miles designated, 36 miles of routes are in wash bottoms, and reducing the available miles in washes by 19 miles. Therefore this alternative would result in a substantial reduction in soil loss and possible sediment loading to drainages. Because 19 miles of routes through wash bottoms would not be designated for OHV use, threats to springs and seeps would be reduced. At this time it is not possible to determine if this reduction would be detectable as lowered TSS/TDS in the major streams and rivers. In some areas, headcut gullies which exist would continue to erode and increase in size; however, new gully formation would be reduced. The 5 miles of route in the Muddy Creek channel and floodplain would not be available for OHV use. This would decrease erosion and sediment loading to Muddy Creek.

Cultural Resources

Under this alternative, 663 miles of routes would be designated for OHV use. This would close use on 411 miles (or 38 percent) of routes. Fewer cultural resource sites would be exposed to direct and indirect impacts. Under this alternative, and following the assumptions for analysis, 401 sites may exist in the area of the designated routes, and some 40 of them would continue to be subject to some level of ongoing impact similar to impacts which have accrued to the same sites during recent years. There is an unquantifiable potential for some or all of the routes designated under this alternative to receive more traffic, as vehicular activity is restricted to fewer available routes. Impacts to sites along these routes could see an unquantifiable increase in intensity of impacts to the sites in the area. No new routes would be designated and no additional sites beyond those already exposed to impact by existing activities would occur. Twenty-five miles of routes would be designated within the cultural ACECs. Unmapped routes in use at the present time would also be closed upon designation. Therefore, although it is impossible to quantify, selection of this alternative would reduce the number of sites accessible to impacts.

Paleontological Resources

Motorized travel would be limited to 53 miles of inventoried routes within the 70,000 acre paleontologically sensitive areas. This would close 54 miles of existing routes, or 50 percent, of the routes in the sensitive areas. Restricting OHV use to designated routes would help to minimize deliberate and inadvertent impacts to paleontological resources by not allowing cross-country use. Road closures in some areas would provide a beneficial effect on paleontological resources by reducing the amount of vehicle access to areas with scientifically important localities. Access to these sensitive areas for authorized hobby collection of petrified wood would be somewhat limited by the closure of these routes because of the increased difficulty of transportation of the petrified wood to the motorized vehicle. Hobby collectors or other members of the public that are interested in fossils for photography or educational purposes may have to walk longer distances in some instances.

SUMMARY OF ALTERNATIVES

The following tables allow the reader to make comparisons among alternatives for various resources.

Table 4.1 **Summary of Inventoried Miles of Routes Available for OHV Use by Resource in the "Limited" OHV Area, by Alternative**

	Alternative 1 No Action	Alternative 2	Alternative 3	Alternative 4 Proposed
Recreation	1,074	812	580	663
ROS Semi-Primitive Non-Motorized	78	0	24	33
Visual Resource Management Class I	150	58	75	84
Areas of Critical Environmental Concern	190	93	96	96
Wilderness Study Areas	71	0	39	46
Wilderness Inventory Areas	169	0	19	32
Citizen Proposed Wilderness Areas	99	97	29	52
Wild and Scenic Rivers	13.5	0	0	0
Wildlife Habitat - Desert Bighorn Sheep	52	3	25	36
Wildlife Habitat - Mule Deer and Elk	14	14	6.5	11
Wildlife Habitat - Pronghorn Antelope	141	132	72	74
Special Status Plant Habitat	54	35	30	38
Riparian Habitat	27	14	7	10
Nonnative, Invasive Species Habitat (Weeds)	1074	812	580	663
Wild Horses and Burros	274	173	141	171
Critical Soils	355	300	179	207
Cultural Resources	1074	812	580	663
Paleontological Resources	107	101	30	53

Table 4.2 **Federally Listed Species Biological Assessment**

Species	**Alterative 1**	**Alternative 2**	**Alternative 3**	**Alternative 4**
San Rafael Cactus	ME	BE	BE	BE
Wright fishhook cactus	ME	BE	BE	BE
Jones cycladenia	ME	BE	BE	BE
Maguire daisy	NE	NE	NE	NE
Winkler cactus	ME	BE	BE	BE
Last Chance townsendia	ME	BE	BE	BE
Mexican spotted owl	NE	NE	NE	NE
Black-footed ferret	NE	NE	NE	NE

NE - No Effect
ME - May Effect - Not Likely to Adversely Affect
BE - Beneficial Effect

Table 4.3 **Sensitive Species Biological Evaluation**

Species	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Silver milkvetch	ME	BE	BE	BE
Creutzfeldt-flower	ME	BE	BE	BE
Mussentuchit gilia	ME	BE	BE	BE
Low hymenoxys	ME	BE	BE	BE
Entrada skeletonplant	ME	BE	BE	BE
Utah phacelia	ME	BE	BE	BE
Jones indigo bush	ME	BE	BE	BE
Psoralea globemallow	ME	BE	BE	BE
Burrowing owl	ME	BE	BE	BE
Ferruginous hawk	ME	BE	BE	BE
Yellowbilled Cuckoo	ME	BE	BE	BE
Common Yellowthroat	ME	BE	BE	BE
Blue Grosbeak	ME	BE	BE	BE

NE- No Effect
ME- May Effect - Not Likely to Adversely Affect
BE- Beneficial Effect

CUMULATIVE IMPACTS

Cumulative impacts are the effects on the environment that result from the incremental impact of any one of the alternatives in combination with other past, present, and future actions outside of the scope of this analysis, either within the "limited" OHV area, or outside of it. Cumulative effects may result from individually minor but collectively significant actions taking place over a period of time. Although designation of routes is considered to have beneficial impacts to all natural resources, there are three resources or resource uses where cumulative impacts are discussed in relationship to designation of routes. These are impacts to recreational uses, mule deer and elk crucial winter habitat, and surface hydrology-water quality.

Recreation: The cumulative study area for recreation is public lands within the San Rafael Swell, as well as public lands managed by surrounding BLM offices (Vernal, Moab, Richfield, Monticello). In the past (more than 25 years ago), OHVs were typically considered to be trucks and motorcycles. Use of these vehicles on public land was primarily to access range projects, grazing operations, and mining operations. Minimal rock-hounding and recreational exploration occurred. Cross-country use was a common and an accepted practice for accessing areas where land users needed to go. Few, if any, regulations or policies were in place that required vehicles to stay on existing roads or trails. Many of today's routes follow what used to be cross-country trails or mining roads that were established from past practices. Some people recreated on public land, but it was not often considered a destination point for vacationers. Most people concentrated their leisure time at National Parks or on Forest Service lands. Publics that ventured into the San Rafael Swell years ago were enveloped in a sense of isolation, rarely encountering another vehicle or person.

Over the past 25 years, however, the public lands have been discovered. Outstanding scenery and challenging terrain, complemented by an extensive system of backcountry travel routes provide the setting for unparalleled motorized and non-motorized recreation opportunities. The existing route systems area enjoyed by local residents and millions of visitors to the state each year. OHV enthusiasts are increasingly drawn to the extensive open space, scenery, and cultural resource attractions that characterize much of the state's public lands. Motorized recreation is largely associated with touring along existing routes; however, some places are used as OHV cross-country play areas, and in other areas cross-country exploration has become a common local pastime. In many cases, the presence of existing access routes and limited topographic barriers present situations where conflicts between motorized and nonmotorized recreation occur. Due to improved maps, guidebooks, new GPS technology, and upgraded motorized equipment, some vehicles are now accessing areas that have not been traditionally accessed in the past. Still, vehicle route penetration into many areas has been substantially constrained by rough terrain and natural barriers, and primitive areas do exist.

The San Rafael Swell has experienced an extensive increase in motorized and non-motorized recreational use over the past 25 years, and is expected to increase moderately and at a steady pace in the future. This is due primarily to population increases on the Wasatch Front and

urbanization of the western states which has resulted in increasing public demand for outdoor recreation opportunities. There appears to be more leisure time for vacationing, and a more affluent society has provided opportunities to purchase ATVs, sport utility vehicle (SUVs), motorcycles, mountain bikes, and other means of transportation. With this extensive use, frequent conflicts with natural resources and other types of recreational activities have resulted. Numerous laws, regulations, executive orders, and policies are in place to protect natural resources on the public lands. Where resources require protection, certain restrictions are essential. This often entails public land closures or limitations. In addition, other land uses, such as oil and gas development, mining, or rights-or-ways often put limitations on recreational use. These restrictions often interfere with past traditional practices of cross-country OHV use.

It is expected that there will be a continued increase of recreational use (both motorized and non-motorized) on public lands. It is anticipated that this would also incur further conflicts with natural resources and between non-motorized and motorized recreational use. With more people enjoying public lands, there would be less solitude and isolation in the natural environment. OHV use may become more concentrated in specific areas or on routes that are designated for such use. It is also expected that there would be increased compliance with route designations in order for users to protect their privileges to use the routes, as unauthorized activities could often lead to route closures.

Although most of BLM's resource management plans have created a "limited" OHV category, few offices have implemented route designations to date. On public lands in the surrounding BLM field offices, there are over four million acres that fall within the "open" OHV category, and nearly 700,000 acres that are "closed" to OHV use. Over three million acres are within a "limited" category (limited seasonally, limited to existing roads and trails, or limited to designated roads and trial). This Route Designation Plan puts in place the additional action necessary to implement the San Rafael RMP.

Within the "limited" OHV category on lands in the San Rafael Swell, designating routes under any alternative provides an approach to sharing and protecting the land, with varying degrees. Under all alternatives, cross-country use would be curbed, thus enhancing critical habitat, helping to protect erosive soils and important watersheds, preserving cultural and paleontological resources, as well as maintaining and complimenting the high visual and scenic values within the area. All would have a positive effect on land health, natural resources, and recreation experiences.

There are no known reasonably foreseeable actions in the San Rafael Swell that would lead to further closures or restrictions in the "limited" OHV category area. Although a new resource management plan is underway in the Price Field Office, it is too early to know what changes, if any, could result to the OHV categories. For this reason, it is not expected that there would be any cumulative impacts to recreational activities in the "limited" OHV category area from route designation.

Mule Deer and Elk Crucial Habitat: Crucial winter habitat for mule deer and elk is located west

of Highway 10 along Castle Valley. This crucial habitat has been disturbed by past OHV use, and the construction of numerous oil and gas wells and associated infrastructure. BLM is currently processing additional applications for permits to drill, which would add to the existing habitat disturbance in this area. Off-site mitigation by industry includes habitat enhancement projects for displaced animals, and is being shown to have a direct positive impact on the big game species. There are three Environmental Impact Statements that have recently been completed that address the cumulative impacts to mule deer and elk. These are the: Ferron Natural Gas Project EIS (BLM, 1999), Price Coalbed Methane Project EIS (BLM, 1997), and the Questar, Williams, and Kern River Pipeline Projects (BLM, 2001). All three documents are available for review at the Price Field Office. Designating OHV routes in the crucial habitat area is considered a benefit to the animals because it limits their disturbance. Because cumulative impacts have been analyzed in the three EISs, they will not be carried forward for further cumulative impact discussion.

Water Quality - Stream Hydrology: The Muddy Creek and the Green and San Rafael Rivers do not meet with Utah Water Quality standards. There are numerous factors which influence the quality of water in these rivers. The Colorado River Water Quality Improvement Program Planning Report for the Price-San Rafael Rivers Unit - Final EIS done in 1993 provides a detailed assessment of the most important factors influencing water quality. It is commonly believed that irrigation practices on farms are one of the largest TSS/TDS contributor to the Colorado River system, outside of natural erosion processes. The 1993 EIS is a plan to improve water quality in the Colorado River by improving the irrigation practices in the Price and San Rafael River sub-basins. Implementation of the plan is in progress at this time. It is expected the quality of water in the San Rafael River will steadily improve as a result.

Besides irrigation practices and livestock grazing, another factor influencing water quality are improperly drained roads. Improper drainage often results in excessive soil erosion. The Price BLM office has implemented Standards for Hydrologic Modification to Roads on all new roads being built. Efforts to correct road drainages are being made at many levels of management. Awareness of the need for better erosion control designs is elevated in both of these agencies, as well as Utah Dept. of Transportation and the Emery County Road Department. Best Management Practices for Hydrologic Modifications have been published by the Utah Division of Water Quality, and are being used extensively throughout the sub-basins which effect the "limited" OHV category areas.

Additionally, there are several permitted industrial and municipal discharges on the tributaries to the San Rafael River which affect water quality. The upper Muddy Creek sub-basin is predominantly managed by the US Forest Service, and watershed improvement projects are being implemented there. In general, activities which contribute TSS/TDS to the Colorado River Basin are being. An overall assessment called the Total Maximum Daily Load (TMDL) process of the West Colorado River Basin is in the beginning stages. This process is intended to provide specific solutions to water quality problems in the basin.

Curbing cross-country OHV use by designating routes available for travel is one more factor that

may help improve water quality. All four alternatives in this Route Designation Plan would enhance the opportunity to reduce erosion and possible subsequent water quality effects. Although unquantifiable, closing 463 miles of inventoried routes to OHV travel in Alternative 3 would likely create the most benefit.

Chapter V - Consultation and Coordination

List of Preparers in Price Field Office:

Lead preparer & writer: Jaynee R. Levy
Recreation and wilderness: Jaynee R. Levy
Wilderness: Tom Gnojek
Wildlife and T&E species, riparian: Wayne Ludington
Soils, Oil & Gas: Mike Kaminski
Paleontology: Mike Leschin
Archeology: Blaine Miller
Hydrology: Kerry Flood
Range: Karl Ivory
GIS: Neil Simmons
Field Office Manager: Richard Manus
NEPA review: BLM Utah State Office Staff

Person, Groups and Agencies Consulted:

Fish and Wildlife Service: Formal Section 7 consultation with the U. S. Fish and Wildlife Service was initiated in 2001; however, a biological opinion has not been received to date.

Emery County: The county commission and their representatives have provided inventory information and recommendations.

Southeastern Utah OHV Club: This local OHV club provided inventory information, recommendations and field tours as well as encouraging their members to do likewise.

Alan Petersen, Scott Wheeler, Toni Kloss: These individual OHV enthusiasts have provided inventory information, recommendations and field tours as well as encouraging other motorized users to do likewise.

Southern Utah Wilderness Alliance (SUWA): Individuals including Ray Bloxham and Heidi McIntosh have provided inventory information, recommendations and field tours as well as encouraging their members to do likewise.

Beginning in 1992, the Price Field Office initiated a public stake-holder process that involved County Commissioners, representatives from SUWA, Utah Trail Machine Association, local motorcycle clubs, a mountain bike club, a cattleman, an outfitter, an outdoor author, representatives from the Wasatch Mountain Club hiking group, and Red Rock 4-Wheelers from Moab, among others. This group met monthly for about 18 months discussing criteria, options, and specific trail problems. Some of the members brought forward new personal information and specific GPS data concerning routes. During the stake-holder meeting process, over 1,000 comments were received from the public (initiated through the stake-holders).

In October 1997, the Price Field Office generated a proposed route designation plan based on the information gathered previously. This proposed plan was coordinated with adjoining BLM Field Offices to ensure consistency. The proposed action was made public, and maps were presented at public meetings in Salt Lake City, Moab, Price, Castle Dale, and Grand Junction, Colorado. Copies were also made available to the public, and press releases were circulated. The proposed plan was also presented to Utah's Congressional Delegation. A 120 day comment period on the proposed plan and travel maps was provided. Over 1,500 additional comment letters were received during public scoping.

Using the public comments and the knowledge from many different groups and interests, the Price Field Office has generated this EA. A complete record of public coordination is available at the Price Field Office. It is part of this EA administrative file.

CHAPTER VI - Implementation and Monitoring Plan

Implementation & Enforcement

All avenues of the media including the Federal Register notice, newspaper, radio, TV and internet would be used to inform the public about the route designations in the San Rafael Planning Area. User-friendly travel maps would be made available to the public. Information would encourage all users to carry a travel map. All routes available for motorized use and suggested modes of travel would be indicated on these maps in addition to *Tread Lightly* information.

People entering the Planning Area would be greeted by kiosks with travel information including a map and explanations of route designations and the signs that they would encounter. Travel ethics would also be included.

Signs would be installed to encourage compliance and reduce confusion. An important function of signing would be to not only inform the user of route designations, but of the opportunities the Plan offers. Many high quality loop trail options would be open to OHV users of various skill levels. Prime non-motorized areas would also be brought to the public's attention.

BLM hopes such actions would aid self-regulation by the user. It is not envisioned that funds or personnel would be available to sign and maintain, at all times, every designated and every non-designated route.

Some existing routes that were not designated for travel would be blocked by natural means such as soil berms, rocks and boulders, and vegetation. Efforts would be made, where feasible, to rehabilitate routes by discing, contouring and seeding. Others would be indicated as "not designated" by man-made barricades such as fences and gates. Fences and gates would need to be used where administrative access would be issued. The ultimate success of route designations, however, would depend upon the compliance of the user.

Specific measures that would be implemented if the proposed action is accepted:

-BLM would provide a route around Mexican Seep spring in Cane Wash in order to preserve the spring.
-BLM would request Utah School Institutional Trust Lands Administration (SITLA) to close the access for motorized travel to Segar's Hole. This access is located on the steep eroding route on section T26S, R8E, sec. 2. This would be done to protect state and federally listed (USFWS) threatened and endangered species and to eliminate cross country travel.
- BLM would demaracate camping areas along the eastern end of the Behind-the-Reef route. Also, BLM would provide signage and/or barricades to restrict OHV access at slot canyons which are avenues for entry into the Crack Canyon WSA.
-As compliance is accepted by OHV users on the four routes within Sid's Mountain WSA, trail markers and unnatural barricades would be removed. Information kiosks would be moved to the boundaries of the WSA. -Operators guiding OHV users in the Sid's Mountain WSA would be

required to provide *Tread Lightly* messages to their clients.

Enforcement of route designations would be required. Where non-compliance is detected and violators are present, contact would be made to inform them of the closure. Further non-compliance could result in citations by Law Enforcement personnel. In addition to patrol by law enforcement officers, members of the public could report violations with proof to authorities, and receive compensation for their efforts. This would be a "neighborhood watch" to subsidize the government's limited "employee power" to patrol such a vast and remote area of public lands. Peer and organized group involvement would be encouraged and partnerships with such interested parties would be a priority of the BLM.

Monitoring plan

The success of management actions to accomplish management goals can only be determined based on monitoring. Monitoring takes many forms, from statistically valid, intensive data collection such as what is currently being performed in Sid's Mountain WSA (see LAC study in Appendix) to more casual collection of information from personal observations. The monitoring methods developed by the Utah Statewide OHV team would be adopted by the Price Field Office as the monitoring methods for the San Rafael Planning Area. Specific resources, including, but not limited to, scenery, wilderness, erodible soil, cultural and historical sites, paleontological resources, sensitive wildlife and their critical habitats, and riparian areas would also need to be monitored. The various specialists must bring to the attention of the authorized officer when resources are in jeopardy. If the public or some other agency suggests such resource jeopardy exists, a study of that situation might be warranted. Resource integrity shall be the major factor in any decision resulting from monitoring.

Public input into the Plan's performance shall be considered, at any time. If actions proposed by this Plan lead to situations where the safety of individuals using the public lands is in question or user conflicts develop that must be resolved, a recommendation shall be made through an interdisciplinary team approach. Any decisions then made by the authorized officer would become part of this plan. Those decisions would be implemented as quickly as possible. Emergency situations shall be resolved immediately by the authorized officer.

All routes open for motorized travel in WSAs and wilderness inventory areas, and citizen's wilderness proposal areas would remain under a "conditionally open" status. These routes would remain open only if motorized travel does not impair the unit for designation. These routes would be scrutinized more intensely by BLM monitoring than public lands with no wilderness values.

Based on monitoring or any of the above, restrictions on travel may be adjusted if anticipated impacts or expected results are not occurring.

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GLOSSARY

Administrative Access: Legal access to a road or trail solely for BLM or BLM permitted management purposes and not for private or public use.

All-Terrain Vehicle (ATV): A small, amphibious motor vehicle, 42" width or smaller, with wheels or tractor treads for traveling over rough ground, snow, or ice, as well as on or through water.

Areas of Critical Environmental Concern (ACEC): areas of public land where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards.

Best Management Practices (BMP's): Defined in the 'Utah Non-point Source Management Plan' of 1989 as "methods, measures, or combinations of measures that are determined by an agency after problem assessment to meet its non-point source pollution control needs. They include, but are not limited to, structural and nonstructural controls, and operation and maintenance procedures."

BLM Roads/BLM Transportation System: Those roads owned and/or maintained by the BLM; generally, those roads providing administrative and/or public access on BLM-managed public lands; often but not necessarily graded roads, maintained for 2WD access.

Closed: an OHV use category for an area where OHVs are prohibited.

County Road: a road that is maintained by the road department of that county with the authorization of the BLM either through a granted right-of-way, or a valid RS 2477 determination.

Crucial Habitat: for wildlife means sensitive use areas that are necessary to the existence, perpetuation, or introduction of one or more species during critical periods of their life cycles. Areas are identified by the Utah Division of Wildlife Resources (UDWR), with input from federal agencies, and are important to the animal's management. This habitat may change over time as animal populations and habitat conditions change. Therefore the area affected by decisions made in the RMP and in this plan may also change, without having to revise either plan.

Designated Routes: Roads and trails which have been officially designated by the BLM for specific uses, such as motorized or non-motorized; these roads are often signed and marked on maps to indicate the designation.

Eligible River Segment: A section of a river that qualifies for inclusion into the National Wild and Scenic River System through determination that it is free-flowing and with its adjacent land area possessing at least one river-related value considered to be outstandingly remarkable.

Existing road or trail: Vehicle routes that were present, are substantially obvious and were identified and mapped during the inventory and public participation phases of this Plan. The inventory used in this Plan was complete in June 1994; only a few routes have since been added.

Improved and Maintained: Actions taken physically by people to keep the road open to vehicle traffic. "Improved"does not necessarily mean formal construction. "Maintained" does not necessarily mean annual maintenance.

Mechanical means: Use of hand or power machinery or tools.

Limited to Designated Roads and Trails: an OHV use category for an area where motorized off highway vehicle use is allowed on designated roads and trails only.

Off-highway vehicle (OHV) / Off-road vehicle (ORV): Any motorized vehicle designed for or capable of cross-country travel over lands, water, sand, snow, ice, marsh, swamp-land, or other terrain. For the purposes of this EA, OHVs do not include mountain bikes.

Open: An OHV use category for an area where all types of vehicle use is permitted, at all times, anywhere within that area.

Recreation Opportunity Spectrum (ROS) Classes: Provides a way of describing and providing a range of recreational uses (opportunities) based on activity, setting and experience:

> *Semi-Primitive Non-Motorized (SPNM)* - High probability of experiencing solitude and closeness to nature with a high degree of challenge and risk. Little interaction with other users. Access and travel is non-motorized on trails, some primitive roads and cross country.

Route: A path, way, trail, road or other established travel corridor. Often referred to as "roads and trails".

Seasonal Closure: The legal closure of a road or trail by the BLM during a specific period each year to protect critical, fragile or important resources.

Sensitive species: A designation which is applied to species: (1) not yet officially listed but which are under-going status review or are proposed for listing, (2) whose populations are consistently small and widely dispersed, or (3) whose numbers are declining rapidly.

State Highways: Within the San Rafael Planning Area, these include Highways 10 and 24.

Visual Resource Management: The planning, designing, and implementation of management objectives to provide acceptable levels of visual impacts for all BLM resource management activities.

Way: A vehicle route maintained solely by the passage of vehicles which has not been improved and/or is not being maintained by mechanical means to ensure relatively regular and continuous use.

Wilderness Characteristics: Identified by Congress in the Wilderness Act of 1964; namely, size, naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation, and supplemental values such as geological, archeological, historical, ecological, scenic, or other features. Areas with wilderness characteristics must also be roadless.

Wilderness Inventory Area (WIA): Public lands inventoried by the BLM and determined to have wilderness characteristics. Direction for inventories is provided by FLPMA Sections 202 (a) (2) and (8), 201 (a), and 202 (c) (4) and (9), and land-use planning Sections 202 (a), (b), and (c), and 205 (b). See *1999 Utah Wilderness Inventory* (BLM. 1999)

Wilderness Study Area (WSA): A roadless area that has been inventoried and found to have wilderness characteristics as described in Section 603 of Federal Land Policy Management Act of 1976 (Public Law 94-579, 90 Stat. 2743, 43 USC 1701) and Section 2(c) of the Wilderness Act of 1964 (78 Statute 891). WSAs have the potential of being included in the National Wilderness Preservation System but are not yet the subject of a congressional decision regarding designation of wilderness.

APPENDIX 1

1. FEDERAL REGISTER NOTICE, MARCH 2000

DEPARTMENT OF THE INTERIOR
Bureau of Land Management
[UT-070-1210-00]
Notice of Emergency Off-Road Vehicle Closures in Wilderness Study Areas Located in the San Rafael Swell Region

AGENCY: Bureau of Land Management, Interior
ACTION: Notice of a temporary emergency closure pursuant to regulations at 43 CFR 8341.2(a) to off-road vehicles (ORVs), also commonly referred to as off-highway vehicles (OHVs), on public lands and existing vehicle ways within the boundaries of seven Wilderness Study Areas (WSAs).
SUMMARY: This notice closes public lands within the Muddy Creek, Sid's Mountain/Sid's Cabin, Devil's Canyon, Crack Canyon, San Rafael Reef, Horseshoe Canyon and Mexican Mountain WSAs**,** located in the San Rafael Swell region of central Utah**,** to motorized vehicles. An emergency closure order is necessary due to ORV-caused damage to soils, vegetation and other resources which is impairing wilderness values over extensive portions of the affected WSAs. The closure affects all public lands identified with the exception of Coal Wash, South Fork and North Fork of Coal Wash, and the Eva Conover and Devil's Racetrack motorized vehicle ways, located in the Sid's Mountain WSA, which remain open on a conditional basis. This closure applies to all motor vehicle use with the exception of law enforcement and emergency personnel or administrative uses authorized by the BLM.
DATES: This emergency closure order is effective immediately and will remain in effect until adverse effects are eliminated and measures are implemented to prevent reoccurrence, as identified in 43 CFR 8341.2 (a). Should the rehabilitation work and non-impairment plan associated with Coal Wash, South Fork and North Fork of Coal Wash, and the Eva Conover and Devil's Racetrack routes and adjacent lands not result in abatement of adverse effects, the ways will be closed to motorized vehicle use**.** Authorities for the closure order are 43 CFR 8341.2(a).
FOR FURTHER INFORMATION CONTACT: Dick Manus, Price Field Office Manager, 125 South, 600 West, Price, Utah 84501. Telephone (435) 636-3600.
SUPPLEMENTAL INFORMATION: The establishment of WSAs in the San Rafael Swell region in 1980 placed lands under protective management as specified by the Interim Management Policy (IMP) for lands under wilderness review. Under the IMP, motor vehicle use could continue on existing vehicle ways as long as that use does not impair wilderness values. The 1991 San Rafael Resource Management Plan (RMP) further addressed ORV use in the region by allocating all lands in the affected WSAs in either the "limited use" restricted to designated routes, or the "closed" to ORV use categories. Following the RMP, the BLM Price Office initiated a planning effort to designate the routes in the San Rafael planning unit, including lands in the affected WSAs within the limited use ORV category. This planning effort included extensive coordination with local governments and interest groups, as well as the formation of a citizen's team to advise on ORV route designations. Despite these efforts, route designation has remained a contentious issue and a travel plan for the San Rafael Swell, including the affected WSAs, has not been completed. Throughout this period, ORV use in the San Rafael Swell has increased tremendously. The proliferation of vehicle ways beyond the ways inventoried at the time of WSA designation has become a serious problem. Damage to soils, vegetation and other resources is occurring in many areas degrading naturalness and other wilderness qualities. The impairment of wilderness values necessitates this emergency closure order in the seven WSAs located in the San Rafael Swell region. The closure effects motorized vehicle use on all public lands identified with the exception of the five routes described as follows: (1). the wash bottom of Coal Wash, (2). the "Eva Conover" route north to its junction with South Fork Coal Wash, (3). the wash bottom of South Fork Coal Wash from the Eva Conover junction north to the junction of the wash bottom of North Fork Coal Wash, (4). the wash bottom of North Fork Coal Wash south until it exits the WSA over "Fix-It-Pass" and (5). the "Devil's Racetrack way" from the North Fork of Coal Wash south to the boundary of the Sid's Mountain WSA. These routes will remain open on a conditional basis. Motorized use of these routes will be allowed to continue contingent upon the success of a rehabilitation and monitoring plan designed to restore areas to non-impairment conditions and prevent further travel off of these pre-described routes. Should the plan not restore the area, these areas will also be closed until adverse effects can be eliminated. The net effect of this action combined with previous land use

decisions, is that all WSA's administered by the Price Field Office are closed to ORV use except for the routes specified as conditionally open in this notice.

Nothing in this order alters in any way legal rights which Emery County or the State of Utah may claim to assert R.S. 2477 highways, and to challenge in Federal court or other appropriate venue, any BLM road closures that they believe are inconsistent with their claims.

Note for clarification purposes: Horseshoe Canyon refers to Horseshoe Canyon (North) WSA, that portion within Emery Co., only. About 2000 acres of this WSA is located within the Richfield Field Office, administered by the Henry Mountain Field Station in Hanksville, UT.

2. FEDERAL REGISTER NOTICE, FEBRUARY 1992

DEPARTMENT OF THE INTERIOR
Bureau of Land Management
[UT-060-02-4352-08]
Emergency Closure and Restriction on Public Land in the Wedge Portion of the Middle San Rafael River Area of Critical Environmental Concern (ACEC)

AGENCY: Moab District, San Rafael Resource Area, Utah. Bureau of Land Management, Interior
ACTION: Notice of Closure and Restriction of Public Land for the Protection of Endangered Plant and Wildlife Resources.
SUMMARY: Pursuant to the regulations contained in 43 CFR 8364.1 the Bureau of Land Management is limiting motorized vehicle and mountain bike travel to designated roads and trails, and camping to designated campsites. The restrictions will be in effect on approximately 10,200 acres of public land on and around the Wedge Overlook. These locations are located within and surrounding the Middle San Rafael Canyon ACEC, and includes all lands and roads not marked with an open sign. These restrictions are in keeping with the designation for this area as described in the San Rafael Resource Management Plan of 1991. A map of the area described above may be viewed in the Resource Area office. The limitation is necessary to prevent further deterioration of the area's endangered plant and wildlife resources. Personnel that are exempt from the area limitation include any Federal, State, or local officer, or member of any organized rescue or fire-fighting force in the performance of an official duty, or any person authorized by the Bureau.
DATES: This limitation is effective March 28, 1992, and shall remain in effect until rescinded by the authorized officer.
PENALTIES: Violators are subject to fines not to exceed $1,000 and/or imprisonment not to exceed 12 months.
FOR FURTHER INFORMATION CONTACT: Penelope Smalley, San Rafael Resource Area Manager, 900 North 700 East, Price, UT 84501 or phone (801) 637-4584.

Roger Zortman,
District Manager
(FR Doc. 92-1043 Files 2/21/92; 8:45 am)

APPENDIX 2

EMERY COUNTY PLAN :

Recreation and Tourism

pg 8: "Due to its unique and varied landscape, Emery County provides a number of diverse recreational opportunities. The mountains, desert, forests, and water resources continue to provide wonderful settings for traditional recreational uses such as hiking, hunting, fishing, camping, and trail riding. The region is also becoming increasingly popular for non-traditional recreational uses such as mountain biking, river-running, and off highway vehicle (OHV) riding. The County desires to control and mitigate recreational uses and will consider devices to address impacts."

"When evaluating potential recreational developments and investments the County will consider: ...impacts on traditional recreational uses (example: OHV trail development at the expense of traditional hiking or riding trails.)"

pg. 11: "We value the beauty of our natural environment and the recreational opportunities it provides. An important part of our rural lifestyle is the enjoyment of the outdoors and open spaces that the public land surrounding our communities offers us. We enjoy "generations old" traditions, such as "Easterin," that are tied directly to the lands of the San Rafael Swell. It is our desire to manage these lands so that our descendants can enjoy them just as we have.'

Emery County SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis- Threats (pg 14) -Restrictions on use of, and access to, public lands and recreation opportunities

pg 16: "To assure greater County involvement in public land management, the county will:
-actively participate in all relevant public land management decisions;
-show continued support for multiple-use management of BLM, USFS, and State lands;
-Support responsible use and protection of public land resources; and
-work to preserve and maintain public land access routes, such as those recorded on the County's RS2477 filings."

Mission Statement (pg 17):
"The mission of Emery County lands Council is to represent the public lands interests of Emery County and its citizens and to perform an advocacy role for the local stakeholders; to work in partnership with federal and state agencies in fashioning management decisions and policies affecting lands within Emery County; and to participate in the development, coordination, and implementation of the planning objectives of these various entities to ensure harmony between the objectives of these various entities and the Emery County Master Plan."

Position Statement (pg 18):
"We believe it is possible to protect the lands without endangering our economy, and we believe that we can develop and expand our local economy without endangering the wilderness values of the lands of the San Rafael Swell....We also declare our willingness to work with the BLM in controlling visitation to certain areas by requiring permits and/or other such controls.

Action/Implementation steps (pg 21-22)
"The public lands council will:
-Gather valid data showing impacts to County residents if land management practices are altered or discontinued
-Propose land management policies and practices that meet County goals. One major goal is to protect the County's public land resources while allowing and encouraging responsible use of the same.
-Review federal and state resource management plans to determine how they meet the County's goal of multiple-use/sustained yield. This includes reviews of proposed modifications to existing uses."

Pg 23: As Utah's population grows and more demands are placed upon public land, "visitor management" is

becoming as important as land management in the protection and wise use of resources. County services such as road maintenance, EMT coverage, and law enforcement benefit public land users. However, demands for these services are increasing and there is no mechanism in place that allows the County to recover associated costs. The County will work with land management agencies to preserve valid traditional uses, minimize human impacts, and at least partially recover the cost of County-provided services. Strategies might include (but are not limited to):

-Separating incompatible uses (e.g. hiking and OHVs) in time and/or distance.
-Using licenses, permits, user fees, or toll roads to control access and recover costs.
-Bringing together diverse stakeholder groups to set goals, minimize land-use conflicts and resolve problems.
-Educating the public on land-use issues and etiquette.

Emery County Policy- Public-Lands Recreation and Tourism (pg 25)

"Due to its unique and varied landscape, Emery County provides a number of diverse recreational opportunities. The mountains, deserts, forests, cultural, archeological, and water resources continue to provide wonderful settings for traditional recreational uses such as hiking, hunting, fishing, camping, site-seeing, snowmobiling, cross country skiing, and trail riding. The region is also becoming increasingly popular for non-traditional recreational uses such as mountain biking, river-running, and OHV riding."

Emery County Policy-Transportation (pg 31)

"The County's roads also connect the various communities to one another as well as provide convenient access for residential, cultural, and recreational uses and for access to resources such as grazing, agriculture, oil and gas development, water, and timber. More importantly the thoroughfares crossing the public domain tie resident and visitors to the land and its unique beauty.

Of the 2.9 million acres of land comprising Emery County only 268,900 (9.2%) have been identified as roadless. A recent UDOT report indicates that jurisdictional roads claimed by the state, County, cities, Forest Service, BLM, and National Parks total 1,786.73 miles. It is estimated that there are at least as many more R.S. 2477 roads across public lands leading to old mine sites, abandoned and active claims, ghost towns, old homesteads, archeological and geological sites, petroglyphs, cattle grazing areas, ponds, drill sites, seismological roads, recreational, and scenic areas; all still actively in use. The County's nertwork of roads have been important to the formation and enjoyment of Emery County's unique character. "

Public Access (pg 31)

"It has been the declared policy of Emery County to work to preserve and maintain public land access routes and cooperate with the various state and federal agencies and special interest groups regarding land use policies. Government agencies and users will recognize the County's right to assert its preemptive authority over all claimed roads with inherent rights to access and maintain said roads to safe applicable standards while allowing continued multiple use and development of our lands as originally granted by the Mining Act of 1866 and as specified by R.S. 2477 and in compliance of FLPMA."

SWOT Transportation Analysis- Weaknesses (pg 32)

"Roads in and across the public domain must undergo normal processes of reconstruction. These processes can be subject to costly delays from special interest groups hosting environmental appeals and endless governmental "red tape", even though the roads were established long before current regulations and environmental sensitivities were considered applicable to Emery County.

Extensive deep Coal-bed methane extraction will require numerous developmental roads which will seriously impact the unimproved native portions of the County's road system. The product extracted from the mines is transported by pipeline, causing the access roads to be only incidental to the industry, and of little use to the local economy, therefore, not a worthwhile County investment. It is further noted that local users occasionally are interested in incorporating developmental roads into the existing network, often at significant expense to the County."

Pg 33: Objective: Sustain access across public lands while improving roads to acceptable safe

standards

Threats (pg 34)
"The County feels that continued environmental lockup of County areas with abundant resources that have been historically accessible for traditional uses, is a real threat to our economy. This prospect also threatens development of potential recreational resources and limits access to public lands. Many of our primary desert or mountain roads could be eliminated by the BLM/USFS, or be subject to improvement activities so restricted by regulations and litigation that the County cannot sustain them. The County is required to keep roads to applicable safe standards which has been a contentious issue between the County's asserted RS-2477 rights and BLM/USFS management policies."

Transportation History and Background (pg 35)
"The vast majority of County roads which lie across the public lands were established in accordance with the 1866 Mining Act. In 1873, section 8 of the Act received codification called the Revised Statute 2477 which stated that "the right of way for the construction of highways over public lands , not reserved for public uses, is hereby granted." A highway by definition in 1867 was adequately defined in Burrill's Law Dictionary as: "a public way or road; a wagon passage open to all; a way over which the public at large have a right of passage." (Salt Lake Tribune)

It was those "Acts of Congress" which were enacted to help facilitate the settlement and development of the Western public lands. Yet in 1964, the Wilderness Act was implemented endeavoring to secure and reserve vast tracts of the public domain for future preservation. Section 4 (c) of the Wilderness Act of 1964 specifically states that there shall be "no permanent road within any wilderness area" and except for the purpose of administration, "no temporary road," and "no use of motor vehicles" within any such area. Section 2 (c) of the act, defines wilderness as "Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (2) has outstanding opportunities for solitude."

In 1976 the Federal Land Policy and Management Act (FLPMA) was passed repealing the RS2477 policy. Heavy prodding of the federal government by powerful special interest environmental groups has caused a systematic squeezing off of access to much of the public lands. Every new BLM Resource Management Plan or Forest Plan endeavors to drastically reduce or eliminate travel and access opportunities across public lands. Obviously this "policy" in closing or limiting access through the public domain is having immediate impacts to citizens and potentially jeopardizes Emery County's economic future by severing the land and its resources from its people. It is particularly important to understand that the County and the state are only trying to maintain access to historical travel routes not necessarily create new ones."

Watershed Protection (pg 51)
"The County recognizes recreation as a prominent factor in our social fabric. However, recreationists must accept the responsibility of maintaining a clean healthy watershed. Facilities should be provided and maintained to control human waste, and trails and signs should be developed that guide hikers away from delicate riparian zones. The County supports the concept of any motorized vehicle being used only on designated roadways in order to control erosion."

APPENDIX 3

Table 1: **Wilderness Study Area Acres and Miles of Routes Found in the "Limited" OHV Category Area**

Wilderness Study Area ***Name***	***Acres in the OHV "Limited" Category*** **Area**	**Miles of Vehicle Routes in the"Limited" Area (BLM lands only) by Alternative**			
		Alt. 1 "no action"	**Alt. 2**	**Alt. 3**	**Alt.4 "proposed action"**
Sid's Mountain	39,857	46	0	39	46
Mexican Mountain	17,753	3	0	0	0
San Rafael Reef	19,219	17	0		0
Crack Canyon	25,938	3	0	0	0
Muddy Creek	4,657	0	0	0	0
Devils Canyon	9,141	1	0	0	0
Horseshoe Canyon North	1,997	1	0	0	0
Totals in Limited Category	298,538	71	0	39	46

Table 2:**Wilderness Inventory Area Acres and Miles of Routes Found in the "Limited" OHV Category Area**

Wilderness Inventory Area ***Name***	***Acres in the "Limited" OHV Category Area***	**Miles of Vehicle Routes in the"Limited" Area (BLM lands only) by Alternative**			
		Alt. 1 "no action"	**Alt. 2**	**Alt. 3**	**Alt.4 "proposed action"**
Sid's Mountain	19,403	25	0	4	5
Mexican Mountain	26,057	8	0	0	1
San Rafael Reef	37,331	45	0	9	9
Muddy Creek-Crack Canyon	95,633	59	0	3	15
Hondu Country	20,185	3	0	1	0

Devils Canyon	8,870	6	0	0	0
Upper Muddy Creek	18,110	1	0	0	0
Mussentuchit Badlands	18,450	3	0	0	0
Cedar Mountain	15,056	0	0	0	0
Limestone Cliffs	496	0	0	0	0
Wild Horse Mesa	21,712	1	0	0	0
Labyrinth Canyon	17,235	19	0	2	2
Total Acres in Limited Category	298,538	169	0	19	32

Table 3**:** **Citizen Proposed Wilderness Areas Acres and Miles of Routes Found in the "Limited" OHV Category Area**

Citizen Proposed Wilderness Area	***Acres in the "Limited" OHV Category* Area**	**Miles of Vehicle Routes in the"Limited" Area (BLM lands only) by Alternative**			
		Alt. 1 "no action"	**Alt. 2**	**Alt. 3**	**Alt.4 "proposed action"**
Flat Tops	1,400	0	0	0	0
Wild Horse Mesa	14,069 (c.1400 outside WIA)	15	14	4	4
Sweetwater Reef Limited Seasonally	8,199 4,100	5 1	5	3	3
San Rafael River Limited Seasonally	57,100 44,400	20 20	20	15	15
Eagle Canyon	38,714	29	28	2	11
Molen Reef	32,218	28	28	4	18
Rock Canyon	12,500	2	2	1	1
Total CPA Acres in Limited Category -With Seasonal Limitations	108,718 156,218				

APPENDIX 4

FEDERALLY ENDANGERED, THREATENED OR CANDIDATE SPECIES THAT WERE CONSIDERED BUT NOT AFFECTED BY THE "LIMITED" OHV DESIGNATION

Barneby's reed-mustard FE (*Schoenocarmbe barnebyi*)
S. barnebyi is a perennial herbaceous plant, with sparsely leafed stems arising from a woody root crown. The flowers of S. barnebyi have petals that are light purple with prominent darker purple veins and measure about 12 mm long and 2.5 mm wide. The plant grows on steep, north facing slopes of the Moenkopi Formation. Elevation ranges between 1646-1753 m (5400-5750 ft). This species grows in the salt desert shrub zone and is commonly found with Ephedra and Eriogonum. The plant was listed as Federally Endangered in 1992 (FR Vol 57, No. 9, pages 1398-1403). The major threat to this species is primarily their limited distribution which is generally associated with the geological formations that contain uranium. Assessment work in connection with mining claims for uranium poses a significant ongoing threat to the San Rafael Swell population. The Utah Reed-Mustard Recovery Plan was completed for this species in 1994. This plan calls for additional inventories to be completed on the plant and protection of the know habitat from disturbance.

The only know population in the San Rafael Swell is located in the southern portion of the swell near Muddy Creek. Although there is extensive habitat available along the "backside" of the San Rafael Reef. It is unlikely that designation of routes would affect this plant because their steep habitat is inaccessible for OHVs.

Shrubby reed-mustard	FE	Schoenocarmbe suffrutescens	1
Uinta Basin hookless cactus	FT	Sclerocactus glaucus	1
Graham beardtongue (Uinta Basin penstemon)	FC	Penstemon grahamii	1

All three of theses plants are found near the northeast corner of Carbon County. None of them occur in the "Limited" OHV category area and would not be affected by the designation of routes.

Bald Eagle FT (Haliaeetus leucocephalus)
The "limited" OHV area a population of wintering bald eagles. One known nest is located within the area. The mule deer winter range provides a good forage base for the wintering bald eagles.

Eagles are expected to winter within areas of suitable habitat within the "limited" OHV area. Feeding areas, diurnal perches, and night roosts are fundamental elements of bald eagle winter range. Although eagles can fly as far as 24 kilometers (15 miles) to and from these elements, they primarily occur where all three elements are available in comparatively close proximity (Swisher 1964).

Food availability is probably the single most important factor affecting winter eagle distribution and abundance (Steenhof 1978). Fish and waterfowl are the primary food sources where eagles occur along rivers, lakes, streams, and dams. Waterfowl, such as dead, sick, or crippled individuals are often taken when fish are not readily available (Shickley 1961 and Spencer 1976). Eagles are often attracted to wintering concentrations of waterfowl. In some regions, such as Utah, carrion can also be an important food source.

Observations indicate perch sites usually must have three properties before they attract eagles. First, they must be in plain view of potential food sources. Second, they are largely within 160 feet (50 meters) of water, (Vian 1971 and Stalmaster et al. 1979). Finally, perches are usually in areas that are free from human disturbance.

Roosts may be used by individual birds or small to large groups of birds. Also, roosts can be used in successive years. Large, live trees of dominant or co-dominant species that occur in sheltered areas (e.g., in the protected slopes of a valley or ravine or behind a bluff) are preferred (Lish 1975).

Nest sites are the primary habitat feature important to breeding eagles. Although nests are usually located in trees, they can also occur on the ground or on cliff ledges. Eagles prefer to nest in live trees and construct the nest just

below the top of the tree (Todd 1979). Nests can be found in any tree large enough to hold a nest. Nests are also usually close to water and food sources. Good visibility from the nest and a clear flight path to and from the nest are essential requirements (Grubb 1976).

Within Utah, the presence of only four bald eagle nests has been documented. These nests are located in riparian habitats along the Colorado and Jordan rivers and in a shelter belt near the town of Castle Dale (UDWR 1997). This nest was active in 1997 and 1998. The Bald Eagle nest is on private land, while the winter bald eagles concentrate where food is abundant, primarily near highways where they can find road killed animals. The designation of routes within the "limited" OHV designation area would not affect these birds.

Endangered Colorado River Fish

The following four species of fish occur in the Upper Colorado River basin and are listed as endangered. The USFWS manages these species according to the "Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin" (Recovery Program). The primary concern addressed by the Recovery Program is the depletion of water from the Upper Colorado River basin. As a result of the Recovery Program's implementation, mandatory mitigation exists for depletions of water from the Upper Colorado River basin.

Bonytail Chub (*Gila elegans*)

The bonytail chub is generally associated with open water areas of large river channels. Water depths of 3 to 4 feet with uniform depth and velocity are preferred. In addition, shifting, sandy substrates are chosen. Adults most often feed on terrestrial insects that it takes from surface feeding (Behnke and Benson 1983). Adults typically do not spawn until they are 5 to 7 years old. Spawning occurs in water temperatures near 65°F during June and July (Behnke and Benson 1983). Since 1980, the nearest occurrence of bonytail chubs was in the Green River in Desolation and Cataract Canyons (Sigler and Sigler 1996). Only the Cataract Canyon is downstream from the Project Area. Primary concern for this fish is from the watershed is loss of water going into the river and this alternative is not expected to result in water loss.

Colorado Pikeminnow (*Ptychocheilus lucius*)

Adult Colorado pikeminnow prefer the deeper areas of river channels while, first year fish utilize quiet backwater areas and side channels (Woodling 1985). Adults generally spawn at 6 to 7 years of age. Adults are predacious and generally feed on other fishes. Spawning is thought to take place during mid-summer in water temperatures between 68° to 72°F (Woodling 1985). However, juveniles generally feed on small invertebrates (Behnke and Benson 1983). However, pikeminnow have recently been found outside but near the Project Area in the Price River. They were found up to a diversion located one mile south of the town of Wellington, 88.5 miles upstream of the Green River. Primary concern for this fish is from the watershed is loss of water going into the river and this alternative is not expected to result in water loss.

Humpback Chub (*Gila cypha)*

The humpback chub is typically associated with deep, swift waters such as those found in canyons. Young humpback chubs prefer quiet backwater areas, much like that of young pikeminnow. The humpback feeds on invertebrates by foraging on the river bottom. However, they have also been observed to surface feed (Behnke and Benson 1983). Spawning typically occurs from May through July. Water temperatures for spawning are near 65°F. However, not much is known about the spawning habitats of the humpback.

Currently, the largest known population occurs in the Black Rocks area downstream of Grand Junction CO. Suitable habitat for the humpback chub does not occur within the Project Area. The nearest recent occurrence of humpback chubs was in the Green River in Desolation, Cataract and Westwater Canyons (Sigler and Sigler 1996). Primary concern for this fish is from the watershed is loss of water going into the river and this alternative is not expected to result in water loss.

Razorback Sucker (*Xyrauchen texanus)*

The razorback sucker is typically associated with off channel ponds and backwater areas. In addition, eddies, backwater areas, gravel pits, flooded bottoms, and flooded mouths of tributaries are utilized (Behnke and Benson

1983). Adults generally feed on small invertebrates and algae which they remove from the substrate.

Spawning generally occurs from January and February through April. Spawning typically occurs over gravel bars, silt, cobbles, and in off channel ponds. In addition, spawning occurs when water temperatures are between 54° and 68°F and depths range from 1 to 20 feet (Behnke and Benson 1983). However, non-native fish prey upon the eggs thereby reducing reproductive success. After hatching the young prefer shallow littoral zones for the first few weeks (Behnke and Benson 1983).

The USFWS has proposed designating the Colorado River from Rifle, Colorado to Lake Powell as critical habitat for the razorback (USFWS 1993). They are scarce to rare in the Green River near Vernal, Utah to Lake Powell (Sigler and Sigler 1996). They historically occurred commonly in the Price river not in the Project Area, and have recently been found with in the Project Area, at the mouth of the San Rafael River (Berg 1997). Primary concern for this fish is from the watershed is loss of water going into the river and this alternative is not expected to result in water loss.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES NOT AFFECTED BY THE "LIMITED" OHV DESIGNATION

COMMON NAME	STATUS*	SCIENTIFIC NAME	OCCUR**	NOTES
Plants				
Barneby reed-mustard	FE	Schoenocarmbe barnebyi	3	The plant grows on steep, north facing slopes of the Moenkopi Formation. There are no routes in on these steep slopes and the plant would not be affected.
Shrubby reed-mustard	FE	Schoenocarmbe suffrutescens	1	Not Present in the "Limited " OHV category area. Found in north eastern Carbon county.
Uinta Basin hookless cactus	FT	Sclerocactus glaucus	1	Not Present in the "Limited " OHV category area. Found in north eastern Carbon county.
Graham beardtongue (Uinta Basin penstemon)	FC	Penstemon grahamii	1	Not Present in the "Limited " OHV category area. Found in north eastern Carbon county.
Alcove bog-orchid	BS	Habenaria zothecin	3	Potentially-suitable habitats for the Alcove bog orchid are restricted to the moist environments scattered in the desert shrub and oak brush communities, such as seeps, and hanging gardens. The alcove bog-orchid, would not be affected because of the rugged habitat they are found in.
Book Cliffs blazing star	BS	Mentzelia multicaulis var. librina	1	Not Present in the "Limited " OHV category area.
Thompson talinum	BS	Talimum thompsonii	1	Not Present in the "Limited " OHV category area. Found on cedar Mountain just north of the Travel Plan area.
Birds				
Bald Eagle	FT	Haliaeetus	3	The Bald Eagle use the area for both wintering and nesting. Both activities utilize areas presently undisturbed by OHV

		leucocephalus		use and are not expected to be affected by designating routes.
Northern goshawk	BS	Accipiter gentilis	2	This migrant raptor occurs statewide in scattered populations primarily in mature montane conifer-aspen forest. While the raptor may potentially be present it doubtful that designating routes would affect this bird.
Swainson's hawk	BS	Buteo swainsoni	1	Not Present in the "Limited " OHV category area. Nests in northern valleys and West Desert of Utah.
Short-eared owl	BS	Asio flammeus	2	This raptor is permanent resident of central and northern Utah wetlands and deserts. Walters and Sorensen (1983) listed the habitats in Utah where this species is known to nest as marshes and wert hummocks, agricultural crop lands (non-woody, arid grasslands*). With the birds tolerance of agricultural areas is not felt that designation of OHV routes would affect this bird.*
Mountain Plover	*BS*	*Charadrius montanus*	*1*	*Not Present in the "Limited " OHV category area. Mostly migratory, with some nesting in Uinta Basin*
*Peregrine Falcon***	*BS*	*Falco peregrinus var. anatum*	*3*	The peregrine falcon nests on high cliffs along the rivers in the project Area. The amount of disturbance these birds will tolerate varies among the individuals. Some birds have nested on cliffs overlooking high use areas for camping and vehicles. As there will be no new roads and the vehicles will be restricted to existing roads it is not felt that the alternative will have an impact on these birds.
Long-billed curlew	*BS*	*Numenius americanus*	*1*	*Not Present in the "Limited " OHV category area. Nests in northwest Utah*
Osprey	*BS*	*Pandion haliaetus*	*3*	*Occasional migratory bird in the area. The Osprey remains close to bodies of water and do not appear to be disturbed by vehicle traffic.*
Caspian tern	*BS*	*Sterna caspia*	*1*	*Not Present in the "Limited " OHV category area. Nest in colonies around the Great Salt Lake*
Mammals				
Ringtail	*BS*	*Bassariscus astutus*	*3*	The ringtail lives on rocky slopes inaccessible to vehicles. The vehicles would be restricted to existing roads and would not be expected to travel near these areas
Spotted Bat	*BS*	*Euderma maculatum*	*3*	In 1997 a bat study was conducted on the Manti-La Sal National Forest immediately northwest of the Project Area. The results of this survey suggested spotted bats were widely distributed, although in low densities, throughout the study area (Sherwin et al. 1997). The spotted bat is anticipated to occur within areas of suitable habitat within the Travel Plan Area. They roost and perch in areas undisturbed by vehicles and would not be affected by the designation of routes.
Western red bat	*BS*	*Lasiurus blossevillii*	*2*	The western red bat, Lasiurus blossevillii, occurs in the western United States and parts of Mexico. The species is extremely rare in Utah *where it roosts in trees. They would*

				not be affected by the designation of routes.
Northern River Otter	*BS*	*Lutra canadensis*	*2*	The northern river otter live in areas inaccessible to vehicle in the Green River. *All vehicles would be restricted to designated roads and would be expected to travel near these animals.*
Fringed Myotis	*BS*	*Myotis thysanodes*	*2*	The fringed myotis typically occurs in areas of ponderosa pine, pinyon-juniper, saltbush, scrub oak, and greasewood. This non-migratory bat generally roost in rock crevices, caves, mines, buildings, and trees (Colorado Division of Wildlife [CDOW] 1984). *The bat is unlikely to be affected by the designation of routes for vehicles.*
Big Free-tailed Bat	*BS*	*Nyctinomops macrotis*	*2*	The northern range of the big free-tailed bat extends to the southern two-thirds of Utah. Their presence within this range is very rare *and they are not likely to be affected by designation of routes for vehicles.*
Townsend's Big-eared Bat	*BS*	*Plecotus townsendii*	*3*	The Townsend's big-eared bat occurs in the area. These non-migratory bats hibernate from October to February in hibernaculm that vary from caves, old mine shafts, rocky outcrops, and abandoned buildings (CDOW 1984). Greatest threat is disturbance of the bat in their hibernaculm or roosts. This action would not be likely to affect the bat.
Dwarf Shrew	*BS*	*Sorex nanus*	*1*	*Not Present in the "Limited " OHV category area. It is found at high elevation.*
Thirteen-lined Ground Squirrel	*BS*	*Spermophilus tridecemlineatus*	*1*	*Not Present in the "Limited " OHV category area. It is found in the Uinta Basin.*
Brazilian Free-tailed Bat	*BS*	*Tadarida brasiliensis mexicana*	*2*	The Brazilian free-tailed bat is a migratory species that inhabits the southern portion of the state. *This action is not expected to affect these bats.*
Fish				
Humpback chub	*FE*	*Gila cypha*	*4*	Suitable habitat for the humpback chub does not occur within the Project Area, with the nearest habitat being in the Green River in Desolation, Cataract and Westwater Canyons (Sigler and Sigler 1996). The primary concern addressed by the Recovery Program is the depletion of water from the Upper Colorado River basin. This action will not remove any water from the basin.
Bonytail chub	*FE*	*Gila elegans*	*4*	The primary concern addressed by the Recovery Program is the depletion of water from the Upper Colorado River basin. This action will not remove any water from the basin.
Colorado pikeminnow	*FE*	*Ptychocheilus lucius*	*4*	The primary concern addressed by the Recovery Program is the depletion of water from the Upper Colorado River basin. This action will not remove any water from the basin.
Razorback sucker	*FE*	*Xyrauchen texanus*	*4*	The primary concern addressed by the Recovery Program is the depletion of water from the Upper Colorado River

				basin. This action will not remove any water from the basin.
Bluehead sucker	*BS*	*Catostomus discobolus*	*3*	Bluehead suckers occur in fast flowing, rocky riffles in small to large rivers. Occupied habitats are generally in higher gradient reaches. Changes in flow regimes, habitat loss, and introduction of non-native fish species are the major cause of decline for this species. *This action would not affect the limiting factors for this fish and therefore would not affect the fish.*
Flannelmouth sucker	*BS*	*Catostomus latipinnis*	*3*	This species is endemic to the Colorado River Basin in slow-flowing, lower gradients of larger rivers. Introduction of non-native fish species, habitat loss, and changes in flow regimes has caused a decline in populations of this species. *This action would not affect the limiting factors for this fish and therefore would not affect the fish.*
Leatherside chub	*BS*	*Gila copei*	*3*	*This fish is found in pools and riffles in cool to cold streams and rivers. Introduction of nonnative fish and habitat alteration have been identified as the primary causes for decline. This action would not affect the habitat for this fish and therefore would not affect the fish*
Roundtail chub	*BS*	*Gila robusta*	*4*	*This fish was found in the San Rafael River, however flow alteration and the introduction of nonnative fish have been identified as significant causes of decline. This action would not affect the limiting factors for this fish and therefore would not affect the fish*
Colorado River Cutthroat trout	*BS*	*Oncorhynchus clarki pleuriticus*	*4*	*This fish is found in the drainages above the Travel Plan area. The fish has not been found ;in the "limited" OHV designation area and would not be affected by the designation of routes.*
Reptiles				
Utah Milk Snake	*BS*	*Lampropeltis triangulum taylori*	*2*	*This species inhabits semi-arid regions, pine forests, deciduous woodlands and suburban areas. It is spottily distributed in the mountain regions of eastern and central Utah. The snake is affected by over collection as well as habitat impacts. This action would not affect the limiting factors for this snake and therefore would not affect the snake.*
Southern black-headed snake	*BS*	*Tantilla hobartsmithi*	*1*	*Not Present in the "Limited " OHV category area. State records found on Green River, Deso-Gray Canyon.*
Smooth green snake	*BS*	*Liochlorophis vernalis*	*1*	*Not Present in the "Limited " OHV category area. State records found on Green River, Deso-Gray Canyon.*

** FE - Federally Endangered Species, FT - Federally Threatened Species, FC - Federal Candidate Species, EX/FE -Experimental Population, BS - Bureau Sensitive Species ** Occurrence in the "limited" OHV category area*

1. Species presence unlikely due to lack of potentially-suitable habitats or the "limited" OHV category area is not within the species' range.

2. Potentially-suitable habitats occur or may occur in the "limited" OHV category area. However, the species' presence has not been confirmed or documented.

3. Potentially-suitable habitats are present in the "limited" OHV category area and the species' presence in or near the "limited" OHV category area has been confirmed and documented

4. Species presence in the "limited" OHV category area's streams has not been confirmed or documented, but it may occur in potentially-suitable habitats upstream or downstream of the "limited" OHV category area