1997

Shirley Mountain Planning Review Travel Management Environmental Assessment

United States Department of the Interior, Bureau of Land Management

Follow this and additional works at: https://digitalcommons.usu.edu/wyoming_enviroassess

Part of the Environmental Sciences Commons

Recommended Citation


https://digitalcommons.usu.edu/wyoming_enviroassess/23

This Report is brought to you for free and open access by the Wyoming at DigitalCommons@USU. It has been accepted for inclusion in Environmental Assessments (WY) by an authorized administrator of DigitalCommons@USU. For more information, please contact rebecca.nelson@usu.edu.
Shirley Mountain Planning Review
Travel Management
Environmental Assessment

The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield, a combination of uses that take into account the long-term needs of future generations for renewable and nonrenewable resources. These resources include recreation, range, timber, minerals, watersheds, fish and wildlife, wilderness and natural, scenic, scientific, and cultural values.

BLM/WYIPL-98/003-1200

WY-037-EA8-091
Dear Reader:

Provided for your review and comment is the environmental assessment (EA) documenting a planning review of the Shirley Mountain area, within the Bureau of Land Management (BLM) Great Divide Resource Area, Carbon County, Wyoming. The Shirley Mountain Planning Review Area is comprised of about 69,590 acres of intermingled land and surface ownerships. These ownerships include BLM-administered public land, private, and state lands.

The purpose of conducting the planning review is to analyze and weigh the benefits/consequences of changing the Off Road Vehicle (ORV) designation for the Shirley Mountain Planning Review Area from "limited to all existing roads and trails" to "limited to designated roads and trails only." Recommendations to reduce road density in the planning review area were made in the Shirley Mountain Habitat Management Plan, written in 1985 and also in the Wyoming Game and Fish (WGFD) Shirley Mountain Habitat Analysis, written in 1994. The BLM, Wyoming Game and Fish Department, and the private land owners on Shirley Mountain formed a technical committee to address resource issues and concerns on Shirley Mountain.

This EA documents the descriptions and analyses of two alternatives in detail, including the BLM’s preferred alternative. Alternative 1, the preferred alternative, would limit ORV use within the Shirley Mountain Planning Review Area to designated roads and trails. Alternative 2, the No Action Alternative, would continue to limit ORV use within the planning review area to all existing roads and trails.

If selected, the preferred alternative would result in amending the Great Divide RMP ORV designation for the Shirley Mountain Planning Review area.

FINDING OF NO SIGNIFICANT IMPACT (FONSI): Based on the analysis of potential environmental impacts presented in this environmental assessment, impacts of the preferred alternative are not significant and an environmental impact statement is not needed.

Due to the holiday season, the comment/review period has been extended to 45 days and will begin the day following the date of publication of the Notice of Availability (NOA) of this EA in the Federal Register. You are invited to comment on the alternatives, the adequacy of the environmental analyses, the FONSI, and the preliminary Wild and Scenic Rivers Review (Appendix II). Your comments will be fully considered and evaluated in development of the decision record. Direct your comments to Karla Swanson, Area Manager, Bureau of Land Management, Great Divide Resource Area, 1300 North Third Street, Rawlins,

Wyoming 82301. Interested parties may also obtain further information and direct questions or concerns to Sarah Crocker, Rangeland Management Specialist, or John Sphar, Planning and Environmental Coordinator, who can be visited at the above address or reached by telephone at (307) 328-4200.

Through your participation, we look forward to improved public land management in the Shirley Mountain area.

Sincerely,

Alan R. Pierson
Wyoming State Director
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>I. INTRODUCTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. BACKGROUND</td>
<td>1</td>
</tr>
<tr>
<td>B. PURPOSE AND NEED</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. PROPOSED ACTION</td>
<td>4</td>
</tr>
<tr>
<td>B. ALTERNATIVES</td>
<td>4</td>
</tr>
<tr>
<td>1. No Action Alternative</td>
<td>6</td>
</tr>
<tr>
<td>2. Other Alternatives and Management Options Considered But Not Analyzed in Detail</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III. AFFECTED/EXISTING ENVIRONMENT</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. CULTURAL RESOURCES</td>
<td>6</td>
</tr>
<tr>
<td>B. ENVIRONMENTAL JUSTICE</td>
<td>6</td>
</tr>
<tr>
<td>C. LIVESTOCK GRAZING</td>
<td>7</td>
</tr>
<tr>
<td>D. RECREATION</td>
<td>7</td>
</tr>
<tr>
<td>1. Hunting</td>
<td>7</td>
</tr>
<tr>
<td>2. Shirley Mountain Caves Special Recreation Management Area (SRMA)</td>
<td>8</td>
</tr>
<tr>
<td>E. SOILS</td>
<td>8</td>
</tr>
<tr>
<td>F. VEGETATION</td>
<td>8</td>
</tr>
<tr>
<td>G. WATER</td>
<td>9</td>
</tr>
<tr>
<td>H. WILDLIFE</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IV. ENVIRONMENTAL CONSEQUENCES</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. PROPOSED ACTION</td>
<td>10</td>
</tr>
<tr>
<td>1. Cultural Resources</td>
<td>10</td>
</tr>
<tr>
<td>2. Environmental Justice</td>
<td>10</td>
</tr>
<tr>
<td>3. Livestock Grazing</td>
<td>11</td>
</tr>
<tr>
<td>4. Recreation</td>
<td>11</td>
</tr>
<tr>
<td>a. Hunting</td>
<td>11</td>
</tr>
<tr>
<td>b. Shirley Mountain Caves Special Recreation Management Area (SRMA)</td>
<td>11</td>
</tr>
<tr>
<td>5. Riparian Areas</td>
<td>12</td>
</tr>
<tr>
<td>6. Soils</td>
<td>12</td>
</tr>
<tr>
<td>7. Vegetation</td>
<td>12</td>
</tr>
<tr>
<td>8. Water</td>
<td>12</td>
</tr>
<tr>
<td>9. Wildlife</td>
<td>13</td>
</tr>
<tr>
<td>B. NO ACTION ALTERNATIVE</td>
<td>13</td>
</tr>
<tr>
<td>1. Cultural Resources</td>
<td>13</td>
</tr>
<tr>
<td>2. Environmental Justice</td>
<td>13</td>
</tr>
<tr>
<td>3. Livestock Grazing</td>
<td>13</td>
</tr>
<tr>
<td>4. Recreation</td>
<td>14</td>
</tr>
<tr>
<td>a. Hunting</td>
<td>14</td>
</tr>
<tr>
<td>b. Shirley Mountain Caves Special Recreation Management Area (SRMA)</td>
<td>14</td>
</tr>
<tr>
<td>5. Riparian Areas</td>
<td>14</td>
</tr>
<tr>
<td>6. Soils</td>
<td>14</td>
</tr>
</tbody>
</table>
ENVIRONMENTAL ASSESSMENT - Shirley Mountain Travel Management

V. MITIGATION AND MONITORING .............................................. 15
VI. CUMULATIVE IMPACTS ....................................................... 15
VII. CONSULTATION AND COORDINATION .................................... 16
VIII. REFERENCES ............................................................... 19

APPENDIX I - SHIRLEY MOUNTAIN PLANNING REVIEW AREA WILD AND SCENIC RIVERS REVIEW

LIST OF TABLES

No. Table 1 LIVESTOCK AUMS BY LAND OWNERSHIP .......................... 7

LIST OF MAPS

No. MAP 1 - GENERAL LOCATION ............................................. 2
     MAP 2 - SHIRLEY MOUNTAIN PLANNING REVIEW AREA TRAVEL MANAGEMENT ......... 3
     MAP 3 - SHIRLEY MOUNTAIN PLANNING REVIEW AREA DESIGNATED OPEN ROADS ....... 5

ENVIRONMENTAL ASSESSMENT - Shirley Mountain Travel Management

ENVIRONMENTAL ASSESSMENT WY-037-EA08-091
SHIRLEY MOUNTAIN PLANNING REVIEW TRAVEL MANAGEMENT

I. INTRODUCTION

A. BACKGROUND

The Shirley Mountain Planning Review Area is located in the northeast corner of Carbon County, Wyoming approximately 40 miles north and west of the town of Medicine Bow. It is within the Bureau of Land Management (BLM) Great Divide Resource Area (GDRA) of the Rawlins District. See Map 1 for general location. The planning review area includes BLM administered public lands (44,380 acres), state lands (4,830 acres), and private lands (20,380 acres) for a total of 69,590 acres. Shirley Mountain supports a variety of land and resource uses and values including timber harvest, forage production for livestock, wildlife habitat, recreational opportunities, minerals, water collection and storage, and cultural resources.

In February 1995, BLM, the Wyoming Game and Fish Department (WFGD), and the private landowners on Shirley Mountain formed a technical committee (committee members are listed in Section VII of this document) to discuss overall goals and objectives for the Shirley Mountain area. The committee adopted the boundary established in the BLM's Forest Management Plan (FMP) as the area of primary concern. See Map 2 for boundary location.

The committee identified the proliferation of roads and two-track trails as one of the top priority issues which must be addressed. Problems associated with an expanding road network on Shirley Mountain include: fragmentation of hiding cover for big game, loss of security areas for big game during the hunting seasons, a decrease in quality of the hunting experience due to motorized vehicle disturbance, erosion of soil from roads and trails into waterways, loss of forage for both livestock and wildlife (especially in wet meadow areas), and the creation of nickpoints where roads and trails cross stream channels which result in possible headcuts.

The Off-Road Vehicle (ORV) designation for the Shirley Mountain Planning Review Area is currently established as "limited to all existing roads and trails." This designation is a decision in the Great Divide Resource Management Plan (RMP) (November 1990).

B. PURPOSE AND NEED

This environmental assessment (EA) will analyze the effects resulting from a proposed change in ORV designation for the Shirley Mountain Planning Review Area from "limited to existing roads and trails" to "limited to designated roads and trails only."

The need for an ORV designation change within the planning review area is based upon recommendations made by the Shirley Mountain Technical Committee, by other previously completed studies and plans, and from input received from the public during scoping for this EA (Section VII of this document includes a summary of public comments received during scoping).
MAP # 1 - GENERAL LOCATION
LEGEND

- FEDERAL LAND
- STATE LAND
- PRIVATE LAND
- FOREST MANAGEMENT BOUNDARY
- ROADS AND TRAILS
- MAIN TRANSPORTATION ROUTES/NUMBERED ROADS

MAP 2 - SHIRLEY MOUNTAIN PLANNING REVIEW AREA - TRAVEL MANAGEMENT

SCALE: 1/2 INCH = 1 MILE

0 1 2 3 4 5 6 7 8 9 10 11 12 Miles

NO WARRANTY IS MADE BY THE BLM AS TO THE ACCURACY, RELIABILITY, OR COMPLETENESS OF DATA FOR INDIVIDUAL USE OR AGAINST USE WITH OTHER DATA.
In 1985, the BLM completed a Habitat Management Plan (HMP) for Shirley Mountain. The HMP recommended that several two-track trails be closed to motorized travel because new trails were fragmenting wildlife habitat, were contributing to erosional problems, and/or were unnecessary for adequate public access to public lands. In 1994, the WGFID completed a habitat analysis for the Shirley Mountain area and identified habitat problems impacting wildlife populations and recommended potential solutions to those problems. The study found that the majority of hiding cover for big game animals on the mountain was heavily dissected by a system of roads and trails. Security areas for these animals during the hunting season were very limited. The study recommended that BLM restrict the construction of new roads and that a plan be developed to manage recreational road and trail use.

This EA focuses on the effects of road and trail use within the Shirley Mountain Planning Review Area and on whether or not the ORV designation should be changed from "limited to all existing roads and trails" to "limited to designated roads and trails only." A detailed, site-specific environmental analysis of all proposed travel management activities within the Shirley Mountain Planning Review Area is beyond the scope of this document. Additional environmental documentation would be prepared to address site-specific actions including road closures, maintenance of open roads, easement acquisition, and road rerouting should the land use planning decision be made to change the ORV designation. The planning review area is very large and would need to be separated into two or three segments for planning purposes. Site-specific travel management EAs would be completed for each segment.

II. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

A. PROPOSED ACTION

The proposed action is to change the ORV designation in the Shirley Mountain Planning Review Area from "limited to existing roads and trails" to "limited to designated roads and trails only."

Implementation of the proposed action, should the decision be made to change the ORV designation to "limited to designated roads and trails only," would result in: inventory of roads and trails, identification and pursuit of access needs, placement of "white arrows" to identify designated roads for travel, placement of informational and educational signs and brochures at the area’s entrances, placement of "road closed" signs, obliteration of roads and trails with either soil erosion or habitat fragmentation problems, increased enforcement capability, maintenance and erosion control of roads designated for use, and monitoring to determine where new road and trail proliferation is occurring. See Map 3 for proposed designated "open" roads. Implementation actions would make up the proposed action within site-specific EAs. Several EAs would be developed to analyze impacts of travel management actions across the Shirley Mountain Planning Review Area.

B. ALTERNATIVES

Alternatives to the proposed action include the continuation of present management (No Action Alternative) and changing the ORV designation from "limited to all existing roads
III. AFFECTED/EXISTING ENVIRONMENT

A. CULTURAL RESOURCES

Approximately 1,000 acres of the planning review area have been surveyed at the Class III level to locate any potential cultural resources. Cultural resources have been located at various sites across the mountain during these surveys, but none of the sites were considered significant enough to be eligible for inclusion in the National Register of Historic Places.

B. ENVIRONMENTAL JUSTICE

Environmental justice issues are concerned with actions that unequally impact a given segment of society, either as a result of physical location, perception, design, or noise. On February 11, 1994, Executive Order 12898, "Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations," was published in the Federal Register (59 FR 7629). The Executive Order requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations (defined as those living below the poverty level). The Executive Order makes it clear that its provisions apply fully to American Indian populations and Indian tribes, specifically to

1. No Action Alternative

The continuation of present management would allow vehicular travel on all existing roads and trails. BLM law enforcement capability would be minimal with spot patrols occurring during high-use seasons. New roads and trails would continue to increase in number due to motorized vehicular use on all areas of the mountain including riparian zones and steep slopes. Maintenance of existing roads and trails would be minimal and would be restricted to the Shirley Mountain Loop Road (BLM Road #3115) where easements through private land have been obtained.

2. Other Alternatives and Management Options Considered But Not Analyzed In Detail

The BLM held public scoping meetings for travel management on Shirley Mountain in November 1996. Several members of the public requested that the BLM consider the retrieval of downed game animals as an acceptable reason for driving off roads and trails designated for use. By allowing off-road use for this activity, the problems resulting from the current situation (i.e., accelerated erosion and loss of big game security areas) would still exist. Enforcement of road closures would become very difficult if law enforcement personnel had to differentiate between an acceptable reason and an unacceptable reason for driving off-road. The proliferation of roads and trails on Shirley Mountain would continue. For these reasons this alternative was not analyzed further.

III. AFFECTED/EXISTING ENVIRONMENT

C. LIVESTOCK GRAZING

Nine permits graze livestock in all or part of 11 different grazing allotments within the planning review area. A total of 12,442 Animal Unit Months (AUMs) of annual forage are available in these allotments. See Table 1 for summary of AUMs by land ownership.

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>LIVESTOCK AUMS BY LAND OWNERSHIP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACRES</td>
</tr>
<tr>
<td>BLM</td>
<td>44.380</td>
</tr>
<tr>
<td>PRIVATE</td>
<td>20.380</td>
</tr>
<tr>
<td>STATE</td>
<td>4.830</td>
</tr>
</tbody>
</table>

The general season-of-use for all of the allotments is May 1 through October 31.

D. RECREATION

1. Hunting

The planning review area contains portions of three WGD F mule deer hunt areas (#70, #71, and #72). These areas are general license areas and provide excellent opportunities for resident deer hunters. These hunt areas are also a part of Region D for non-resident hunters. Currently, WGD's herd objective for the three herd areas combined is 5,000 mule deer.

The planning review area encompasses about 50% of elk hunt area #16 but includes over 80% of the forested public lands within this hunt area. Hunt area #16 is combined with hunt areas #17 and #18 on hunting licenses. These licenses are
available on a quota basis only. There were 350 licenses issued and 822 hunter
days of use in 1996. Currently the WGFD herd objective for hunt areas #16-18 is
800 head of elk.

2. Shirley Mountain Caves Special Recreation Management Area (SRMA)
The Great Divide Resource Management Plan established the "Shirley Mountain
Caves Special Recreation Management Area" (SRMA). The SRMA covers
approximately 24,000 acres within the planning review area. The SRMA was
designated due to the recreational values present which include caving and
hunting. There are two known caves within the SRMA and the potential exists
for additional caves and sinks which have not yet been discovered. A couple of caving
clubs visit the SRMA on an infrequent basis. There is no legal motorized public
access to the SRMA. Legal access across public land is possible on foot or
horseback.

E. SOILS
An Order III soil survey was completed for Shirley Mountain in 1978. Soils under the
lodgepole pine are usually deep (40 to 60 inches) and well-drained. Soils under the
sagebrush park areas are usually shallow (5 to 20 inches) and well-drained. Soils adjacent
major perennial streams are very deep and poorly to moderately well-drained.
Soils found within the planning review area generally exhibit severe water erosion potential
and slight wind erosion potential. The bearing strength of these soils is moderately low to
low.

F. VEGETATION
Lodgepole pine (Pinus contorta) is the dominant forest type on Shirley Mountain and covers
approximately 9,860 acres within the planning review area. The Engelmann spruce (Picea
engelmannii) and/or subalpine fir (Abies lasiocarpa) forest type occurs on approximately 330
acres within the planning review area. Subalpine fir seedings and saplings are commonly
found in the understory of the lodgepole pine forest type. The aspen (Populus
ceratoides) forest type occurs on approximately 800 acres within the planning review area. Aspen
occurs as a minor component in about 3,800 acres of the lodgepole pine forest type. The
woodland forest type totals approximately 14,600 acres and consists of coniferous forest
land with low tree density and low productivity. The remaining 40,200 acres within the
planning review area are distributed between sagebrush stepspe (Artemisia spp.), mixed
grass prairie (Agropyron ssp./Festuca idahoensis), and riparian areas (Salix spp./Carex
spp.).

The riparian zones within the planning review area are important as water sources for
basins and storage facilities downstream, as wildlife habitat, as water sources for livestock
production, and as sediment buffers to control stream sedimentation. Approximately 80%
of the riparian areas on Shirley Mountain are privately-owned.

A noxious weed inventory has not been conducted on Shirley Mountain. Weeds known to
occur close by include leafy spurge (Euphorbia esula), dalmatian toadflax (Linaria
dalmatica), Canada thistle (Cirsium arvense), musk thistle (Carduus nutans), and whitetop
(Cardaria draba).

G. WATER
The Bennett Mountain watershed, located in the southwest portion of the planning review
area, has nine main creeks. The larger streams are Austin Creek, Saylor Creek, Difficulty
Creek, and Troublesome Creek. Austin and Saylor Creeks flow directly into Seminole
Reservoir while Troublesome and Difficulty Creeks flow into Seminole Reservoir via the
Medicine Bow River. Most of these creeks within the planning review area boundary are
perennial.

The North Shirley Mountain watershed is located in the north and northwest portions of the
planning review area. Four major creeks drain this area: the South Fork of Sage Creek,
Beaver Creek, Cave Creek, and Spring Creek all drain into Sage Creek, which flows into
Pathfinder Reservoir.

The Little Medicine Bow watershed drains the north and northeast portion of the planning
review area. Nine minor creeks flow off of Shirley Mountain in this watershed: First Ranch
Creek, Robinson Creek, Sullivan Creek, Hill Creek, Lisenby Creek, North and South Forks
of Quealy Creek, Grinnel Creek and Muddy Creek. Of these, Muddy Creek is more
prominent as all other streams mentioned above drain into it. Muddy Creek feeds the Little
Medicine Bow River which flows into the Medicine Bow River which eventually reaches
Seminole Reservoir.

Water quality within the planning review area cannot be quantified due to a lack of
monitoring data. Visual inspection of creeks within the planning review area show that
runoff across recently logged private land, coupled with the addition of runoff down new
roads and trails, have clouded creeks and streams with suspended sediments.

H. WILDLIFE
The Shirley Mountain Planning Review Area contains fifteen out of 29 habitat types found
within the GDRA. Eight of the fifteen habitat types are listed in the RMP as "high priority"
and include: riparian-grassland, willow-waterbird riparian, aspen riparian, cottonwood
riparian, mountain shrub, quaking aspen, aspen conifer, and wet forest meadow. High
priority habitats are those that require intensive management actions to maintain their
productivity as diverse wildlife communities. Moderate priority habitats consisting of
lodgepole pine, engelmann spruce, and subalpine fir are also of primary concern within the
context of this EA.

There are over 200 different vertebrate species of wildlife found within the Shirley Mountain
Planning Review Area. Elk (Cervus canadensis) and mule deer (Odocoileus hemionus) are
the wildlife species of primary concern within the context of this EA. Many species of
wildlife utilize a wide range of habitat types while others are specific to a few habitat types.
Those species that prefer or require large acreages of undisturbed mature old growth
forests are of primary concern within the context of this EA.

Elk utilize the Shirley Mountains for spring, summer, and fall range, and usually winter
outside the planning review area. The rugged terrain on Shirley Mountain serves as
IV. ENVIRONMENTAL CONSEQUENCES

Changing the ORV designation within the Shirley Mountain Planning Review Area would have no effect on the following critical elements of the human environment: wilderness study areas, air quality, clean drinking water, wetlands, prime or unique farmlands, flood plains, Native American religious concerns, Environmental Justice, Areas of Critical Environmental Concern (ACEC), Wild or Scenic Rivers (See Appendix J), paleontological resources, and mineral resources. No solid or hazardous wastes would be produced.

A. PROPOSED ACTION

1. Cultural Resources

There would be no adverse effects to cultural resources if the proposed action is chosen. Class III inventories would be conducted before any travel management actions occur that involve ground disturbance. Significant areas would be avoided during any surface-disturbing activity. Implementing the proposed action would provide an opportunity to improve our knowledge about the cultural resources on Shirley Mountain.

2. Environmental Justice

Issues relating to the social, cultural, and economic well-being and health of minorities and low income groups were evaluated. Such issues are termed environmental justice issues. No minorities or low income groups were identified that would be affected. There are no communities within the vicinity of the planning review area that would be physically impacted by a change in ORV designation from “limited to all existing roads and trails” to “limited to designated roads and trails only.”

Compliance with Executive Order 12898 concerning environmental justice was accomplished through scoping conducted to receive public comment. In reviewing the impacts of this alternative on socioeconomic resources, surface water and groundwater quality, air quality, hazardous materials, or other elements of the human environment, the BLM determined that potentially adverse impacts do not disproportionately affect American Indians tribes or minority and/or low-income groups.

3. Livestock Grazing

The permits who have livestock operations on Shirley Mountain would be affected by the implementation of the proposed action. Changing the ORV designation to “limited to designated roads and trails only” and excluding use of roads and trails in riparian meadows would improve the condition of these sites and increase water storage and production of high value forage. Limiting motorized vehicle use to designated roads and trails would slow the rate of sedimentation into reservoirs via streams. Some of the roads and trails permits use to manage livestock and repair range improvements would not be designated open. A portion of their work would have to be accomplished on foot or on horseback. These inconveniences are not anticipated to have a significant impact because the permits helped identify roads necessary to their operation.

4. Recreation

a. Hunting

Implementation of the proposed action would result in fewer roads available for hunters to use with motorized vehicles to scout and/or hunt for big game. The plan assures access to most blocks of public land on Shirley Mountain but reduces the number of different ways to get to them. A few areas on Shirley Mountain would have little or no motorized access in order to assure security areas for big game. These areas would be accessible by foot or by horse and on average would be within two miles of a designated open road or trail. Based on comments received on various issues relating to hunting, it is anticipated that only a portion of hunting big game would be affected by the changes. These changes would be perceived as negative by some hunters who prefer less vehicle disturbance while hunting; however, other hunters who prefer less vehicle disturbance would perceive these changes as positive.

Creating larger areas of security cover for big game would help to keep the animals from leaving the top of Shirley Mountain for the surrounding flat within the first few days of hunting season. A large portion of the private land surrounding Shirley Mountain (primarily the east side) is inaccessible to the general public for hunting use. If the animals stayed on Shirley Mountain through a greater portion of the hunting season, hunters would receive a better chance of filling their licenses. Improving the success rate for big game hunters would help the WGFD maintain herd objectives.

b. Shirley Mountain Cave Special Recreation Management Area (SRMA)

Implementation of the proposed action would not substantially affect the Shirley Mountain SRMA. Legal public access to the cave system would be pursued on the Cave Creek Road (#3115) through either an easement, a land exchange involving the private parcel that Cave Creek Road runs through, or a reroute of Cave Creek Road onto public land. Gaining legal
ENVIRONMENTAL ASSESSMENT - Shirley Mountain Travel Management

5. Riparian Areas

Implementation of the proposed action would have a positive effect on riparian areas. Changing the ORV designation to "limited to designated roads and trails only" would allow for the closure of roads and trails that are causing erosional problems in riparian areas. Non-point source pollution into waterways would likely decrease. The probability of headcuts forming in stream channels due to ripcrossings started at road crossings would decrease. Motorized vehicle disturbance in many of the riparian areas on the mountain would be eliminated.

Due to the nature of riparian areas (i.e., shade from trees and shrubs, water, appearance of wildlife, many recreationists use these areas for camping), if the proposed action is implemented, fewer riparian areas would be accessible by motorized vehicles for camping purposes.

6. Soils

Accelerated runoff and loss of soil from road beds would decrease as roads are closed and/or reclaimed. Roughing up road beds and reseeding grasses and shrubs would speed vegetation establishment, slow water movement, and reduce or eliminate the formation of rills and gullies. The acreage affected by soil compaction caused by motorized vehicle traffic would also be reduced.

Before any road obliteration/maintenance is performed, a site-specific environmental analysis would be conducted prior to each phase of work. Impacts to soils from road obliteration/maintenance would be analyzed further in future EAs.

7. Vegetation

Riparian area vegetation (e.g., Carex spp., Salix spp.) would respond well to road and trail closures following a change in ORV designation to "limited to designated roads and trails only." Fewer acres affected by ground disturbance and soil compaction would make it easier for riparian plants to take hold and become healthy and vigorous.

Vegetation within the forest types (conifer and aspen communities) is not expected to be heavily impacted by the implementation of the proposed action. Native plants (grasses and shrubs) would be seeded during reclamation of unneeded roads and trails. Eventually (two to five years), the seeded vegetation would blend in with the surrounding environment. These actions would help reduce the amount of forest fragmentation created by roads and trails.

8. Water

Surface water quality and subsurface water storage capacity on and off Shirley Mountain would improve with implementation of the proposed action. Fewer roads and trails and increased erosion control applied to designated open roads would decrease the amount of sediment going into waterways. Decreasing the amount of non-point source pollution would improve water quality and would extend the life of water catchments on and off the mountain.

9. Wildlife

Wildlife species would benefit from implementation of the proposed action. The species most affected would be large game animals (elk and mule deer) and interior forest species (e.g., goshawk, Accipiter gentilis). The reduction in road density would increase the number of acres on the mountain that big game would be able to seek out as security areas. This is especially important during hunting season when hunters push game animals off the mountain onto private land where big game cannot be pursued. Keeping these animals on the mountain for a longer period of time during the hunting season would aid in achieving WGFD herd objective levels for elk. Maintaining objective levels would help to increase the health and vigor of the habitat that supports all big game during the spring, summer, and fall.

Limiting motorized vehicle use to designated open roads would help to reduce the disturbance of many other species of wildlife especially interior forest species.

Reducing non-point source pollution into waterways would improve habitat that supports wildlife. Closing roads through riparian areas would increase the kind, amount, and vigor of vegetation that many species of wildlife use for food, cover, nesting material, and perches.

B. NO ACTION ALTERNATIVE

1. Cultural Resources

The No Action-Continuation of Present Management Alternative would have an adverse effect on cultural resources. Continued proliferation of roads and trails would cause damage to artifacts, spiritual sites, and Native American cultural sites. Sites already impacted by existing poorly constructed roads would continue to be disturbed.

2. Environmental Justice

The continuation of present management would not affect issues relating to the social, cultural, and economic well-being and health of minorities, low income groups, and Native American tribes or groups.

3. Livestock Grazing

The continued proliferation of new roads would adversely affect livestock grazing. Forage would be lost as erosion from roads and trails continues, especially in riparian areas. Weeds and undesirable plants would continue to increase as new roads and trails are established. Reservoirs used for watering livestock would...
ENVIRONMENTAL ASSESSMENT - Shirley Mountain Travel Management

4. Recreation

a. Hunting

Continuation of present management would allow hunters to use motorized vehicles for hunting and scouting on any preexisting road or trail. New two-track trails would continue to be established. Road density would increase, and in response, the quality of hunting would decline. This would be due, in part, to the inaccessibility of the game animals that would find "safety zones" on surrounding private land.

b. Shirley Mountain Caves Special Recreation Management Area (SRMA)

Continuation of present management would not have a substantial impact on the SRMA. Legal public access to the caves could be pursued either through exclusive easement or land exchange whether the proposed action is implemented or not.

5. Riparian Areas

Continuation of present management would adversely affect riparian areas. Erosion created by two-track ruts through meadows would increase. Loss of soil and vegetation would continue to occur. Non-point source pollution into creeks would continue due to erosion from roads and trails and increased overland flow. Weed species carried by motorized vehicles would continue to have the opportunity to spread into newly disturbed areas. Nickspoints created by streamer increase would continue to cause headcuts and downcutting of stream channels. This process could eventually cause the lowering of the water table and loss of riparian habitat.

6. Soils

Continuation of present management would be detrimental to the soil resource on the mountain. The loss of soil from uplands and riparian areas due to wind and water erosion would increase as the number of roads and trails increase. Compaction of soils under old and new road and trail beds would continue to occur and become an ever increasing problem in the future.

7. Vegetation

Woody species on the mountain would be minimally affected by the continuation of present management. A small percentage of sagebrush and bitterbrush would continue to decrease as road and trail proliferation increases in upland areas. Herbaceous species would continue to decrease if current management is not changed. This would be especially true in riparian areas where soil erosion and compaction would occur at an accelerated rate. Tree species would not be greatly affected by the continuation of present management. New tree seedlings would not get started in road and trail beds.

8. Water

Non-point source pollution into waterways would continue to increase under current management. This, in part, would be caused by an increase in the number of roads and trails adjacent to, leading up to, and crossing creeks and wet meadows. Water catchments, both on and off the mountain, would continue to fill with sediment at an accelerated rate. Water quality would continue to degrade over time.

9. Wildlife

Elk and deer security area acreage would decrease as road and trail proliferation increases. Interior forest species’ habitat acreage would become smaller over time. Motorized vehicle disturbance to many species of wildlife (especially during hunting season) would continue to occur. Terrestrial habitat and aquatic habitat for all wildlife species would continue to decline as the number of roads and trails increase on Shirley Mountain.

V. MITIGATION AND MONITORING

Changing the ORV designation to "limited to designated roads and trails only" would result in closure of certain roads and trails. If road obliteration work is done, disturbed ground would be reseeded with native grasses and shrubs wherever possible. The old road beds would be monitored for erosional problems and lack of vegetation for three to five years after the obliteration work is complete. A portfolio of before and after pictures would be made for each road that is closed or obliterated. Pictures of designated open roads that would require maintenance would also be taken.

To determine where future road and trail proliferation is occurring and to keep track of areas where there are problems with obliteration work/maintenance needs, a simple form would be developed for use in the field. BLM personnel would fill out the form upon discovery of a problem area during the course of doing field work. This form would also be made available for use by WQFD personnel, private landowners, and the general public. Information from this form would be used by the BLM to aid in identifying where problems exist and would help to address problems in a timely manner.

VI. CUMULATIVE IMPACTS

RMP off-road vehicle designations other than "limited to existing roads and trails only" exist on 174,200 acres (4.3 percent) of the public land within the resource area. These designations include: 15,700 acres of seasonal wildlife closures within the Pemex Mountain. Wick Unit, and Encampment winter ranges, 3,226 acres of "limited to open sand" for dune buggy use west of Seminole Reservoir; a small unidentified acreage of yearlong closure to motor vehicle use along the Encampment River Trail; 132,100 acres "limited to designated roads and trails only" within the West Seminole and Adobe Town areas; and 22,200 acres "closed to all motor vehicle use year-round" within the Ferris Mountain WSA. The addition of 44,400 acres of "limited to designated roads and trails only" would
ENVIRONMENTAL ASSESSMENT · Shirley Mountain Travel Management

The following BLM personnel are members of the Shirley Mountain Technical Committee:

Krystal Clair, Outdoor Recreation Planner, Great Divide Resource Area
Sarah Crocker, Rangeland Management Specialist, Project Lead, Great Divide Resource Area
Robert Epp, Rangeland Management Specialist, Great Divide Resource Area
George Phillips, Forester, Great Divide Resource Area
Marilyn Roth, Realty Specialist, Great Divide Resource Area
Ann Watson, Fisheries Biologist, Great Divide Resource Area
Bill Walters, Assistant Area Manager, Resources, Great Divide Resource Area

In addition, the following BLM personnel were consulted during the writing of the Shirley Mountain Travel Management Plan and environmental analysis:

Mary Apple, Public Affairs Specialist, Rawlins District
Susan Foley, Soil Scientist, Great Divide Resource Area
Fred Hurlock, Ranger, Rawlins District
Mike Jensen, Supervisory Engineer, Rawlins District
Sandra Meyers, Archeologist, Great Divide Resource Area
John Spehar, Environmental Protection Specialist, Great Divide Resource Area
Joe Patti, Natural Resource Specialist, Wyoming State Office
Gene Schaaf, Natural Resource Specialist, Wyoming State Office
Tom Enright, Natural Resource Specialist, Wyoming State Office
Mark Goldbach, Outdoor Recreation Planner, Wyoming State Office
Jon Johnson, Environmental Protection Specialist, Wyoming State Office

The following people sit on the Shirley Mountain Technical Committee from the Wyoming Game and Fish Department and the private sector:

Powd Boles, Boles Ranch
Bill Ellis, Ellis Ranch

ENVIROMENTAL ASSESSMENT · Shirley Mountain Travel Management

Keith Flynn, Braxton Ranches
Carol Havlick, WFGD
Steve Loose, WFGD
Pat McKee, McKee Ranches
Marla McNees, McNees Ranch
Casey Palm, Nine V Ranch
Rick Straw, WFGD
Gary Vivion, Leo Sheep Company
Robert Vivion, Leo Sheep Company

The committee made an extensive effort to consult and inform the public about the proposed action. Over four hundred public scoping notices were sent out in September 1996 to various interest groups, state agencies, and members of the public who have used Shirley Mountain in the past. Public meetings were held in Casper, Cheyenne, and Rawlins in November 1996. In addition, large signs were placed at the entrance points on Shirley Mountain Loop Road #3115 to inform the public of the proposed action and to request comments about specific road closures. As a result of the comment process, road numbers were placed at all entrances of roads and trails proposed for closure or obliteration. These signs included the BLM Rawlins District address and phone number in order to make commenting on specific roads easier.

Thirty-two comment letters were received from individuals, organizations, and government agencies and 12 official comments were made during the public meetings. Numerous comments not recorded as part of the official meeting transcripts were recorded during field tours and public meetings.

The following is a brief summary of comments received during the scoping period:

Those favoring non-essential road closure expressed support for improving wildlife habitat, reducing erosion, and protecting degraded rangeland areas. Those in favor of road closures spoke of the benefits of larger wildlife security areas increasing the number of elk that stay on the mountain during the hunting season. Supporters also spoke of the need to balance public access with concerns for wildlife habitat while maintaining an adequate road net. Other respondents felt that the Shirley Mountain Transportation Plan could be used as a valuable example of what road closures might accomplish in other areas and could be used to educate the public about a number of wildlife management issues.

Those that expressed concerns with the travel management plans identified specific roads that should not be closed for various reasons. Some agreed with the concept but disagreed with specific road closures, others were concerned that closing roads would eliminate hunter access to areas of the mountain and therefore be counterproductive to the objective of increasing the harvest of elk. Respondents raised concerns over closing roads that might in any way restrict access/management of state land, access to utilities, or mineral exploration. Some respondents identified a concern that the road density was not the primary problem with elk leaving the mountain but, instead, was the presence of blocks of private land that elk were seeking out as escape areas.

All comments are part of the official record and are available for review at the Great Divide Resource Area Office located at 1300 North Third Street in Rawlins, Wyoming.

Comments specific to this planning review to analyze the benefits/consequences of changing the RMP off-road vehicle designation were used to develop the alternatives in this document.
Comments concerned with specific roads will be considered during completion of future site-specific EAs that will address actual road closure locations and methods. Comments specific to reconstruction of the Pryor Flat Campground will be considered during completion of the campground reconstruction EA.

REFERENCES


APPENDIX I

SHIRLEY MOUNTAIN PLANNING REVIEW AREA
WILD AND SCENIC RIVERS REVIEW

As part of the planning effort for the Shirley Mountain Planning Review Area, the Bureau of Land Management (BLM) planning team members completed a Wild and Scenic Rivers review of the 44,380 acres of BLM-administered land along waterways within the planning area, to determine if any of these BLM lands meet the eligibility and suitability criteria identified in the Wild and Scenic Rivers Act (WSRA).

Public Involvement and Coordination

Wyoming BLM staff met with representatives of various Wyoming State agencies, including the Governor's Office in January 1991 and June 1993. These meetings were specifically for the purpose of reaching a mutual understanding of the Wild and Scenic Rivers review process and of the Wild and Scenic Rivers Eligibility Criteria and Suitability Factors to be used in the process. This included some agreement on any needed refinements of these criteria and factors, specific to Wyoming, and their statewide application on BLM-administered public lands. The eligibility criteria and suitability factors, including minor refinements agreed to at that time, are still consistent with the later-released BLM Wild and Scenic Rivers Manual 8351 (May 19, 1992). Wyoming State Government has disagreed with giving any consideration to reviewing waterways that do not contain water year-round (i.e., intermittent and ephemeral waterways). The Wyoming BLM recognizes that position but is obligated to follow the BLM Manual requirement to include intermittent and ephemeral waterways in the review.

The BLM State Director's policy and guidance for conducting the BLM Wild and Scenic Rivers review process in Wyoming was issued December 31, 1992. Minor editorial refinements to this policy and guidance were made on June 29, 1993, and on January 17, 1995, to make the wording more consistent with BLM Manual 8351.

Scoping statements, including the Wyoming BLM Wild and Scenic Rivers Process and this document, are being sent to interested parties, agencies and special interest groups to solicit comments and public involvement. This will include a briefing of State Government. Comments received during the 45-day comment period for this EA (referencing the Wild and Scenic River review for the Shirley Mountain Planning Review Area) will be compiled and addressed in preparing the final decision for this EA.

Process

The following definitions apply to key terms used in the Wild and Scenic Rivers Review Process:

waterway - A flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes. For purposes of this review, a waterway is not required to have water in it year-round and may be ephemeral or intermittent.

public lands - The BLM-administered public land surface along waterways within a planning area. Those "split estate lands," where the land surface is State or privately owned and the federal mineral estate is administered by the BLM, are not involved in these reviews. Other references to segments, parcels, corridors and waterways, all represent public lands, which is the basis for our review.
The BLM wild and scenic rivers review in the Shirley Mountain Planning Review Area will entail a three-step process:

1. Determining if BLM-administered public lands along waterways meet the eligibility criteria to be tentatively classified as wild, scenic or recreational;
2. Determining if any of those public lands that meet the eligibility criteria also meet the wild and scenic river suitability factors; and
3. Determining how any of those public lands that meet the suitability factors will be managed.

These steps are further defined as follows:

**Step 1: Wild and Scenic Rivers Eligibility Criteria Review and Tentative Classification**

To meet the eligibility criteria, a waterway must be “free-flowing” and, along with its adjacent land area, must possess one or more “outstandingly remarkable” values. As part of the eligibility review, BLM planning team members reviewed all waterways in the planning area to see if they contained any BLM-administered public lands that meet the eligibility criteria. Only those portions of waterways flowing through BLM-administered public lands were considered. The following are the guidelines used in applying the eligibility criteria to these public lands:

1. **Free-flowing.** Free-flowing is defined in the Wild and Scenic Rivers Act (WSRA) as “existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway.” The existence of small dams, diversion works, or other minor structures at the time the river segment is being considered shall not automatically disqualify it for possible addition to the National WSRA. A river need not be “boatable or floatable” in order to be eligible; there is no minimum flow requirement.

2. **Outstandingly Remarkable Values.** The BLM-administered public land surface along waterways must also possess one or more outstandingly remarkable values to be eligible for further consideration. Outstandingly remarkable values relate to scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar resource values.

   The term “outstandingly remarkable value” is not precisely defined in the WSRA. However, it should be noted that these values must be directly waterway related. The criteria for outstandingly remarkable values, used for the review of BLM-administered public land surface in the Shirley Mountain Planning Review Area, are as follows:

   **Scenic:** The landscape elements of landform, vegetation, water, color and related factors result in notable or exemplary visual features and/or attractions. Additional factors such as seasonal variations in vegetation, scale of cultural modifications, and length of time negative intrusions are viewed, can also be considered when analyzing scenic values. Scenery and visual attractions may be highly diverse over the majority of the BLM-administered public land surface involved, are not common to other waterways in the area, and must be of a quality to attract visitors from outside the area.

   **Recreational:** Recreational opportunities on the BLM-administered public land surface are unique enough to attract visitors from outside the area. Visitors would be willing to travel long distances to use the waterway resources on the public lands for recreational purposes. Waterway-related opportunities could include, but are not limited to, sightseeing, wildlife observation, photography, hiking, fishing, hunting and boating.

   **Interpretive:** Opportunities may be exceptional and attract visitors from outside the area. The waterway may provide settings for national or regional commercial usage or competitive events.

   **Geologic:** The BLM-administered public land surface provides an example(s) of a geologic feature, process, or phenomenon that is rare, unusual, or unique to the area. The feature(s) may be in an unusually active stage of development, represent a “textbook” example, and/or represent a unique or rare combination of geologic features (i.e., erosional, volcanic, glacial, and other geologic structures).

   **Fisheries:** The fishery values on the BLM-administered public land surface may be judged on the relative merits of either fish populations or habitat, or a combination of these conditions. For example:
   a. **Populations.** The waterway or waterway segment on BLM-administered public land surface is a contributor to one of the top producers of resident, indigenous fish species, either nationally or regionally. Of particular significance may be the presence of wild or unique stocks, or populations of federally-listed or candidate threatened or endangered species. Diversity of species is also important.
   b. **Habitat.** The BLM-administered public land surface is contributing to exceptionally high quality habitat for fish species indigenous to the region. Of particular significance may be habitat for federally-listed or candidate threatened or endangered species.

   **Wildlife:** Wildlife values on the BLM-administered public land surface may be judged on the relative merits of either wildlife populations or habitat, or a combination of these conditions. For example:
   a. **Populations.** The BLM-administered public land surface is contributing to populations of resident or indigenous wildlife species important to the area or nationally. Of particular significance are species considered to be unique or populations of federally-listed or candidate threatened or endangered species. Diversity of species is also important.
   b. **Habitat.** The BLM-administered public land surface is contributing to exceptionally high quality habitat for wildlife species important in the area or nationally, or may provide unique habitat or a critical link in habitat conditions for federally-listed or candidate threatened or endangered species. Adjacent habitat conditions are such that the biological needs of the species are met.

   **Cultural:** The BLM-administered public land surface contains examples of outstanding cultural sites which have unusual characteristics relating to prehistoric or historic use. Sites may be important in the area or nationally for interpreting prehistory or history, may be rare and represent an area where cultural or cultural period was first identified and described, may have been used concurrently by two or more cultural groups, or may have been used by cultural groups for rare or sacred purposes.
Historical - The BLM-administered public land surface contains a site(s) or feature(s) associated with a significant event, an important person, or a cultural activity of the past that was rare, unusual, or unique in the area.

Note: Eligibility for inclusion in the National Register of Historic Places, by itself, is not sufficient justification for being considered outstandingly remarkable.

Similar Values - Other values may include significant hydrologic, paleontologic, botanic, scientific, or ecologic resources as long as they are waterway related.

3. Tentative Classification. At the same time that eligibility determinations are made, BLM-administered public lands that meet the eligibility criteria are also given a tentative classification (wild, scenic, or recreational), as required by the Act. Tentative classification is based on the type and degree of human developments associated with the BLM-administered public lands involved and adjacent lands at the time of the review. Actual classification is a congressional legislative determination.

The tentative classifications, as used by BLM in Wyoming, are further defined as follows:

Wild Waterway Areas - Wild areas are those where the waterways or sections of waterways on the BLM-administered public land surface are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America. Wild means undeveloped; roads, dams, or diversion works are generally absent from a quarter mile corridor on both sides of the waterway.

Scenic Waterway Areas - Scenic are those where the waterways or sections of waterways on the BLM-administered public land surface are generally free of impoundments, with shorelines largely undeveloped, but accessible in places by roads. Scenic does not necessarily mean the waterway corridor has to have scenery as an outstandingly remarkable value; however, it means the waterway corridor is one where one can see it in its natural state (i.e., not major development or diversions) rather than a wild segment and less development than a recreational segment. For example, roads may cross the waterway in places but generally do not run parallel to it. In certain cases, however, if a parallel road is unpaved and well screened from the waterway by vegetation, a hill, etc., it could qualify for scenic classification.

Recreational Waterway Areas - Recreational areas are those where the waterways or sections of waterways on the BLM-administered public land surface are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past. Parallel roads or railroads, and/or the existence of small dams or diversions can be allowed in this classification. A recreational area classification does not imply that the waterway or section of waterway on the public land surface will be managed or have priority for recreational use or development.

RESULTS OF THE WILD AND SCENIC RIVERS PRELIMINARY ELIGIBILITY REVIEW FOR THE SHIRLEY MOUNTAIN PLANNING REVIEW AREA

The Shirley Mountain WSR Review Team met on November 13, 1997, to conduct the preliminary eligibility review for the waterways in the 44,380 acres of BLM-administered public land in the planning area. Because of the broad interpretation of the "free-flowing" criterion, all waterways were assumed to be free-flowing. Utilizing an interdisciplinary approach, these waterways were further reviewed to determine whether any BLM-administered public lands along their courses contained any of the outstandingly remarkable values described in the eligibility criteria. The preliminary findings of the BLM multi-disciplinary staff were that the BLM-administered public lands along 18 of 19 waterways (approximately 86 miles) and approximately 56 miles of unnamed drainages in the planning review area do not contain any outstandingly remarkable values and, therefore, do not meet the Wild and Scenic Rivers eligibility criteria. See Table II-1 for a summary of the Wild and Scenic Rivers preliminary review results.

Public lands along Cave Creek were determined to fall into the recreational classification and to meet the eligibility criteria because of the unique geologic formations associated with them. Cave Creek drainage contains two limestone caves. One of these caves, Cave Creek Cave, provides unique habitat for two candidate threatened bat species including the Fringed-tailed Myotis (Myotis thysanodes) and the Townsends Big-eared Myotis (Myotis townsendii).

The geology of the Shirley Mountains has been structurally mapped by Landau (1966) in an unpublished MS thesis at the University of Wyoming. Recently, Lillygraven and Snook (1996) published field notes from field work in the area.

The Madison Limestone is Mississippian in age and is exposed in significant areas over the top of the Shirley Mountains. Where streams cross exposed areas of limestone, erosional cave features may occur (sinks) from streams moving into the fractures in the limestone. The limestone groundwater aquifers are normally recharged from this action. This is the case on Cave Creek. Typically the velocity of the surface water entering the limestone joints has, through time, eroded away the limestone along the normal bedding fractures of the rock. Downspill from the sink areas, the stream may re-emerge (rise) from the limestone where it again becomes exposed. Regionally, the sink areas of this form may be geologically significant. A case in point is Sinks Canyon State Park near Lander, Wyoming.

The sinks of Cave Creek occur on public lands in Section 24, T.26N., R.82W. Stream flow entering the Madison Limestone has eroded a cave that has been mapped for 1500 feet. In 1940, Cave Creek was diverted above the cave to form a stock pond. Overflow was diverted around the cave (sink) area for downstream use. The impoundment routinely discharges impounded water to the limestone that is a near surface feature through normal seepage. Except during high spring flows, the sink area receives little surface water inflow.

Step 2: Wild and Scenic Rivers Suitability Review

All of the BLM-administered public lands that are found to meet the eligibility criteria and that are classified (i.e., wild, scenic, or recreational) are further reviewed to determine if they meet the wild and scenic rivers suitability factors. The suitability determinations are made after the general public, local, state, tribal and federal governments and agencies, and other interested parties have reviewed the eligibility and classification determinations.

Some factors to be considered in making the suitability determinations include, but are not limited to:

1. Characteristics which do or do not make the BLM-administered public lands involved a worthy addition to the National Wild and Scenic River System (WSRS).
2. Current status of landownership (including mineral ownership) and land and resource uses in the area, including the amount of private land involved, and any associated or incompatible land uses.

Appendix I - 4
RESULTS OF SHIRLEY MOUNTAIN PLANNING REVIEW AREA

3. Reasonably foreseeable potential uses of the BLM-administered public lands involved and related waters which would be enhanced, foreclosed, or curtailed if they were included in the WSRS, and the values which could be foreclosed or diminished if the BLM-administered lands are not protected as part of the system.

4. Public, state, local, tribal, or Federal interest in designation or non-designation of any part or all of the waterway involved, including the extent to which the administration of any or all of the waterway, including the costs thereof, may be shared by state, local, or other agencies and individuals.

5. Estimated cost of acquiring necessary lands and interests in lands and of administering the area if it is added to the WSRS. Section 6 of the WSRAs outlines policies and limitations of acquiring lands or interests in land by donation, exchange, consent of owners, easement, transfer, assignment of rights, or condemnation within and outside established river boundaries.

6. Ability of the BLM to manage the BLM-administered public lands involved as a Wild and Scenic River or other mechanisms (existing or potential) to protect identified values other than WSR designation.

7. Historical or existing rights which would be adversely affected as to foreclose, extinguish, curtail, infringe, or constitute a taking which would entitle the owner to just compensation if the BLM-administered public lands were included in the WSRS. In the suitability review, adequate consideration will be given to rights held by other landowners and applicants, lessees, claimants or authorized users of the BLM-administered public lands involved.

8. Other issues and concerns, if any.

RESULTS OF THE WILD AND SCENIC RIVERS PRELIMINARY SUITABILITY REVIEW FOR THE SHIRLEY MOUNTAIN PLANNING REVIEW AREA

The Shirley Mountain Planning Review Area preliminary suitability determinations were based on an internal BLM screening of the above eight factors. The suitability factors were applied to the BLM-administered lands along Cave Creek to determine if they should be further considered for inclusion in the Wild and Scenic Rivers System (See Table II-1) for a summary of the Wild and Scenic Rivers preliminary review results.

It was decided that the public lands along the Cave Creek review segment do not meet the Wild and Scenic Rivers suitability factors. The primary suitability factors involved are factors 2, 3, and 6. That is: (1) The BLM lands involved are land-locked by private lands and there is no legal public access; (2) The Forest Management Plan for Shirley Mountain identifies the Cave Creek drainage as possible future acreage for BLM timber sales/forest management; (3) The public lands along Cave Creek include part of a water diversion ditch from an upstream water impoundment in the drainage approximately one half mile above the caves; (4) The candidate threatened bat species and their critical habitat are protected under the Endangered Species Act of 1973, therefore, a Wild and Scenic Rivers designation would not be needed to further protect the Cave from other various resource uses; (5) Due to the land ownership pattern and the limited BLM-administered public lands along the Cave Creek drainage, the public lands along this stream segment would not be manageable as a Wild and Scenic River.

### Table II-1

<table>
<thead>
<tr>
<th>WATERWAYS REVIEWED</th>
<th>FREE FLOWING</th>
<th>OUTSTANDING REMARKABLE VALUES</th>
<th>ELIGIBLE</th>
<th>SUITABLE</th>
<th>APPROX. BLM MILEAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austin</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>2.8 mi.</td>
</tr>
<tr>
<td>Beaver</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>1.6 mi.</td>
</tr>
<tr>
<td>Cave</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>3.4 mi.</td>
</tr>
<tr>
<td>Cottonwood</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>0.8 mi.</td>
</tr>
<tr>
<td>E. Bull</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>0.7 mi.</td>
</tr>
<tr>
<td>First Ranch</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>2.5 mi.</td>
</tr>
<tr>
<td>Grinnell</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>1.2 mi.</td>
</tr>
<tr>
<td>Lisenby</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>0.5 mi.</td>
</tr>
<tr>
<td>Lost</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>0.2 mi.</td>
</tr>
<tr>
<td>Muddy</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>1.0 mi.</td>
</tr>
<tr>
<td>N. Fork Quealy</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>1.1 mi.</td>
</tr>
<tr>
<td>S. Fork Quealy</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>0.9 mi.</td>
</tr>
<tr>
<td>Robinson</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>0.9 mi.</td>
</tr>
<tr>
<td>S. Fork Sage</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>5.8 mi.</td>
</tr>
<tr>
<td>Saylor</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>1.3 mi.</td>
</tr>
<tr>
<td>S. Beaver</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>1.9 mi.</td>
</tr>
<tr>
<td>Sullivan</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>1.2 mi.</td>
</tr>
<tr>
<td>Thomas</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>0.1 mi.</td>
</tr>
<tr>
<td>Troublesome</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>3.1 mi.</td>
</tr>
<tr>
<td>W. Bull</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>1.3 mi.</td>
</tr>
<tr>
<td>Hill</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>1.1 mi.</td>
</tr>
<tr>
<td>Unnamed Drainages</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>55.7 mi.</td>
</tr>
</tbody>
</table>
ENVIRONMENTAL ASSESSMENT - Shirley Mountain Travel Management

Literature Cited


Endangered Species Act of 1973 [16 U.S.C 1531 et seq. Section 2(c), as amended].
