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Comprehensive management plan for the Scratchgravel Hills

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The University of Montana

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Comprehensive Management Plan
for
The Scratchgravel Hills

by
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B. S., United States Air Force Academy, 1972

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for the degree of
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CHAPTER 1

INTRODUCTION

The Comprehensive Plan

The comprehensive planning efforts for the Scratchgravel Hills began in October, 1982, with a dialogue between the Lewis and Clark Area Wide Planning Organization (APO) and the Bureau of Land Management (BLM). BLM is evaluating its land holdings to determine which units could be more effectively managed by transfer or sale to other public agencies or private interests. The agency felt that a county document which addressed the future of land use opportunities in the Hills would aid in their determinations.

This impetus provided by the BLM served to heighten county awareness of the resource values of the Scratchgravels. Increasing use of the Hills for residential development and recreation has resulted in the need for the development of a management plan to accommodate potentially conflicting land use activities. For example, development of even a portion of the many patented and unpatented mining claims in the Hills could have a significant impact upon the relatively fragile soils and groundwater resources of the
area. In addition, continued residential development will increase an already intense level of recreational use. The increased use of the Hills' relatively fragile ecosystem will require the management and accommodation of as many land use activities as possible.

The recommendations presented in this study will be utilized in three separate products: 1) a recreation guide to the Scratchgravel Hills for public use; 2) the Scratchgravel Hills Planning Unit of the Lewis and Clark County Comprehensive Plan; and 3) the Scratchgravel Hills Management Unit (Unit #27) of the BLM Headwaters Resource Management Plan.

Methodology

The methodology utilized in the production of the Comprehensive Plan was based upon the following: 1) identification of critical land use issues in the Hills; 2) the review of the area's existing environmental and land use information; 3) development of strategies to accommodate conflicting land use activities, and 4) formulation of an approach for implementation of these strategies.

1. Identification of Critical Issues

The local expertise of a volunteer Citizens' Committee provided a large portion of the information utilized in the
identification of issues that needed to be addressed. The four local landowners on the committee were very knowledgeable about the pressures exerted on the resources of the Hills by recreational use and residential and mineral development.

The Green Meadow Study (Lewis and Clark APO, 1977) conducted a survey of local landowners and residents. Results of this survey provided information on the type of development favored by persons owning property in the Scratchgravel Hills.

The author held a series of eight pre-announced public meetings between January and May of 1983. Members of the public who attended these open meetings were solicited for their views on the identification and prioritization of important land use issues in the Hills.

2. Review of Existing Information

Numerous environmental inventories have been accomplished in the Scratchgravel Hills. Resources inventoried include soils, geology, vegetation, and wildlife. These studies were reviewed with the objective of addressing the important land use issues already identified. In most instances, the formulation of land use alternatives was more heavily influenced by existing impacts in the study area than by information drawn from environmental inventory
work. For example, the segregation of incompatible forms of recreation (such as motorized and non-motorized) may best be accomplished by limiting motorcycle use to several areas where significant impacts have already occurred, rather than attempting to determine where soil surface horizon characteristics are likely to lead to the least erosion.

Existing information was found to be inadequate with regard to the geohydrology of the Hills. This deficiency was discovered during the identification of mineral development impacts upon groundwater as a critical issue. In order to fill this informational gap, the Water Development Bureau of the Montana Department of Natural Resources and Conservation (DNRC) was asked to perform a reconnaissance level survey of the geohydrologic characteristics of the Scratchgravel Hills.

3. Development of Strategies to Accommodate Conflicting Land Use Activities

Each issue area was analyzed to determine methods to reduce potential conflict between incompatible land use activities. In some cases, the spatial segregation of conflicting activities is indicated. In other issue areas, aggressive application of existing regulatory processes is recommended. A discussion of accommodation strategies is included in the chapter for each issue area.
4. Formation of Implementation Approach

As a document that will form an integral part of three separate planning efforts, the Comprehensive Plan includes an integrated implementation process. In order to be receptive to the regional and local needs of BLM and Lewis and Clark County, a two stage implementation plan was developed. Short range objectives are designed to provide for expedient measures to address local and county-wide concerns. Long range implementation objectives are designed to ensure management priorities compatible with BLM's regional planning efforts.
CHAPTER 2

PHYSICAL ENVIRONMENT

The Scratchgravel Hills lie three miles to the north of the Helena city limits and occupy approximately 5,500 acres in 32 sections (Fig. 1). The Hills are characterized by gently rolling to moderately steep terrain varying in elevation from 3,700 to 5,200 feet above sea level. The Helena Valley, in which the Hills are located, has a dry temperate climate. Average minimum/maximum daily temperatures are 8°/29° F in January and 52°/84° F in July. Average annual precipitation is approximately 12 inches, including an average annual snowfall of 49 inches.

There are seven soils series represented in the Scratchgravels. Most of the soils are shallow and highly erodible. Rock outcrops are prevalent in several of the series. Existing vegetation at lower elevations consists of grasses, forbs, and sagebrush, with occasional common juniper and ponderosa pine. Higher elevations and north facing slopes are dominated by ponderosa pine/Douglas fir forest with an understory of rough fescue or bluebunch wheatgrass. No rare or threatened plant species are known to occur in the area (Hoffman and Pattie 1968).
Fig 1  Study Area

Scale: 1" : 1 mile
Wildlife inhabiting the Scratchgravels includes small mammals, non-game birds, raptors, and small resident populations of game animals. A small herd of pronghorn antelope use the Hills as year round habitat. Small resident populations of mule deer and whitetail deer are also evident. No threatened or endangered species are known to occupy the area (Thompson 1982).

Several sites of archeological significance are found in the Scratchgravels. These sites include day use areas and hunting camps of early Native American tribes (Novatne 1983). The Hills do not possess wilderness characteristics because of previous mineral development and associated roads and trails. There is evidence of historic mining activities throughout the Scratchgravels. Some small scale mining facilities are sited along the western side of the Hills. Several basins in the study area have been subdivided and now have year round dwellings.
The Scratchgravel Hills study area constitutes an island of undeveloped lands surrounded by an area experiencing steady residential growth. Approximately three-fourths of the study area is public land administered by the BLM. Most of the remaining one-fourth of the study area is subdivided private land. The study area contains approximately 300 homesites in three major subdivisions and several smaller developments. About 70 of these homesites now contain year-round residences. As residential development of these homesites continues, and as the population of the Helena Valley grows, a significant increase in recreational use of the Scratchgraves is expected.

Recreational use of the Hills is already well established. There is an extensive network of roads and trails utilized by hikers, joggers, horseback riders, motorcyclists, and four wheel drive vehicle enthusiasts. Target shooters and hunters utilize the area for practice or sighting in hunting rifles. Snow cover is generally inadequate for regular use by snowmobilers or cross country
There are a large number of patented and unpatented mining claims distributed throughout the Scratchgravels. Two ore processing operations are already established in the area. A substantial increase in precious metal prices could drastically increase the number of claims being developed.
CHAPTER 4

USE OF FIREARMS

Issues

The Scratchgravel Hills have traditionally been used by City and County residents as an area for target shooting and casual hunting. Substantial subdivision and dwelling construction in the last decade have resulted in a significant increase in the number of persons living in the area of the Hills. Continuing use of firearms presents a real danger to human safety when it occurs in proximity to residential areas.

Recreational use of the area's extensive road and trail network has also increased within the last several years. Because of the small size of the Hills, hikers, horseback riders, and off-road vehicle enthusiasts are likely to utilize a large portion of the area on a single outing. And because the range of even the smallest caliber of firearm commonly used in the area is over one mile, there is virtually no place in the Hills where shooting does not pose at least a potential danger to residents or recreational users.

The Hills do, however, provide a close and convenient
location for local shooters and hunters to sight in rifles or embark on short hunting trips. Restrictions on firearm use in the area may be poorly received by the shooting community and difficult to enforce without supervision and cooperation from the County Sheriff, or, in cases related to game violations, the Montana Department of Fish, Wildlife, and Parks (MDFWP) game wardens.

In an attempt to locate a site in the Hills that can safely support a shooting range, an inventory of possible locations was performed. Because of the one mile range of even a small caliber bullet and the intensity of recreational use and residential development in the area, no suitable location was found.

Recommendations

1. The use of firearms should be restricted from the Scratchgravel Hills. The prohibition of all shooting in the Scratchgravel Hills would enhance human safety and improve the quality of the recreational and residential opportunities of the area. As a multiple use area (residential, mining, grazing, recreational uses) the Hills are too small to accommodate unrestricted shooting without endangering the safety of other users. There are at least two supervised ranges in the vicinity of Helena where hunters and target shooters can practice or sight-in their
firearms. All trailhead markers should be clearly marked with signs stating "No Shooting Permitted."

2. If a local sportsman's group can locate a suitable shooting range and is willing to accept full responsibility for establishing, maintaining, supervising, and accepting liability for activities at the range site, then the BLM and County Commission should consider their request.

3. The Montana Fish and Game Commission should be petitioned by BLM staff to change the hunting classification of the Scratchgravel Hills to archery only.
CHAPTER 5

WILDLIFE

Introduction

Pronghorn antelope and whitetail deer are the primary big game animals occurring in the Scratchgravel Hills. Some mule deer and occasional transient elk have been observed in the area. Neither BLM nor MDFWP have conducted big game surveys in the area. The area is considered only marginal by MDFWP for recreational big game hunting (Sullivan 1983).

Although pronghorn may be seen throughout much of the Scratchgravels, their foraging activities are concentrated in the open grassland areas on the southwest and north sides of the area (Figure 2). BLM officials have indicated that these areas are the pronghorn's primary fawning grounds (Sullivan 1983). Currently, the Scratchgravel Hills are not included in a hunting district for pronghorn antelope and antelope hunting is not permitted.

The whitetail deer population is dispersed throughout the western half of the Hills. The forested areas and brushy coulees provide cover and forage.

Water is available both inside and outside the Hills. Natural and developed springs provide a source of water.
Fig 2

Important Pronghorn Fawning Areas

Scale: 1" : 1 mile
for wildlife. Three Mile, Seven Mile, and Silver Creeks provide water and habitat outside the Hills (Sullivan 1983).

A large number of other mammals inhabit the Scratchgravel Hills. Marmots, Columbian ground squirrels, cottontail rabbits, and jackrabbits are the species most commonly observed (Thompson 1982).

Thirty-four avian species are known to live in the area. Thirteen additional species that exist in similar habitat in the Helena area may also inhabit the Hills.

No endangered or threatened species are known to inhabit the area (Sullivan 1983). Bald eagles winter in the Helena Valley and may use the Scratchgravel Hills for roost sites and foraging for carrion.

Issues

Wildlife population can be displaced from preferred habitats depending on the extent and duration of the impacts involved. Disturbance related impacts or habitat alterations, other than those that are strictly temporary in nature, may result in a reduction or elimination of the wildlife population (Thompson 1982).

The resident pronghorn population would be reduced or eliminated if fawning and foraging areas are used for residential developments, for concentrated or disruptive recreational activities or for mining activities more
intensive than those of the hobby miner. Dogs running loose are also detrimental to the antelope population, especially during fawning season from mid-May until July (Sullivan 1983).

Whitetail deer are dispersed more evenly and are less dependent on a single habitat type than the pronghorn. Thus, this species is more tolerant of disturbances and habitat type alterations (Sullivan 1983). However, their numbers are also likely to decline if more intense human use of the Hills occurs. As residential development increases around the borders of the Scratchgravel, it will become more difficult for deer to move between the hills and the creek bottoms. This will result in the springs in the area becoming more important, to not only the deer, but to pronghorn and other wildlife species. Human-wildlife conflicts will likely increase as recreational activity and residential density increase in and around the Scratchgravel. Disruptive activities during pronghorn and whitetail fawning periods may contribute to reduced fawn survival (Sullivan 1983).

Developments or disturbances in a localized area will affect nongame mammals and birds to varying degrees at that site. If these areas are small in size and few in number, overall populations of nongame animals in the Scratchgravel should not be significantly affected. Any large scale
development or disturbances can be expected to have some impact on nongame populations. The degree of impact and the species involved depend on the kind of development and the habitat type (Thompson 1982).

Recommendations

1. Dispersed, non-motorized recreational use should be encouraged in the Scratchgravel Hills to minimize disturbance to whitetail deer habitat. Recreational activities should be minimized during pronghorn fawning, especially between mid-May and July 1. The trail system discussed in Chapter 9 is designed to minimize contact between antelope and humans during the fawning season.

2. Residential and mineral development in pronghorn fawning and foraging areas should be discouraged. Intensive development and other disruptive activities should be localized within areas already impacted.

3. Because of the importance of perennial water sources for use by pronghorn and whitetail deer, undeveloped springs should be carefully inventoried so that they may be considered for future development. Development of some springs for wildlife is a long term implementation objective of the Comprehensive Plan.

4. The inventory of wildlife species is another long term implementation goal of the plan. This inventory could be accomplished when availability of funds or volunteer
investigators permit. A comprehensive species list could comprise a portion of the APO's public education effort aimed at improving the quality of the recreational experience available in the Hills.
CHAPTER 6

MINING ACTIVITY

Introduction

The Scratchgrave Hills have been mined for various minerals since 1864. The types of ore that have been mined include those bearing silver, lead, gold, iron, and copper. Except for a period between 1914 and 1918, mining has been intermittent and generally on a small to moderate scale (Charlton 1983). Intensive mining did occur for a three year period between 1914 and 1918 as a mineral vein including gold was discovered and developed at the Scratchgrave and Franklin mines. In 1919, as a result of the post war rise in the cost of supplies and labor, these mines were closed (Charlton 1983). However, the Franklin Mine has been periodically re-opened since that time and has produced primarily gold and lead as recently as the late 1970s. The Hills lie within the BLM's designated Marysville Mining District (USDI 1970).

There are both patented and unpatented mining claims in the Scratchgraves. A patented claimant holds fee title to his land. There are about a dozen of these types of claims in the Hills. Most of the mining claims in the Hills,
however, are unpatented claims. An unpatented claimant does not hold fee title to the land but retains the exclusive mineral rights to his claim as long as he invests a minimum of $100 annually in assessment, exploration, or development. Between 1979 and 1981 approximately 112 unpatented mining claims were filed. The latest assessment year on these claims is 1982 (USDI 1982).

There is still strong interest in mineral development in the Hills. Two small cyanide leach operations now exist, and one is operational. In addition, the road that services the west access point to the Hills was upgraded by a mining company for the purpose of transporting heavy equipment to the mining site.

As noted earlier, the area surrounding the Hills has experienced a steady increase in residential growth since 1973. Evidence of this growth is described in the Green Meadow Study which was adopted by Lewis and Clark County in 1977. The Study identifies plans for seven subdivisions located in and adjacent to the Hills.

Issues

As a result of a steady increase in residential growth and a recent increase in mining activity, four major issues are identified. They are the preservation of the aesthetic value of the Hills, ease of contamination of groundwater,
the limited water supply in the Hills, and safety of land users.

The Green Meadow Study surveyed homeowners surrounding the Hills. The people responding were interested in maintaining the rural atmosphere and aesthetic value of the Hills. Increased mining activity on adjacent federal land in the Hills was a prime concern of the residents. The majority of respondents were in favor of limited development in the Hills. Respondents also agreed to wildlife habitat management and maintenance of the Hills as a parkland similar to Mount Helena Park. These responses represent the feeling of local landowners and recreationists. When viewed in light of the historic and continuing interest in mineral exploration and development in the area, conflicts are inevitable.

The bedrock underlying much of the Scratchgravel Hills study area is highly fractured and displays very high percolation rates in some areas (DNRC 1983). Thus, any pollutant infiltrating the surface horizon has the potential to contaminate groundwater. A mining company recently constructed a cyanide leaching operation uphill from a residential area at the west access point to the Hills. The leach pad is located approximately 1/4 mile from homes that depend upon groundwater for domestic purposes. The leaching process uses sodium cyanide, a caustic chemical that is very
dangerous if consumed (DNRC 1983). The process is a contained system as long as no accidents occur. However, due to the highly fractured nature of the bedrock and the limited availability of groundwater, a cyanide-leaching operation increases the risk of groundwater contamination in the Hills, especially when sited in close proximity to residential areas (DNRC 1983).

The Scratchgravel Hills are in a semi-arid region, receiving approximately 12 inches of precipitation annually. Areas of aquifer recharge are small in relation to the watershed as a whole (DNRC 1983). Mineral processing facilities often utilize substantial quantities of water. The leaching operation on the western side of the study area requires an estimated 102,000 gallons per hour (Lewis Clark APO 1977). The Scratchgravel Hills Geohydrology Report indicates that the water available for consumptive use is tied almost exclusively to incidental rainfall or snowmelt in the Scratchgravels. The heavy demand posed by industrial water use may cause serious depletion of the area's groundwater resource and result in a lowering of the water table (DNRC 1983).

There are several abandoned mine shafts and exploration holes in the Scratchgravel Hills. These abandoned facilities pose a threat to users of the area. The majority of open mine shafts are in some state of deterioration and
are not safe to explore.

**Recommendations**

1. BLM and the Montana Department of State Lands (DSL) should work with and encourage mine operators in the Scratchgravel Hills to keep their activities confined to as small an area as possible. This effort would also work to the advantage of the mine operators, since an operation that causes less than five acres of surface disturbance per year does not require an operational permit (Charlton 1983).

2. DSL should adopt a stipulation regulating mineral development in the Scratchgravel Hills that prohibits the use of cyanide leaching as a means for the on-site processing of ore.

3. BLM, DSL, and the Water Quality Bureau of the Montana Department of Health and Environmental Sciences should participate aggressively in the required investigations which determine operator compliance with all state and federal regulations pertaining to health and safety. Agency participation in these investigations should emphasize the following areas:

   (a) adequate inventory and assessment of the project's impacts prior to construction;

   (b) application and enforcement of appropriate mitigative measures or stipulations;
(c) notification of landowners whose property or water supply could be affected;
(d) close monitoring of groundwater quality and other resources adjacent to the operation; and
(e) monitoring of reclamation following mineral removal.

4. BLM and DSL should consider the establishment of a mining exclusion area or buffer zone in areas adjacent to residential development where contamination of groundwater supplies could have immediate and disastrous consequences.

5. The Abandoned Mine Land Reclamation Fund should be administered aggressively to close off the shafts and adits that pose a threat to the safety of land users in the area.
CHAPTER 7

ACCESS

Introduction

Public land in the Scratchgravel Hills is accessible from a number of roads and trails. None of the access points are marked and some routes trespass on private land.

There are two legally reserved public access routes into the Hills. The first is Echo Lane, approximately one and one-half miles north of Fort Harrison on Birdseye Road. The second route is a legal easement across private land along a graded, unimproved dirt road in Section 2 (Fig. 3). Neither of these roads are presently marked as BLM access, and neither provide a continuous travelway through the Hills without passing through private holdings (Anderson 1983).

Issues

There is inadequate provision of legal public access on the north and east sides of the Hills. There is no clear delineation of private and public land boundaries. Mining claims are not clearly marked, nor are BLM boundaries. There are numerous trails, roads, and tracks throughout the area, most of which cross private land.
Fig 3 Land Use Recommendations

Public (BLM) land
- motorized use area
- non-motorized use area

Subdivided private land

Other private land

Public access point

Motorized use trail

Non-motorized use trail

County road

Scale: 1" : 1 mile

North
Aside from the obvious need to provide clearly marked public access, there is a need for summer and fall access from each end of the study area for fire management. Several private landowners have fenced and locked off access into the Hills over traditionally used roads. If this trend continues, a fire hazard could result.

From a recreational standpoint, the current "road system" is visually unpleasant and confusing. From a resource management standpoint, vegetation and forage is being damaged and top soil lost to erosion (Anderson 1983).

Recommendations

1. BLM should clearly mark and post the legal access point at Echo Lane. Public land boundaries along the road should be clearly marked to prevent trespass.

2. Right-of-way easements or land exchanges in the southeast corner of the study area should be negotiated to provide continuous public access over private land into the Hills. The top priority area for early land exchange consideration by BLM should be the east 1/2 of Section 35. This is the most suitable area in the Hills for motorized recreation use, and is also the area in which the most unauthorized use is now occurring.

3. At such time as BLM is able to secure recreation easements or land exchanges that make possible legal access
to and use of the east 1/2 of Section 35, Franklin Mine Road should be posted as a BLM access point. Access should not be encouraged along the road at this time.
CHAPTER 8

FUTURE RESIDENTIAL DEVELOPMENT

Introduction

The Scratchgravel Hills are bordered to the south, east, and west by residential subdivisions. Persons owning lots and/or residing in these subdivisions generally have a strong sense of stewardship about the Hills (Anderson 1983).

Other private land holdings occur outside platted subdivisions. The majority of these holdings were acquired through the filing of patented mining claims. These claims convey fee title to the owner. There is, however, no automatic provision for access to the parcel.

The Green Meadow Study identifies natural limitations to future development of the Hills. These limitations include steep slopes, shallow depths to bedrock, fractured bedrock, and limited availability of groundwater (Lewis and Clark APO 1977). The limitations can be accommodated in some cases through higher development costs such as engineered foundations or self-contained septic systems. However, the unknown quantity and limited recharge of groundwater present a problem to future and existing landowners. The steeper slopes present limitations to local
road development. The shallow depth to bedrock would make road building extremely expensive.

The majority of landowners responding to the Green Meadow Study survey were in favor of limited development in the area (Lewis and Clark APO 1977). They supported passive recreation activities and opposed off-road vehicle trail development. The Study recommended a maximum density of one unit per ten acres, since the Hills have moderate to severe soil limitations for septic tanks.

Issues

Residential development on private lands within the BLM holdings in the Hills will create problems of access and result in additional dispersed impacts to wildlife.

Recommendations

1. BLM must attempt to reconcile its checkerboard holdings so that the private inholdings will not present future development and management problems for the BLM and the County.

2. BLM should not negotiate access for the development of private inholdings for residential purposes within the Hills, but rather should attempt to exchange these inholdings for lands served by public access.

3. The Lewis and Clark APO, as a part of its public
education program on responsible land use in the Hills, should make the public aware of the problems and conflicts associated with residential development on parcels with no provision for access.
CHAPTER 9

RECREATION

Introduction

The primary objective of recreational activities management in the Scratchgravel Hills is the development of a recreational land use plan that recognizes and, if possible, accommodates the many resource values of the Hills. These values include residential development, preservation of wildlife habitat, and mining. A second objective is the management of recreational activities in order to enhance public safety and the quality of the recreational opportunities available in the Hills.

Emphasis has been placed on a positive approach toward activities management through the encouragement of various uses in specific areas. Because future authority and funding for enforcement personnel is questionable, the Plan will rely upon public education rather than enforcement to encourage compliance with its provisions.

Issues

Encounters between motorized and non-motorized recreational users on a road or trail can compromise
personal safety and detract from the quality of the recreational experience. In addition, the aesthetic qualities of a trail system, such as relatively undisturbed vegetation and lack of severe ruts and furrows, enhance the system's value to the non-motorized user. All forms of recreation tend to degrade these values through mechanical displacement of soil materials and destruction of vegetation. However, motorized trail use causes far more rapid deterioration of the trail than does foot and horse use.

Most of the current motorcycle and off-road vehicle (ORV) use of the Scratchgravel Hills occurs in the southeast corner of the study area. Unfortunately, land ownership patterns in this part of the Hills is complex, and much of the land presently experiencing heavy use is privately owned.

Two sites in the Hills are presently utilized for keggers and drinking parties. Local residents have been opposed to this activity for reasons of noise, nuisance, and concern over the safety of the participants during their departure from the Hills at night.

The potential for grass and forest fires in this environment is substantial. Motorized recreation and day use activities such as picnics and keggers present the greatest possibility for accidental occurrence of fires.
Recommendations

1. Hiking and horseback riding trails should be separate from motorcycle and ORV use roads and trails.

2. The non-motorized use trails depicted by dashed lines on Figure 3 are designed for use by hikers, runners, and horseback riders. These areas are generally primitive and have experienced only slight impacts from motorized use. The system offers a diverse recreational experience in terms of trail difficulty and visual environment. The trail networks of the area also provide superb cross-country running courses.

Trail 1 is two and one-half miles long and covers an elevational range of approximately 200 feet. The trail environment is heavily wooded and very primitive.

Trail 2 consists of a system of spur trails bordered by a motorized vehicle loop. The area offers exceptional picnic spots and scenic views. The two central trail spurs offer short climbs to additional scenic views, with elevation ranges of 200 to 250 feet. Another spur extends north to a point overlooking the north slope of the Scratchgravel and Silver Creek. A fourth spur follows a primitive trail south for one-fourth mile to a small summit.

Trail 3 is highly diverse and includes open sage/grassland on the west and south. The trail gains 150 feet of elevation while following a well established path
through a wooded saddle between two hills.

Trail 4 includes a course through a heavily wooded environment with an elevation range of 400 feet. This trail is adjacent to the highest peaks in the Scratchgravel Hills.

Trail 5 is primitive and follows Iowa Gulch to the northern boundary of the study area, a drop in elevation of 150 feet.

Trail 6 offers diverse topography and vegetative cover.

3. The best opportunities for motorized use of roads and trails in the Scratchgravels lie in the southeast corner of the study area where significant impacts have already occurred. The only way to legitimize the current heavy use in this area would be for BLM to consolidate the complex ownership patterns in Section 35. This consolidation would allow the creation of public parcels of land large enough to effectively and legally manage ORV and motorcycle use (see Chapter 7).

The remainder of the study area is poorly suited for use by motorized vehicles. Two motorized recreation trails are proposed where impacts to soils and vegetation have already occurred. These trails are indicated as solid lines on Figure 3.

Trail 7 is a one and one-half mile loop with a climbing trail leading to an open to moderately wooded ridge line. The loop then descends an open hillside to join a recently
graded road. The road continues east to the southwest corner of Section 27 (Figure 3).

Trail 8 provides motorized access over private land via a BLM secured easement. As discussed in Chapter 7, this access should not be posted as a legal access point until BLM is able to consolidate the ownership in the east half of Section 35.

Consolidation of BLM holdings through land exchanges in the east half of Section 35 would legitimize the presently heavy motorized recreational use in that area. Authorization of this existing use would present a better balance between motorized and non-motorized recreation in the Scratchgravels.

If BLM is unable to consolidate ownership in this area, other suitable opportunities for motorcycle and other motorized recreation on roads near the Scratchgravel Hills should be brought to the attention of the public by the APO. They include:

a. road to Park Lake
b. Figure 6 road in the York-Nelson area
c. Fletcher Pass Road
d. Stemple Pass Road
e. Little Blackfoot Road
f. McClellan Creek-Warm Springs Loop
g. Canyon Ferry Loop
h. Lump Gulch-Unionville Loop
i. loop from Little Prickly Pear to Sieben
J. Marysville Area roads
CHAPTER 10

PLAN IMPLEMENTATION

Implementation of the Comprehensive Plan for the Scratchgravel Hills should occur in two stages. Short term implementation should consist of several activities.

1. BLM personnel should post the BLM access point on Echo Lane.

2. DSL should apply the Abandoned Mine Land Program to close off those old mine shafts that pose an immediate danger to recreational users.

3. Designated trail systems should be posted with directive or interpretive information where appropriate. This will be accomplished by BLM's Butte District Office, local landowners and local service organizations. The reference for marking of trails will be the Activities and Resource Management Map published with the final comprehensive plan. This map will serve as a user reference guide for recreationists in the Scratchgravel Hills. The map will indicate the location and layout of the trail and road networks (Figure 3). In addition, locations of special interest, such as historical resources and scenic viewpoints will be located and explained. General information and
instructions on use of the area and courtesies to be extended to other users will be included. Long term implementation will consist of the following activities:

1. improvements to existing trail systems to help channel recreation users, discourage "fanning out" of hikers and horseback riders, and enhance the safety of all users will be accomplished by BLM staff or local volunteer service organizations;

2. inventory and development of springs which would increase water sources for wildlife such as whitetail and mule deer and pronghorn antelope; and

3. ongoing public education programs conducted by BLM and the Lewis and Clark APO, aimed at enhancing public awareness of the natural values of the Hills and the recreation opportunities available.
CHAPTER 11

CONCLUSION

The Comprehensive Management Plan for the Scratchgravel Hills has two primary objectives. The first is the avoidance of additional impacts to the natural environment of the Hills. The second objective is the enhancement of the residential and recreational opportunities available there. Since there will be no real mechanism for the enforcement of the Plan, the provisions must be realistic and generally acceptable to land users and administering agencies.

Avoidance of additional impacts to the natural environment of the Scratchgravels is attempted by recommending high-impact uses only in those areas presently experiencing such use and where significant impacts have already occurred. The enhancement of residential and recreational opportunities is achieved by the segregation of incompatible and potentially conflicting uses to the greatest extent possible. Naturally, the land use opportunities presented by changes in land ownership and the filing of mining claims is difficult to modify or influence.

Finally, the Plan seeks to maximize public support and
acceptability by being a product of a well advertised public process. It is hoped that the work of the citizen's committee and the public meetings used to identify important issues will make the Plan's provisions easy to embrace by public land users and private landowners. It is expected that the success of the Comprehensive Management Plan will be measured by the quality of the land use opportunities of the Scratchgravel Hills over the next decade.
REFERENCES


