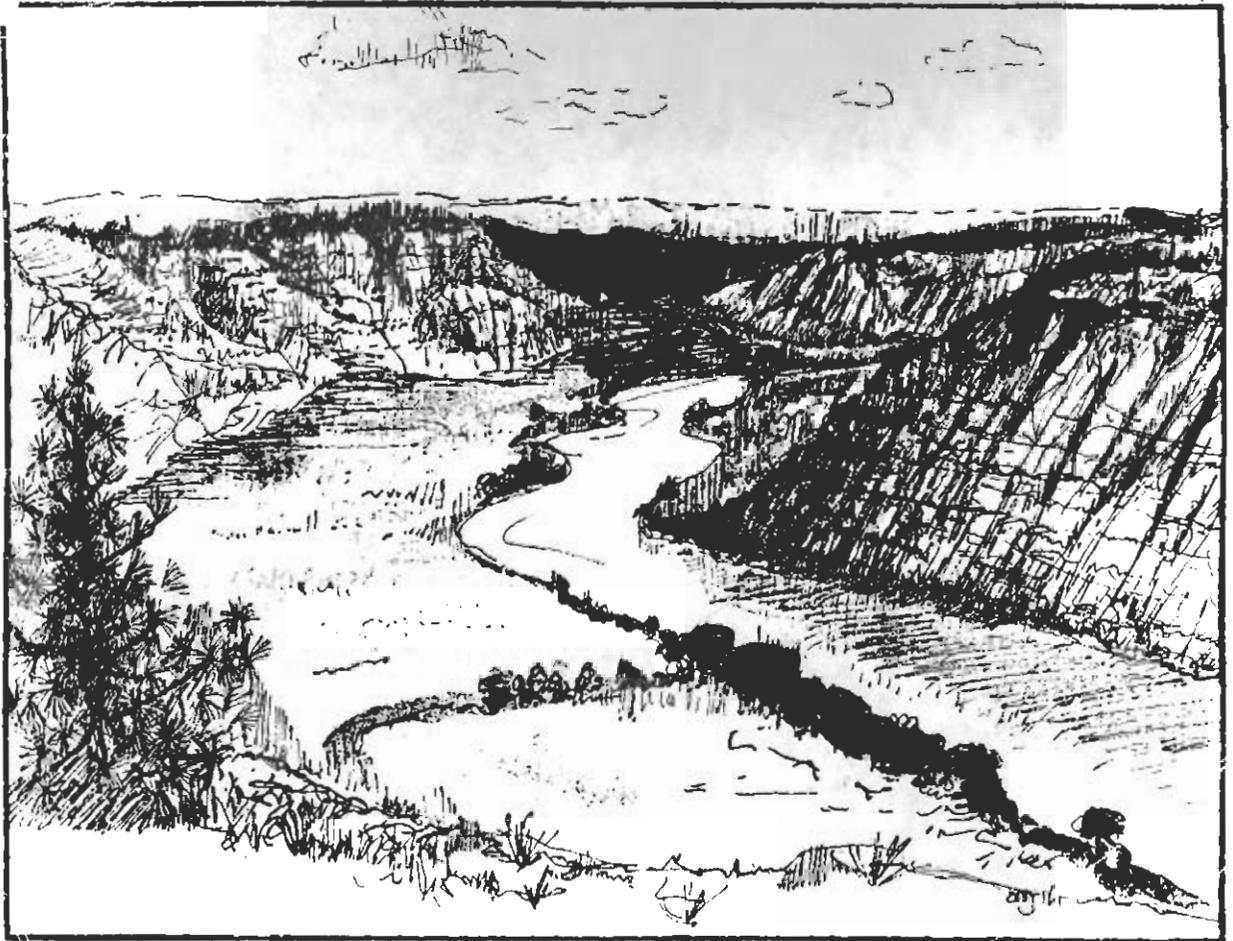


# WOODHAWK WATERSHED INTERDISCIPLINARY MANAGEMENT PLAN

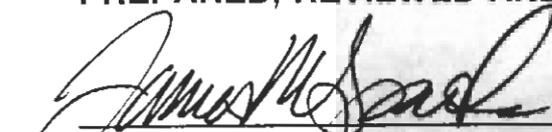


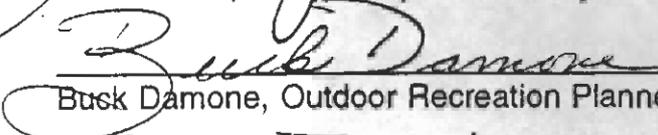
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LEWISTOWN DISTRICT  
BUREAU OF LAND MANAGEMENT

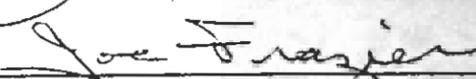
SEPTEMBER 1997

WOODHAWK WATERSHED  
INTERDISCIPLINARY MANAGEMENT PLAN  
SEPTEMBER 1997

PREPARED, REVIEWED AND ACCEPTED BY INTERDISCIPLINARY TEAM:

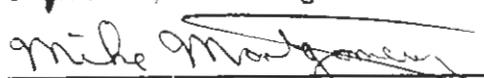
  
James M. Sparks, Ecosystem Management Specialist (Team Leader) 10/22/97  
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Busk Damone, Outdoor Recreation Planner 11/3/97  
Date

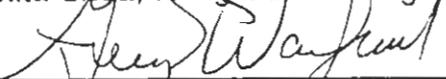
  
Joe Frazier, Hydrologist (Riparian Coordinator) 28 OCT 97  
Date

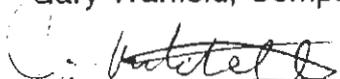
  
Michelle Williams, Wildlife Biologist (NEPA Coordinator) 10-27-97  
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Mike Montgomery, Civil Engineer 11-17-97  
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Gary Warfield, Computer Specialist (GIS Coordinator) 11/13/97  
Date

  
Jim Mitchell, Geologist 11/13/97  
Date

Tom Stivers, Wildlife Biologist (Montana Dept. Fish, Wildlife and Parks) Date

APPROVED BY:

  
Chuck Otto, Area Manager, Judith Resource Area 3-13-98  
Date

**WOODHAWK WATERSHED  
INTERDISCIPLINARY MANAGEMENT PLAN**

**ACKNOWLEDGEMENT**

We, the undersigned parties, have read the terms and conditions set forth in the Woodhawk Watershed Interdisciplinary Management Plan and will carry out the provisions of this plan to the best of our abilities.

If conditions change, if management objectives are not being met, or if there are changes in law, regulation, or policy, the authorized officer may modify this plan or close allotments following consultation with the parties involved in accordance with 43 CFR 4110.3-3(b) and 4130.3-3.

This plan will be binding upon heirs, executors, assignees or successors in interest.

We may appeal the final decision to implement this plan if the terms and conditions are unsatisfactory. Appeals may be made to the authorized officer for the purpose of a hearing before an administrative law judge within 30 days after receipt of the decision.

Nothing in this plan shall be deemed to financially obligate the BLM of U.S. Government in the expenditure of funds or services in excess of appropriations authorized by law.

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Otto Kuczynski, Bar OK Ranch Company

Date

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Vicki Ehlert, Permittee

Date

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Tom Ford, Permittee's Authorized Representative

Date

## TABLE OF CONTENTS

I.	Landscape Description	1
	Location and Topography	1
	Soils	1
	Climate	1
	Vegetation	1
	Special Status Plants	11
	Riparian Areas	12
	Livestock Grazing	14
	Rangeland Management Projects	16
	Wildlife Resources	17
	Cultural/Prehistoric Resources	25
	Recreation	27
	Forestry	33
	Fire	33
	Minerals and Energy	34
	Lands/Realty	34
II.	Resource Management Issues	35
III.	Goals and Objectives	37
	Land Use Plan Guidance	37
	Watershed Specific Objectives	41
	Riparian Areas	41
	Upland Areas	44
	Wildlife	45
	Cultural Resources	46
	Recreation	46
	Paleontological Resources	47
IV.	Management Actions	47
	Motorized Vehicles/Travel	47
	Woodhawk Bottom Recreation Area	49
	Hunting Outfitter Management	50
	Noxious Plant Management	51
	Cultural Resources Management	52
	Paleontological Resources	53
	Livestock Grazing Management	54
V.	Monitoring and Evaluation	61
	Monitoring	61
	Evaluation	62

VI. List of Appendices

Appendix A	Successional Status of Riparian Cover Types Along the Missouri River in the Woodhawk Area	63
Appendix B	Functional Status and Trend of Riparian Areas Along the Missouri River in the Woodhawk Area	66
Appendix C	Water Sources in Woodhawk East and West Pastures	68
Appendix D	T&E Species Woodhawk Watershed	70
Appendix E	Recorded Cultural Resources Woodhawk Area	71
Appendix F	Actual Grazing Use Made in the Woodhawk Watershed	72
Appendix G	Palatable Herbaceous Riparian and Upland Species for Stubble Heights and Prescribed Utilization Levels at Key Areas on the UMNWSR and Woodhawk Creek	73

## LANDSCAPE DESCRIPTION

### LOCATION AND TOPOGRAPHY

The Woodhawk area is located 20 miles northeast of Winifred, Montana in northern Fergus County (see general location map on page 2). It contains 1767 acres of state land, 10,652 acres of private land and 25,966 acres of public land (see management area map on page 3). The boundary of the area is formed by the Upper Missouri National Wild and Scenic River (UMNWSR) to the north and east, the ridge between the Woodhawk and Two Calf Creek watersheds to the south, and the existing Woodhawk grazing allotment boundary to the west. The primary watershed in the Woodhawk area is the Missouri River. However, there are two distinct divisions or drainage areas. Woodhawk Creek, a secondary watershed or hydrologic unit that flows into the Missouri River, is formed by a network of relatively short ephemeral channels. The remainder of the area is drained by a series of ephemeral channels that empty directly into the Missouri River.

The topography is very rough and broken (Missouri Breaks). The land has undergone active geologic erosion due to a diversion of the Missouri River from its former course in the Milk River drainage which occurred near the end of the last ice age nearly 10,000 years ago. Some significant faulting is also present.

The floodplain of the Missouri River is relatively narrow and ends abruptly at the steep surrounding hills. The upland areas are dissected by narrow drainages with fast falling gradients. These drainages eventually flow into Woodhawk Creek or directly into the Missouri River. Elevation in the area varies from 3200 feet in the west to 2200 feet where Woodhawk Creek enters the river.

### SOILS

The soils in the uplands and along the Missouri River developed on Judith River Sandstone and Bear Paw Shale of the Cretaceous age. Soils present include clays, dense clays, shallow clays, exposed shales, and rock outcrops (sandstone). Other than the rock outcrops and exposed shales, the soils are generally 10" to 14" deep. There are 32,930 acres of soil types in the planning area that are highly susceptible to erosion, 3515 acres that are moderately susceptible and 1940 acres that are slightly susceptible (see erosion susceptibility class map on page 4). More detailed soil information can be found in the **Soil Survey of Fergus County, Montana**.

### CLIMATE

Climatological data has been collected from the NOAA Weather Station located at the Winifred Airport 20 miles southwest of the Woodhawk area. The annual precipitation based on a 30 year average from 1961 to 1991 is 13.86 inches. Seventy five percent of the annual precipitation (10.75 inches) comes in the form of rain during the six month growing season from April 1 to September 30. The average frost free period is 130 days along the Missouri River.

### VEGETATION

Satellite imagery (LANDSAT) and computer enhancement techniques were used to provide a general land cover class map (page 5) and associated acreage. The LANDSAT imagery, as

# WOODHAWK MANAGEMENT AREA - GENERAL LOCATION

## LEGEND



BLM



STATE



PRIVATE



MANAGEMENT AREA  
BOUNDARY



ROADS AND TRAILS



# WOODHAWK MANAGEMENT AREA

## LEGEND

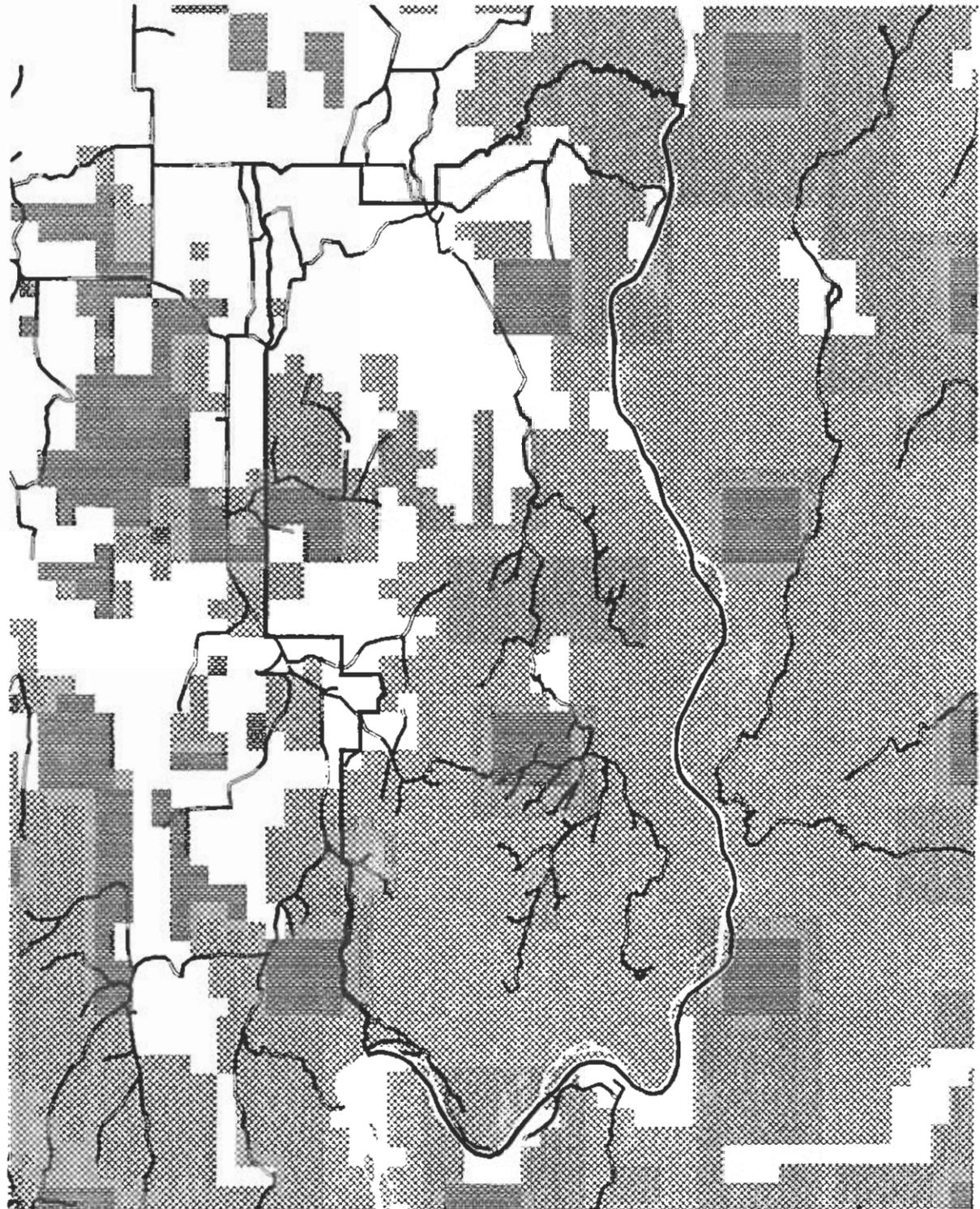
 BLM  
25,966 ACRES

 STATE  
1,787 ACRES

 PRIVATE  
10,652 ACRES

 MANAGEMENT AREA  
BOUNDARY

 ROADS AND TRAILS



# SOIL EROSION SUSEPTIBILITY CLASSES

## LEGEND

-  LOW SUSEPTIBILITY  
1,940 ACRES
-  MODERATE  
SUSEPTIBILITY  
3,514 ACRES
-  HIGH SUSEPTIBILITY  
32,920 ACRES
-  MANAGEMENT AREA  
BOUNDARY



# VEGETATION TYPES

## LEGEND

	GRASSLANDS 2,127 ACRES
	SAGEBRUSH/GRASS 21,879 ACRES
	PONDEROSA PINE/ JUNIPER 6,245 ACRES
	DOUGLAS FIR/ PONDEROSA PINE 730 ACRES
	MIXED SHRUB 67 ACRES
	DECIDUOUS TREES/ WILLOWS 63 ACRES
	SPARSELY VEGETATED/ ROCK/BARE GROUND 2,174 ACRES
	CROPLAND 4,973 ACRES
	WATER 1,048 ACRES



interpreted by Ecological and Geographic Information Specialists, distinguishes broad cover associations generally discernible by percent ground cover and land form. The following summaries are arranged by community type applicable to broad LANDSAT classification schemes:

### **Grasslands (2127 acres)**

This LANDSAT classification consists of primarily short and mid-grasses predominately associated with silty, sandy, claypan and thin silty ecological sites. This vegetative type occurs mainly on rolling hills at all aspects. In many instances, silver sagebrush and/or clubmoss are a significant component of the community.

Common grass species in this classification include western wheatgrass, needle and thread grass, green needlegrass, sandberg bluegrass, inland saltgrass, blue grama, prairie junegrass and threadleaf sedge. Common forbs include American vetch, scarlet globemallow, fringed sagewort, cudweed sagewort, pusseytoes and toadflax. Common shrubs include silver sagebrush, rubber rabbitbrush, prickly pear cactus, and winterfat. Less common species include bluebunch wheatgrass, prairie reedgrass, Nuttall saltbush, big sagebrush and skunkbrush sumac.

This vegetation type is valuable for livestock forage production. These communities also supply important yearlong forage for antelope, elk and to a lesser extent, mule deer. Many nongame birds and mammals utilize these communities throughout their lifecycle. Sharp-tailed grouse generally prefer tall residual grassland areas for yearlong use, while sage/grouse may utilize the short grass areas for strutting grounds. Waterfowl use these areas in the spring, summer and fall for pair bonding, breeding, nesting, broodrearing and staging.

### **Sagebrush/Grass (21,874 acres)**

This LANDSAT classification is the dominant vegetation type in the planning area. It includes high production and low production sites. The low production sagebrush/grass type is usually associated with areas producing less vegetation than normal or areas with plants in low vigor. In most instances these conditions can be correlated with ecological sites in early and mid seral status. The high production sagebrush/grass type is usually associated with areas producing vegetation at or above normal or areas with plants in normal to high vigor. In most instances, these conditions can be correlated with ecological sites in late seral to potential natural community status.

Western wheatgrass, prairie junegrass, Sandberg bluegrass, green needlegrass, bluebunch wheatgrass, blue grama and needle and thread are the most common grasses. Common forbs include broom snakeweed, American vetch, wild onion, Astragalus species, fringed sagewort, toadflax, scarlet globemallow, lomatium and scurfpea. The most prevalent shrubs are big sagebrush, silver sagebrush and greasewood.

This vegetation type is of moderate to high value as a forage base for cattle in the watershed. Antelope, mule deer, elk, sharp-tailed grouse, sage grouse, waterfowl and many species of non-game birds and mammals use this vegetation type. Antelope and mule deer use these areas yearlong and are dependent on sagebrush for winter browse. Mule deer and elk use the edges of sagebrush ridges adjacent to conifer forests yearlong. Sage grouse are dependent on the sagebrush component of this vegetation type yearlong. Sharp-tailed grouse may utilize this vegetation type yearlong, depending on habitat condition. Waterfowl use these areas heavily in the spring and summer where found adjacent or in association with reservoirs.

### **Ponderosa Pine/Juniper (6245 acres)**

This vegetation type is found on side slopes of major and minor drainages within the watershed in association with shallower soils. Along the edges of ridges and benches, this community frequently merges with sagebrush/grasslands, which occupy deeper soils.

Ponderosa pine and juniper are the dominate species, but can be scattered, leaving open parks. Understory species are scant in the thicker ponderosa pine/juniper stands while sagebrush/grassland species are the primary understory in open timber areas and parks.

In addition to a variety of non-game species, mule deer, elk, bighorn sheep and sharp-tailed grouse use this vegetation type for food and cover. Livestock forage production is low in the dense stands and is often limited by steep slopes. In more open stands, livestock forage production is moderate. Burning dense stands, often improves forage production and use by both wildlife and livestock but impacts wildlife escape cover. The potential for soil erosion is high following fire. Examination of old burns in the area indicate slow recovery is often the norm. Ponderosa pine and juniper provide products such as fuel, posts and poles but are of limited value for lumber.

### **Douglas-Fir/Ponderosa Pine (730 acres)**

This vegetation type is found primarily on north and east facing slopes in the watershed. Other than the presence of Douglas-fir, the vegetative composition is similar to the ponderosa pine/juniper type. In dense stands, the available forage for livestock and wildlife is minimal but increase as stands become more sparse.

These areas provide excellent cover for mule deer, bighorn sheep and elk. Due to the sparse understory, few food plants are available and livestock forage value is low. Douglas-fir and ponderosa pine provide fuel, posts and poles and a limited opportunity for lumber.

### **Mixed Shrub (67 acres)**

In the Woodhawk watershed, this vegetation type is generally a rose/snowberry component found in association with riparian areas, but encompasses several other shrub communities including greasewood and silver sagebrush. These components are discussed below:

#### Rose/Snowberry

The rose/snowberry component of this classification is located primarily on alluvial soils and along slopes dropping into small drainage bottoms or drainage bottoms themselves. It is typically found on overflow ecological sites. The grass/silver sagebrush vegetation type overlaps into this type on sideslopes of drainages. This vegetation type also occurs as an understory component in cottonwood and/or willow classifications.

The rose/snowberry vegetation types is dominated by deciduous shrubs. Western wheatgrass, slender wheatgrass, Canada wildrye, prairie cordgrass, green needlegrass, American vetch, perennial sunflower, western yarrow, lomatium, fringed sagewort, scurfpea, hairy goldenaster and white milkweed are also common.

This vegetation type is important to many non-game mammals and birds, mule deer and sharp-tailed grouse for food and cover. When adjacent to water, this vegetation type is important as nesting cover for waterfowl. When adjacent to small grain cropland, this habitat is used by pheasants and gray partridge. Livestock forage production can be high in more open stands while dense stands are avoided by cattle.

### Silver Sagebrush

Silver sagebrush is the dominant species on many overflow ecological sites in the watershed. It occupies alluvial soils adjacent to streams and along the river. Associated species include western wheatgrass, green needlegrass, blue grama, sweetclover, dandelion and western yarrow.

This vegetation type is often associated with the rose/snowberry and cottonwood and/or willow classifications. It provides important habitat for a variety of no-game species. Antelope, mule deer, sage grouse and sharp-tailed grouse utilize this vegetation type for food and cover. Forage production varies from high in open stands to scant in dense stands.

### Greasewood

Greasewood is a common dominant plant on alluvial terraces along the river and small streams. It is usually associated with clay, dense clay, saline upland and saline lowland ecological sites. Understory is usually sparse and includes western wheatgrass, Sandberg bluegrass, Nuttall alkaligrass, inland saltgrass, blue grama, knotweed, seepweed and cactus. This vegetation type provides cover for mule deer, antelope, sage grouse, sharp-tailed grouse, and a variety of no-game birds and mammals. It also provides valuable winter forage for livestock and mule deer.

### **Deciduous Trees and Willow (63 acres)**

These vegetation types exist along the river primarily on overflow, subirrigated or wet meadow ecological sites that are wet for long periods or where the water table is high. The understory on most of these sites is rose/snowberry, however heavy grazing pressure can lead to an understory dominated by herbaceous species. The most common trees are cottonwood, boxelder, green ash and peachleaf willow while the most common shrubs are sandbar and yellow willow. Common associated species are the same as the rose/snowberry and/or sagebrush/grass types.

These vegetation types are used by mule deer, white-tailed deer, sharp-tailed grouse, pheasants, mourning dove and support high populations of non-game birds. Livestock forage production is normally high.

### **Sparsely Vegetated/Rock/Bare Ground (2174 acres)**

This classification contains lands with less than 10% ground and aerial vegetation coverage, including rock outcrops, badlands, slick spots, steep slopes, roads, developments, etc. Vegetation production levels are minimal. Use of these areas by livestock and wildlife is minimal.

### **Cropland (4973 acres)**

This classification includes acreage that is cultivated, irrigated or otherwise produces a crop or hay. Use of these areas by livestock is minimal except after harvest when stubble may be grazed. Use of these areas by wildlife, including elk, mule deer and upland game birds is significant, especially adjacent to areas that provide escape cover.

### **Water (1048 acres)**

This classification includes acreage covered by water such as reservoirs and the Missouri River.

### **Ecological Status**

During 1996, an Ecological Site Inventory (ESI) was conducted in the east and west pastures of the Woodhawk Allotment. Table 1 is a summary of the ecological status of existing vegetative communities in the watershed as determined by the 1996 ESI.

**TABLE 1**  
**ECOLOGICAL STATUS OF VEGETATIVE COMMUNITIES**  
**IN THE WOODHAWK WATERSHED**  
**(Acres/%)**

<b>PNC*</b>	<b>Late Seral</b>	<b>Mid Seral</b>	<b>Early Seral</b>	<b>Unclassified Rock/Bare</b>	<b>Undetermined</b>
0/0	10,579/28	10,457/27	1703/4	4427/12	11,219/29**

\* - Potential Natural Community (PNC)

\*\* - Includes cropland and most of the north river pasture

Based on the data collected during the ESI, the livestock carrying capacity in the east and west pastures was determined in accordance with Soil Conservation Service (SCS) Technical Guidelines. The livestock carrying capacity in the North River and private pasture(s) was determined using existing data. Table 2 reflects the livestock carrying capacity in the Woodhawk Watershed:

**TABLE 2**  
**LIVESTOCK CARRYING CAPACITY**  
**IN THE WOODHAWK WATERSHED**  
**(Acres/AUMS)**

<b>Pasture</b>	<b>BLM Acres/AUMs</b>	<b>State Acres/AUMs</b>	<b>Private Acres/AUMs</b>	<b>Total Acres/AUMs</b>	<b>Percent Public AUM</b>
East	13587/1588	647/105	14/2	14248/1695	94%
West	8914/883	481/56	3100/342	12382/1261	70%
North River	2997/266	575/70	1824/307	5396/643	41%
<b>Total</b>	<b>25498/2737</b>	<b>1703/231</b>	<b>4825/631</b>	<b>32026/3599</b>	<b>76%</b>

The remainder of the public land in the watershed (160 acres) is intermixed with private crop land. There are 29 AUMs associated with this type of land. In addition there are 1722 acres of BLM land with 437 AUMs of permitted use that are outside of the watershed and are not addressed in this plan.

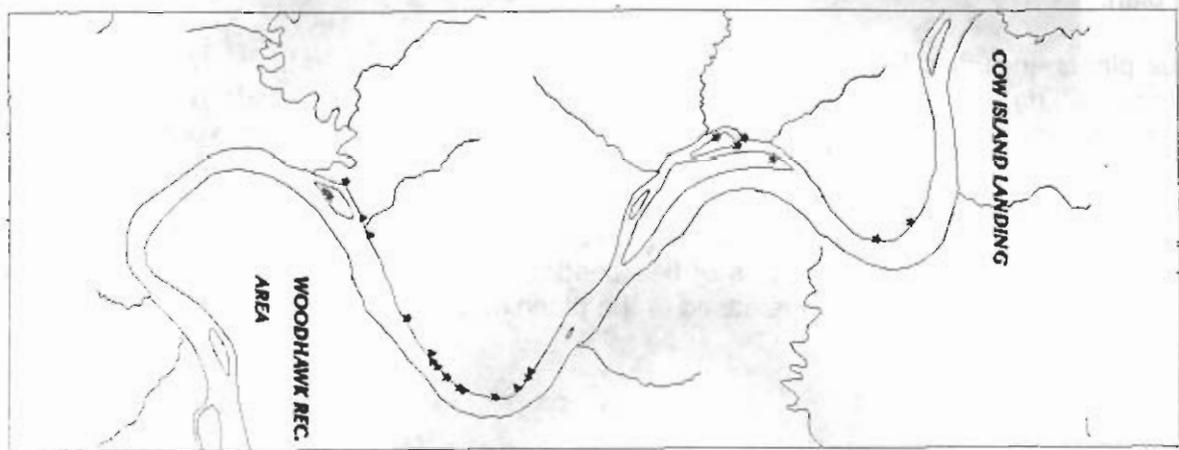
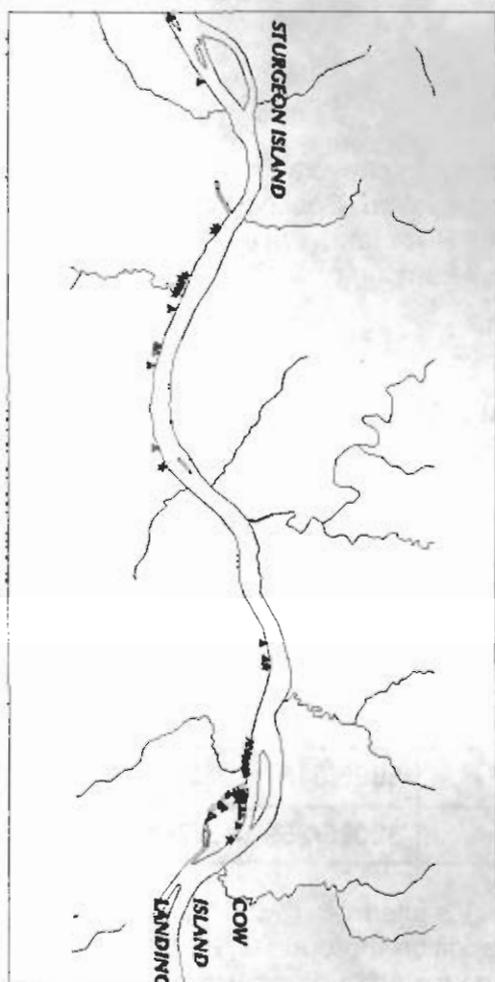
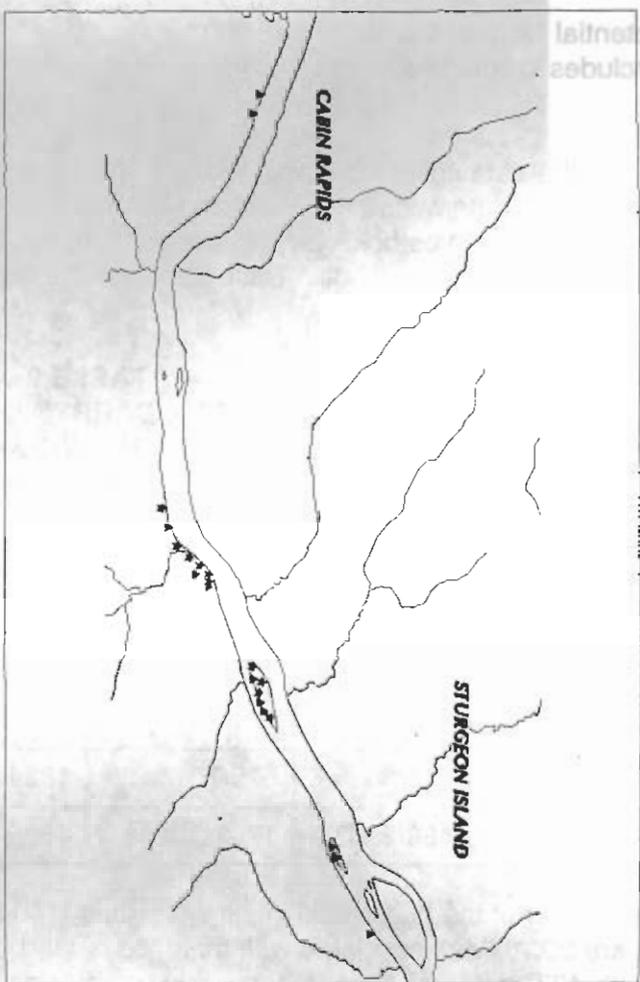
Noxious plants, including leafy spurge and Russian Knapweed, are found along the Missouri River (see map on page 10) but with the amount of vehicle traffic in the uplands, it is highly likely that there are also some off-river infestations. All of the infested areas were sprayed by the BLM in 1992. From 1993 to 1996, the BLM purchased chemicals and attempted to get the grazing permittee to spray the plants in a cooperative effort that had been implemented throughout the Judith Resource Area. However, the chemicals were never picked up from the distributor and the plants were not sprayed. Two species of flea beetles (insects that have proven effective for control of leafy spurge) have been released in the planning area along the Missouri River.

# NOXIOUS WEEDS

## LEGEND

★ LEAFY SPURGE

▲ RUSSIAN KNAWEED



## SPECIAL STATUS PLANTS

A botanical survey covering sensitive plant species and plant communities was conducted in the Woodhawk Watershed during the summer of 1996 by the Montana Natural Heritage Program.

Two populations of the BLM watch species, little Indian breadroot (*Psoralea hypogaea*) were documented, and are part of the new information used to rerank it from "S1" (critically imperiled in the state) to S2 (imperiled in the state). Recurrent stands of the BLM watch plant community, *Pinus ponderosa*/*Carex heliophila* (Ponderosa pine/sun sedge), were sampled and described.

One plant association (p.a.), *Pseudotsuga menziesii*/*Oryzopsis micrantha* (Douglas fir/little seed ricegrass), is recommended for inclusion to the BLM watch list.

The highest biodiversity significance identified in the Woodhawk study area rests in the composite community heterogeneity of the Missouri Breaks landscape rather than in the global or state rarity of the components. In general, the Woodhawk watershed possesses a high number of plant community types for an area its size, including a wide range of successional plant associations. It also has several plant community types typical for eastern Montana which have not been well-documented in the state ecological literature.

Over 40% of the plant community types in the area are potentially rare or at least under-documented in statewide vegetation sampling (10 of 20). By the rarity standards, coupled with the results of this study, the most significant plant associations are:

### High global priorities

*Pseudotsuga menziesii*/*Oryzopsis micrantha* (G2 S2)

*Pinus ponderosa*/*Carex heliophila* (G3 S3)

*Rhus trilobata*/*Andropogon scoparius* (skunkbrush sumac/little bluestem) (G3 S3)

### High state priorities

*Juniper scopulorum*/*Oryzopsis micrantha* (Rocky Mountain juniper/littleseed ricegrass) (G4 S3)

### Possibly high state or global priority

*Populus deltoides*/*Symphoricarpos occidentalis* (plains cottonwood/western snowberry)

*Puccinellia nuttalliana* (Nuttall alkaligrass)

*Scirpus americanus*

In summary, there are potentially one globally imperiled, two globally vulnerable, one state vulnerable, and three plant associations of undetermined status in the Woodhawk study area. The globally vulnerable plant association, *Pinus ponderosa*/*Carex heliophila*, is also recognized on the watch list as a special status plant association of the Bureau of Land Management. None of the above plant associations are extensive examples or excellent examples. The first two are perhaps largest in total area. The prevailing vegetation types are in fair to good ecological conditions. What is most significant about the study area is the juxtaposition of the forest, grassland, shrubland, and wetland types in a single plains area. The intactness of this landscape is diminished by historic logging and floodplain farming, past and present livestock use in the lowlands, downcutting due to water impoundments, and noxious weed encroachment which is still at early stages of invasion.

One potential new addition to the flora was identified. Bracted plantain (*Plantago aristata*) is common where the *Bouteloua gracilis*-*Carex filifolia* p.a. occurs.

There are no features recommended for sensitive status since there are no imminent management impacts to the features under current conditions, though they may be vulnerable to activities which would intensify on-site land use or promote spread of noxious weeds.

The highest priority activity for each of these watch features (*Psoralea hypogaea*, *Pinus ponderosa*/*Carex heliophila p.a.* and *Pseudotsuga menziesii*/*Oryzopsis micrantha p.a.*) is to expand the scope of survey. Sands and sandy range sites are potential habitat for little indian breadroot, so sensitive species survey is recommended in conjunction with range analysis for proposed projects which potentially alter land uses in this setting. New developments (roads, stockdams, and fencelines) should be avoided on or adjoining population sites.

The wetland habitats, though they do not have discrete biodiversity significance in their own right, are integral to landscape diversity and balanced management. For this reason, the wetland areas which are currently in fair-excellent condition are recommended as additional biodiversity management concerns, and these include headwaters riparian wetlands and isolated catchment basins.

The Woodhawk Botanical Survey is available for review in the Judith Resource Area office.

## RIPARIAN AREAS

The Woodhawk Creek hydrologic unit is comprised of approximately 24,220 acres, 21,400 of which are within the boundary of the planning area. The primary drainage of the hydrologic unit, Woodhawk Creek, bisects the planning area for 16 miles from west to east before it enters the Missouri River. It is an intermittent creek with a few pools during wet years. When pools exist, this creek is an important water source for livestock and wildlife. Grazing pressure, by ungulates in particular, may be contributing to less than desirable or optimum condition of the creek. This situation is exacerbated by the steepness, size and erosive nature of the soils in the watershed and the fact that late spring and summer thunderstorms in the area tend to be erratic, but severe and produce relatively large amounts of precipitation over short periods of time.

In 1993, under contract with the BLM, the Montana Riparian Association (MRA) inventoried the lower 8.80 miles of Woodhawk Creek and evaluated riparian area function and health. These polygons are representative of the entire creek and have been used to interpret riparian area function along the entire reach. According to the MRA, there is very little defined or obvious potential for woody species production in the upper five polygons of the inventoried reach other than shrubs such as silver sagebrush, woods rose, snowberry, greasewood and rabbitbrush. Obligate herbaceous species including sedges, rushes and prairie cordgrass are scattered throughout this reach. These findings hold true for the remainder of the creek above the sampled polygons. In polygon six, nearest the Missouri River, there are mature sandbar and peach-leaf willows and cottonwoods. It appears that the creek has downcut here and the river has migrated toward the mouth of the draw containing Woodhawk Creek. River backwater occasionally stands in parts of the old creek channel. Some of the taller riparian species found in polygon six are along the old channel and some exist in association with the river. Sapling and pole-sized cottonwoods are present, but they comprise less than 1% of the cottonwood canopy cover. Overall sandbar willow canopy cover is low. The health and function ratings for the individual polygons along Woodhawk Creek are described in Table 3:

**TABLE 3  
FUNCTION AND HEALTH STATUS OF THE  
LOWER REACHES\* OF WOODHAWK CREEK**

<b>POLYGON #</b>	<b>TOTAL LENGTH (Miles)</b>	<b>FUNCTION EVALUATION</b>
1	1.50	73 - Functioning at Risk
2	1.40	64 - Functioning at Risk
3	1.60	69 - Functioning at Risk
4	1.50	56 - Non Functioning
5	1.60	69 - Functioning at Risk
6	1.20	60 - Functioning at Risk

\* Based on sample of 6 lower polygons which were determined to be representative of entire creek.

The Upper Missouri National Wild and Scenic River forms all of the north and east boundaries of the planning area (approximately 20 miles). In 1988, under contract with the BLM, the MRA completed an inventory and classification of riparian sites for the entire river, including the stretch in the Woodhawk Area (Hansen 1989). Appendix A shows the acres and successional status of each riparian cover type found in the planning area.

Of particular concern to land managers and the public is the potential loss of cottonwood forests and the overall lack of other woody species regeneration (willows, green ash and boxelder) along the Missouri River. Since 1990, the BLM has been monitoring sites in the Woodhawk area identified by the MRA as having cottonwood seedling or sandbar willow populations. These studies have indicated that although seedling growth stages exist, very few individuals or stands are surviving to become saplings and poles (or mature in the case of sandbar willows). In fact, all of the current sapling and pole cottonwood in the planning area are found on islands or in areas inaccessible to livestock. Table 4 represents the total acres of cottonwood by growth stage as a percent of the total riparian acres for the Missouri River in the Woodhawk area.

**TABLE 4  
TOTAL ACRES OF COTTONWOOD BY GROWTH STAGE ALONG THE  
MISSOURI RIVER IN THE WOODHAWK AREA**

<b>GROWTH STAGE</b>	<b>ACRES</b>	<b>% TOTAL ACRES</b>
Seedlings	113	7.5
Saplings	8	.5
Pole	4	.4
Mature	105	6.9
Decadent	27	1.8
<b>TOTAL</b>	<b>257</b>	<b>17.1%</b>

In order to maintain the current extent of mature cottonwood forests along the Missouri River in

the Woodhawk area (132 acres), there would have to be at least an equal amount (a 1:1 ratio) of potential replacement trees to mature trees. Table 5 represents a comparison between potential replacement trees - seedlings, saplings and poles and mature trees - mature and decadent stages and implies an **idealized** situation where all acres of current seedlings, saplings and pole cottonwoods reach maturity. Table 5 is somewhat misleading because a 1:1 ratio is unrealistic due to the normally high mortality rate among cottonwood seedlings. It can be interpreted from the table that if current trends continue, a net loss of at **least** 5% of the acres of cottonwood forests in the Woodhawk Area can be expected in the future. However, considering the current survival rate of seedlings (and then only on islands or areas inaccessible to livestock), the situation becomes even more dismal. Under current management and at the present rate of decline, it appears that there will be periods in the future when mature cottonwood stands are nearly absent from the mainland along this section of the Missouri River.

**TABLE 5  
CURRENT STATUS OF COTTONWOOD STANDS ALONG THE  
MISSOURI RIVER IN THE WOODHAWK AREA**

<b>REPLACEMENT* TREES AC.</b>	<b>MATURE** TREES AC.</b>	<b>CHANGE IN ACRES</b>	<b>% REPLACED***</b>
125	132	-7	94.7%

\* Refers to the seedling, sapling and pole stages of cottonwood development

\*\* Refers to the mature and decadent stages of cottonwood development

\*\*\* Refers to the percent of mature trees that are being replaced (assuming no mortality of seedlings, saplings and poles).

From 1993 to 1996, functioning condition was determined in the Woodhawk area at riparian sites along the river that have a high potential for woody species regeneration and production. Also during 1994, functioning condition was determined on a reach by reach basis by analyzing monitoring data, utilizing aerial photo interpretation and professional judgement. Each reach was inspected and determinations were ground truthed. A summary of the functional status for the riparian areas associated with the Missouri River in the planning area is outlined in Appendix B. As shown in the appendix, 13 percent of the total linear length of the riparian area along the river is in proper functioning condition, 40 percent is functioning but at risk to degradation, and 47 percent is nonfunctional. In addition, 23 percent of the total acres of the riparian areas associated with the river are in proper functioning condition, 49 percent are functioning but at risk to degradation, and 28 percent are nonfunctioning. The amount of riparian vegetation produced by sites in proper functioning condition (194 acres per mile) is nearly three times that produced by sites in nonfunctioning condition (67 acres per mile) and one and a half times that produced by sites that are functioning at risk (138 acres per mile).

## **LIVESTOCK GRAZING**

The BLM grazing privileges were established on three base property units known as the Ford Place, Allison Place, and Anderson Place. The area was known as the Woodhawk Allotment and operated by Hugh and Tom Ford. The allotment was fenced and adjudicated in 1965. Total privileges were established at 3192 aums on federal lands. A grazing allotment management plan (AMP) was completed and implemented in 1971. The grazing rotation prescribed in the AMP has

not been followed by the permittee or enforced and regulated by the BLM. The ranch unit was purchased by Bar OK Ranch Company in 1985. Vicki Ehlerl leases the ranch unit from Bar OK Ranch Company. Tom Ford is designated as an authorized representative for Vicki Ehlerl. The ranch is a cow/calf operation, but also produces yearlings and horses.

The Woodhawk Allotment is classified as an I (improve) category because of existing range condition, livestock use in the UMNWSR corridor, and the presence of the Woodhawk Wilderness Study Area (WSA).

There are 3 main pastures in the Woodhawk Watershed; the North River, West and East. The current total number of AUMs of specified livestock grazing for these pastures is described in Table 6 below:

**TABLE 6  
TOTAL NUMBER OF AUMS OF SPECIFIED LIVESTOCK GRAZING  
IN THE WOODHAWK WATERSHED  
(Acres/AUMs)**

Pasture	BLM Acres/AUMs	State Acres/AUMs	Private Acres/AUMs	Uncontrolled Acres/AUMs	Total Acres/AUMs	Percent Public AUMs
East	13602/1291	640/94	15/3		14257/1388	93%
West	8878/1169	480/107	2887/597	14/3	12259/1876	62%
North River	2997/266	575/70	1824/307		5396/643	41%
<b>Total</b>	<b>25477/2726</b>	<b>1695/271</b>	<b>4726/907</b>	<b>14/3</b>	<b>31912/3907</b>	<b>70%</b>

The remainder of the total number of AUMs of specified livestock grazing on BLM land in the watershed is intermixed with private crop land. There are 29 AUMs on 160 acres of this type of land. In addition, there are 1722 acres of BLM land with 437 AUMs of specified livestock grazing outside of the watershed that are not addressed in this plan.

The current grazing use on BLM land is authorized through a permit and by decision as shown in Table 7 below:

**TABLE 7  
AUTHORIZED USE  
IN THE WOODHAWK WATERSHED**

Allotment	Pasture	Livestock Number	Begin Period	Ending Period	Percent Public AUMs Billed	AUMs
Woodhawk	Woodhawk Custodial	18 Cattle	March 1	Feb. 28	100 Percent	29
Woodhawk	Two Calf Custodial	20 Cattle	March 1	Feb. 28	100 Percent	437
Woodhawk	North River	13 Horses	May 1	Oct. 31	41 Percent	32
Woodhawk	North River	150 Cattle	June 1	Sept. 24	41 Percent	234
Woodhawk	East & West	26 Horses	May 1	Oct. 31	75 Percent	117
Woodhawk	East & West	744 Yearlings or 516 Cattle	May 1	Oct. 31	75 Percent	3348 (1005 temp)  2341 (2 not sched)

Currently, the permittee begins grazing around May 1. Cattle are placed on individual water sources in the west pasture. As soon as the water sources in the west pasture are encumbered with cattle, the permittee begins to place individual groups of cattle on the water sources in the east pasture. As the water sources in the east pasture become encumbered, individual groups of cattle are placed on the river bottoms. By mid summer, many of the cattle placed on waters in the east and west pastures travel to the river bottoms where they join the previously placed cattle and stay until the end of the grazing season in late October or early November. In addition, some cattle are placed along the river bottom in the North River Pasture. Electric fences are utilized to keep the cattle from roaming to the uplands where crops are present.

According to actual use records submitted by the permittee (Appendix F) an average of 1668 AUMs or 61 percent of authorized use has been utilized over the past 21 years. Over the past 5 years, an average of 2164 AUMs or 79 percent of authorized use has been utilized.

#### **RANGELAND MANAGEMENT PROJECTS**

In 1993 and 1996, the known water developments in the west and east pastures of the Woodhawk Allotment were inventoried for condition and life expectancy (Appendix C ).

The average life expectancy of existing water developments in the west pasture of the AMP is 10 years and in the east pasture the life expectancy is 13.5 years. The cost for replacement (1994 figures) of the structures on public lands in the west and east pastures are as follows:

	<u>West</u>	<u>East</u>
Reservoirs	11 X \$6,000 = \$66,000	13 X \$6,000 = \$78,000
<u>Watersavers</u>	<u>1 X \$18,000 = \$18,000</u>	<u>4 X \$18,000 = \$72,000</u>
	7 Total	15 Total
Replacement Cost (1994)	\$84,000	\$150,000

**Total replacement costs for 22 structures in both pastures = \$234,000**

Existing water developments that were in good or fair condition with good reliability were located, and the areas that were serviced (1 mile radius) by each water development were delineated (see map on page 18).

The inventory did not include natural water sites such as pot holes and water trapped in natural low areas or reservoirs that were never authorized by the BLM. Most of the water used by livestock in the early grazing season would be a combination of the developed water and the natural water sources. The available water for middle and late season grazing would be primarily from the developed water sites and the Missouri River as the natural water sources are normally dry by late spring.

It is apparent from a comparison of potential water development areas and area watered by existing developments that most of the water development potential for the area has already been realized. Therefore, no additional developments could be constructed in either of the two pastures. However, the existing water sources would provide adequate water for livestock grazing only in years of average or better rainfall; in years of below-average rainfall, livestock would be forced down to the river during the hot season.

The only other projects on federal lands are a cattleguard and eight fences (11 miles total) that were constructed between 1949 and 1973. There are 13 reservoirs and as much as 25 miles of fence located on private lands within the planning unit. Maintenance for all projects in the planning area is the responsibility of the grazing permittee.

## **WILDLIFE RESOURCES**

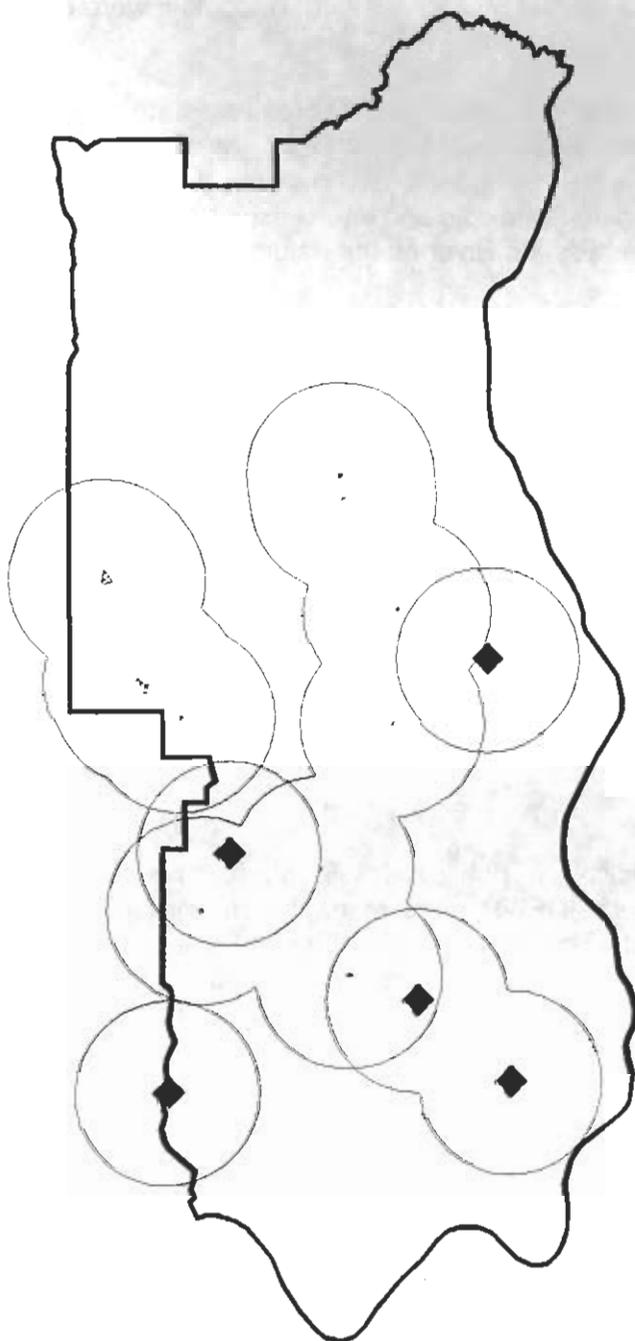
The responsibility for managing wildlife on public land is divided between the Montana Department of Fish, Wildlife and Parks (MDFWP), who manages the wildlife numbers and the BLM, who manages the wildlife habitat. There is a variety of habitat types in the planning area which support a diverse number of wildlife species. The key habitats in the planning area are sagebrush grassland, woodland/grassland, and riparian areas. All are valuable for wildlife and should be managed with that in mind.

### **Big Game and Upland Game Birds**

Sagebrush shrubland is important for mule deer, pronghorn antelope, elk, sage grouse and sharp-tailed grouse. The sagebrush provides winter forage for big game as well as nesting cover for the upland game bird species. A portion of the Woodhawk area is designated as crucial winter habitat for antelope, it is also yearlong habitat for both mule deer and elk (see maps on pages 19, 20 and 21). There are two historic sage grouse leks present; the standard two-mile radius of habitat use would incorporate much of the south half of the West Pasture.

# WATER SOURCES WITH 1 MILE BUFFER - BLM

## LEGEND



# ANTELOPE HABITAT

## LEGEND



MANAGEMENT AREA  
BOUNDARY



ROADS AND TRAILS



ANTELOPE HABITAT  
6,104 ACRES



# MULE DEER HABITAT

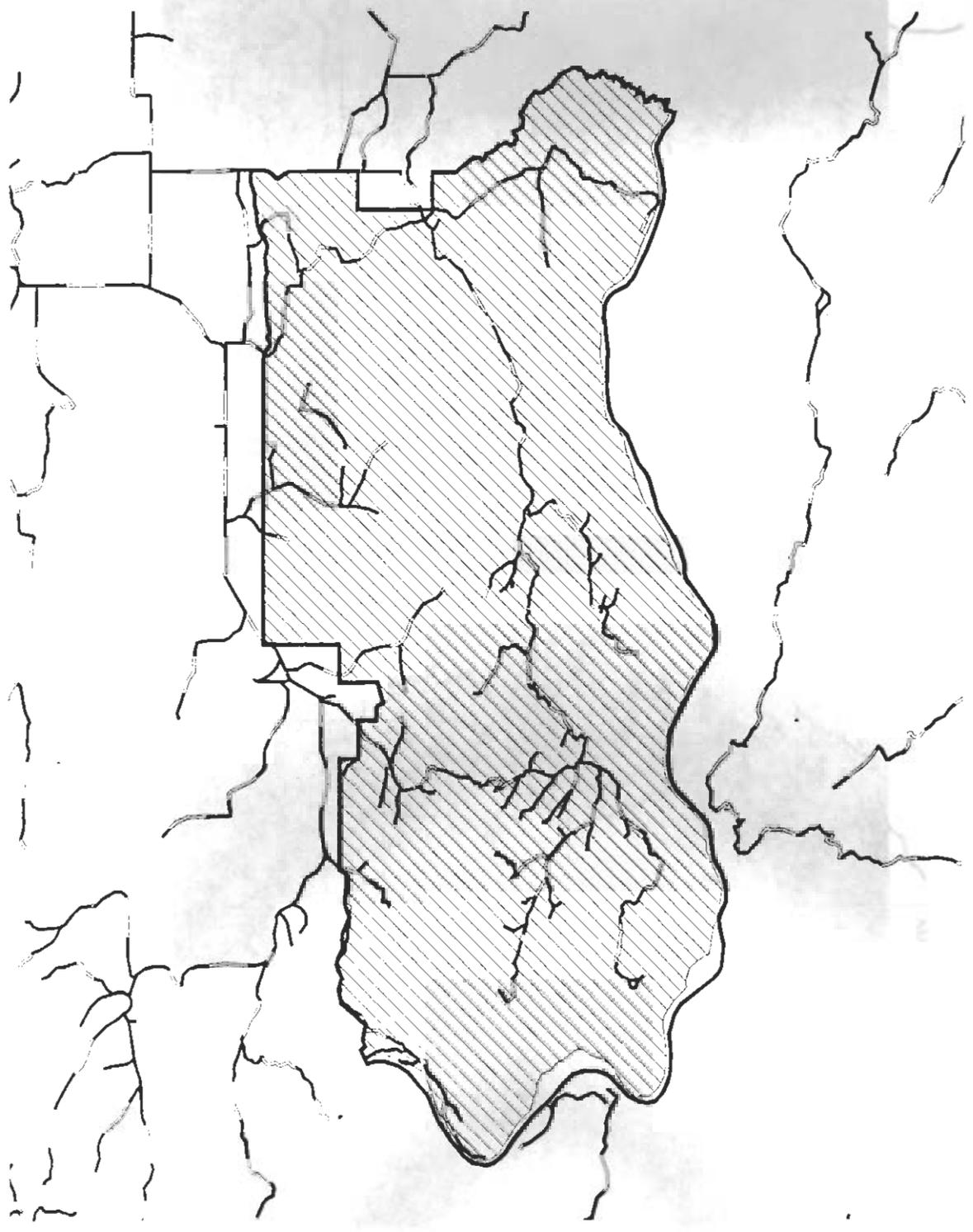
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## LEGEND

 MANAGEMENT AREA BOUNDARY

 ROADS AND TRAILS

 MULE DEER HABITAT  
36,220 ACRES



# ELK HABITAT

## LEGEND



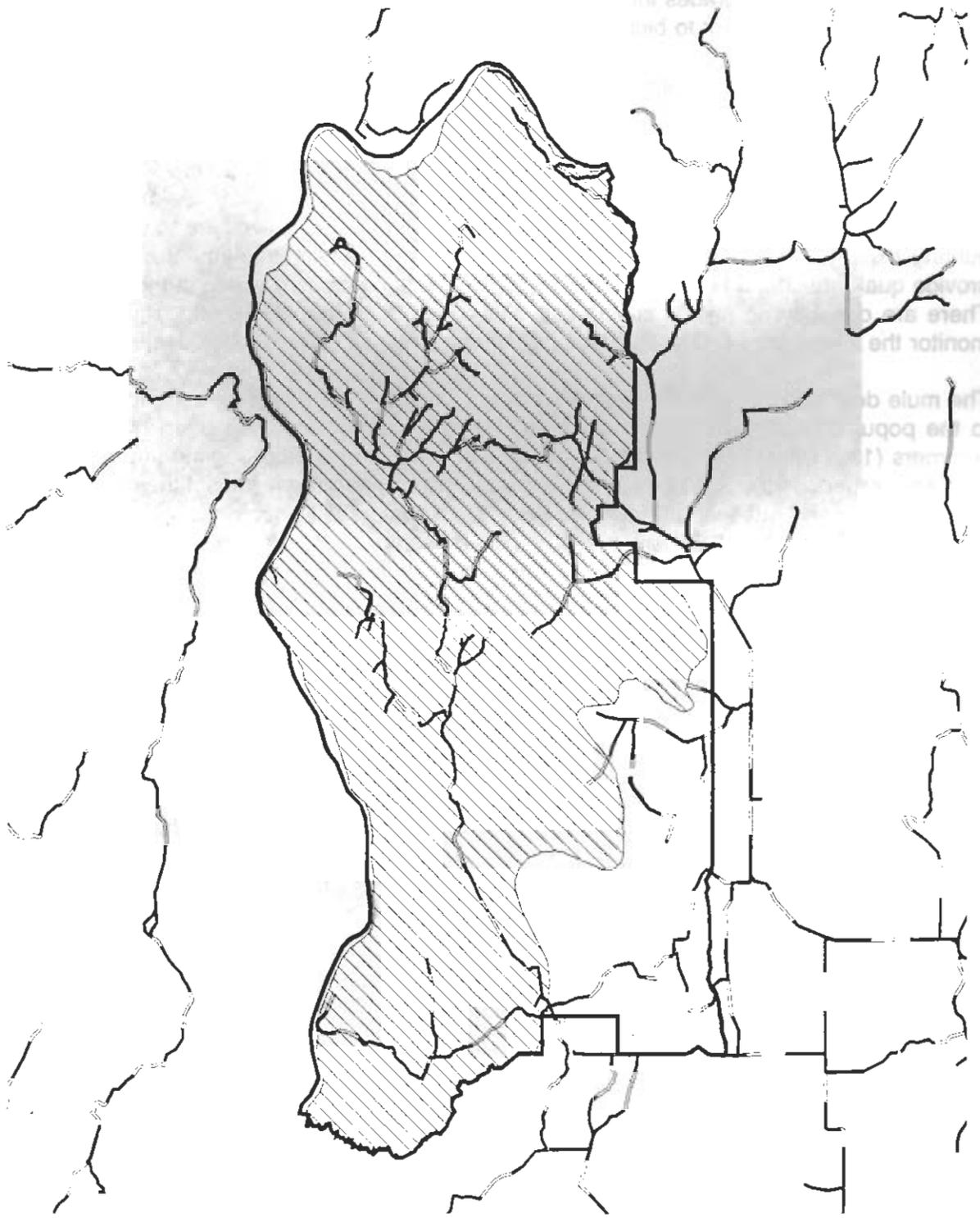
MANAGEMENT AREA  
BOUNDARY



ROADS AND TRAILS



ELK HABITAT  
32,569 ACRES



Sagebrush habitat intergrades into the "breaks" type, which is the woodland/grassland habitat. Breaks habitat is important to bighorn sheep, mule deer, elk, and sharp-tailed grouse.

Between 1958 and 1961, 43 bighorn sheep were released in the Two Calf Creek area adjacent to Woodhawk. Unfortunately these animals died off from starvation. But, in 1980, 28 bighorn sheep were released on the nearby Mattachusek allotment and expanded into the Woodhawk area by 1982. This herd continues to survive. Bighorn sheep are numerous throughout the planning area and appear to be continuing to expand into available habitat (see map on page 23). Montana Department of Fish, Wildlife and Parks management objectives are to provide a quality hunting experience and to stabilize the population size. BLM management objectives are to provide quality habitat on BLM land to maintain and expand bighorn sheep in the planning area. There are currently no habitat concerns in this area but efforts will be ongoing to continue to monitor the sheep herd and ensure that habitat remains available for their use.

The mule deer population in the area are currently at a low density. Several factors contribute to the population fluctuations that mule deer experience. There have been two consecutive summers (1994 and 1995) which have been fairly dry. The moisture regime affects the quality of forage, especially the succulent forbs, and therefore can negatively impact the does during the winter months and subsequent fawn survival. Cold winters with deep snow (as in 1996) also affect mule deer survival. There are a high number of coyotes in the breaks which have a negative impact on the fawn survival. Hunting pressure is also increasing in the breaks as the area becomes more regionally and nationally popular.

Elk numbers have also increased since an introduction into the Missouri Breaks in the 1950s with a current level of about 2700. They have expanded from the breaks habitat into agricultural lands south and west of the planning area. MDFWP's objectives include maintaining the population at current levels and preventing or reducing damage to crops. BLM's objectives are to provide habitat for the elk population in the breaks. There is approximately 32,569 acres of elk habitat in the planning area. The abundant number of roads in the area present a problem for elk due to the loss of habitat security. This is especially a problem in the fall when hunters are driving the roads regularly. A road density report within available elk habitat was run in GIS to see how much elk were being impacted by roads. Approximately 20,719 acres of elk habitat is affected by roads using a 1/2 mile buffer around each road in the planning area.

Shrubs are especially important browse for big game species. Utilization on shrubs in the uplands was monitored by BLM Biologists in 1969-1973 and canopy coverage of shrubs was measured in 1989. Although the observed use of rubber rabbitbrush was 80-90%, the canopy coverage was judged to be satisfactory for wildlife habitat. Browse studies on the Charles M. Russell NWR showed that rubber rabbitbrush had sustained 90% use for thirty years with almost no mortality of plants, and were able to reproduce as well. All of this use occurred in late fall and winter, after the plants were finished flowering. It may be that the plants are palatable only after flowering and this protects them from use during the critical growing period. From these studies, it appears that this level of use is sustainable in breaks habitat. However, periodic monitoring of canopy cover of rubber rabbitbrush, big sagebrush and others should be continued to ensure that adequate wildlife forage is maintained in the area.

The riparian vegetation along the Missouri River provides habitat for white-tailed deer. White-tailed deer occur in the area and there seems to be little concern for their numbers.

#### Non-Game

Many important non-game species occur in the planning area. There are two prairie dog towns, one just outside of the West Pasture and one near the Missouri River in the West pasture. The prairie dogs not only provide a prey base for coyotes and raptors but they also provide habitat

# BIG HORN SHEEP HABITAT

## LEGEND



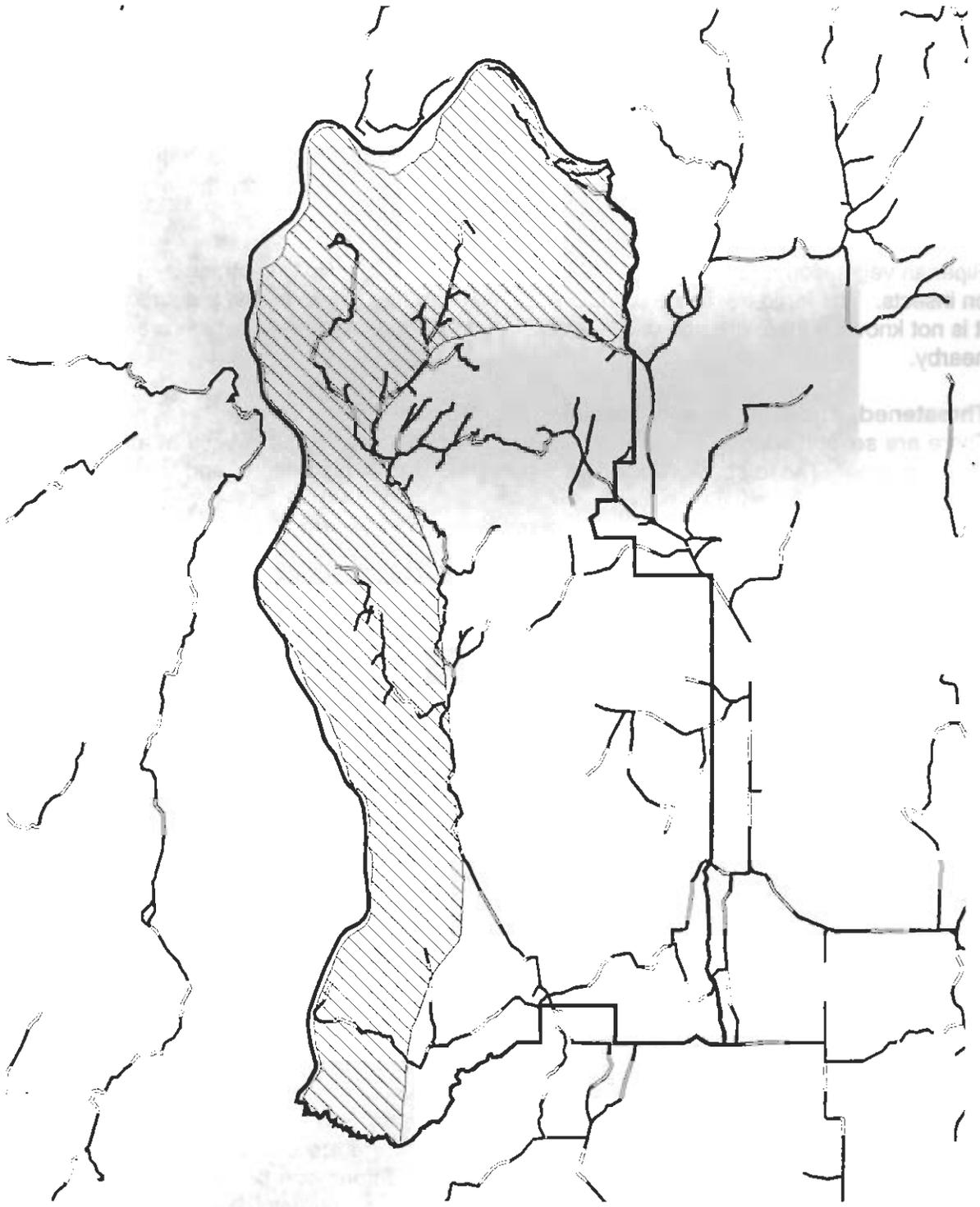
MANAGEMENT AREA  
BOUNDARY



ROADS AND TRAILS



BIG HORN SHEEP  
HABITAT  
79,011 ACRES



for several other non-game species including burrowing owl, mountain plover, prairie rattlesnake, badger, among others.

The riparian vegetation along the Missouri River provides habitat for migrant songbirds, and several species of raptors. Cottonwood galleries provide nesting habitat for great-horned owls, red-tailed hawks and winter roosting habitat for bald eagles. The cliff faces provide nesting habitat for prairie falcons, golden eagles and (potentially) peregrine falcons (the BLM release site is to the west of the allotment). Cottonwood galleries also support the abundant songbird populations that are prey for several raptor species.

Riparian vegetation also provides foraging habitat for bats that likely summer in the area and feed on insects. The large trees and cliff crevices offer daytime roosts for the bat species in the area. It is not known if there are any caves available for hibernation for bats but there are hibernacula's nearby.

### **Threatened, Endangered and Special Status Species**

There are several species listed as threatened or endangered by USFWS that may occur in the planning area. These species include the peregrine falcon, bald eagle, and the pallid sturgeon.

Peregrine falcons have been released at a hack site on the Missouri River approximately 12 river miles west of the planning area. Approximately 24 young birds have been released since 1993. There is potential nesting habitat within the planning area for peregrine falcons although none have been located. Food availability is a key factor for their survival. Peregrine falcons prey on passerine birds and ducks. Rock doves which are abundant on the river are a favorite food because they are easily caught. Peregrine's will also forage on starlings in nearby farmed fields.

Bald Eagle's have historically nested on the Missouri River, although there are no active nests in the planning area. In 1996, there were two active nests which were located east of Woodhawk. There may be suitable habitat to support additional bald eagle nests on the river. They use large cottonwood trees for nests, usually in a larger cottonwood gallery (>3 acres) with a healthy riparian understory. Bald eagle's like to forage on fish when it is available and channel catfish may provide an abundant food source on the river, however bald eagles are also scavengers and feed on anything they can locate. The bald eagles may also winter in the area however their winter habitat is mostly associated with areas of open water unless there is carrion available. The Missouri River is often covered with ice, making foraging impossible for eagles in the winter.

The pallid sturgeon is listed as endangered by USFWS, they believe it may be close to extinction. Habitat for most fish species, including pallid sturgeon are affected by streamside vegetation and sediments. There is a recovery plan for this species which identifies the Upper Missouri River from the mouth of the Marias River to the headwaters of Fort Peck Reservoir as a recovery-priority area. Some primary reasons for the species decline are destroyed or altered spawning areas, reduced food sources or ability to obtain food. Efforts can be made to see that snags return to the river and side channels are left open for spawning areas. Many other problems with the habitat are widespread and large in scale affecting the Missouri and Mississippi Rivers which can not be affected by this plan.

Four other species are listed by USFWS as Candidates for listing meaning that they have all been found to be warranted for listing but are precluded at this time by other listing activities. These species include mountain plover, swift fox, sicklefin chub and sturgeon chub.

The mountain plover is found on very short grass habitat usually created by prairie dogs, overgrazing by livestock, roads, and burns. They also like a gravelly substrate for nesting and

foraging. The swift fox is not likely to be in the area. They were released on a reintroduction in Canada and are working their way south into Montana. They also like short grass habitat with a loose soil for digging dens.

BLM has a special status list of many other species that may occur in the planning area (Appendix D). Baird's sparrow, LeConte's sparrow and long-billed curlew are special status species which depend on the grassland habitat type. They need taller grasses in excess of 10 cm in height for nesting cover.

Northern goshawks and hairy woodpeckers live in conifer forest and may occur in the breaks in small numbers. The three-toed woodpecker frequently comes in after an area has been burned.

The gravel bars, mudflats and flowing water of the Missouri River provide occupied and potential habitat for the fish species as well as black tern, snapping turtle, and spiny softshell turtle.

## **CULTURAL/HISTORIC/PREHISTORIC RESOURCES**

### Cultural-Prehistoric/Historic Resources

"Prehistory", the human occupation of north-central Montana prior to A.D. 1805, initiated more than 11,000 years ago. Prehistory ended and history began 170 years ago with the arrival of the Lewis and Clark Expedition on the high plains via the Missouri River (Coues 1893; Thwaites 1904; Devoto 1953; Jackson 1962).

#### Prehistory

The Missouri River Breaks and the Upper Missouri National Wild and Scenic River occupy an area that is within the High Plains archaeological culture area of North America.

The prehistoric chronology of the UMNWSR corridor, which the Woodhawk area is a part of, is little understood at the present time. To date, little data exists to support a 11,000 year occupation continuum. At best, only a handful of prehistoric sites have been scientifically studied, evaluated, and dated. The most recent of these investigations is the Hoffer Site (24CH669) (Davis 1989). This site contained a Late Middle Period (Pelican Lake) component. The cultural chronology for the Pelican Lake Phase is 1300 B.C. to A.D. 200.

Davis states in the Hoffer Site investigations that, "Pelican Lake" appears to be the initial occupant of sites within the Missouri River floodplain in the UMNWSR (Davis 1982a). Evidence of earlier floodplain occupations most probably have been scoured away or may be buried in preserved sediments presently inaccessible to erosional processes.

It is logical to conclude that prehistoric occupation did occur, if not sporadically, throughout the 11,000 year cultural continuum defined for the High Plains. Natural resources consisting of food (plants and animals), fuel, and water would have been readily available within the UMNWSR corridor. It has not been documented that a cultural hiatus occurred in the river corridor during a time (9,000 B.C. - 1300 A.D.) when adjacent cultural areas in central Montana were flourishing.

#### Historic

Recorded history began for the Missouri River Breaks (UMNWSR corridor) in May of 1805 with the arrival of the Lewis and Clark Expedition.

The fur trade in the area became a reality, when in 1831, James Kipp (Hudson Bay Company) led an expedition up the Missouri River to establish a post (Fort Piegan) in Blackfeet country, near the confluence of the Missouri and Marias rivers. Following the initial establishment of Fort Piegan, numerous other posts were built on the Missouri River, within the UMNWSR corridor.

At the time the fur trade ended, gold was discovered in western Montana, and the rush was on. The first steamboat reached Fort Benton in 1860, which provided the quickest transportation for miners traveling to the gold fields. Thousands of miners depended upon the steamboats.

The steamboats played a major role in the development of the area by bringing needed supplies. Not only were the local areas supplied with needed goods, but the bulk of the goods were transported, by wagon, to the gold fields and ranches/farms scattered throughout western and northern Montana.

The coming of the railroads in 1887 to Fort Benton, ended the steamboat era. With the railroads came the homesteaders. The UMNWSR corridor was homesteaded and some of their remains are still present today.

The fur traders, the steamboats, and the homesteaders were the major players in the settlement of the area within the UMNWSR corridor.

### Nez Perce Trail

The Nez Perce National Historic Trail was officially designated as such in 1989. The Nez Perce War of 1877 (US Forest Service and US National Park Service a,b; USDA Forest Service 1990) left some remnants in the present UMNWSR. In 1877 the Nez Perce crossed the Missouri River from the south to north at Cow Island, where they encountered U.S. Army forces dug in at Camp Illges. After a brief skirmish there, the Indians went north, upstream along Cow Creek. No remnants of this event have been positively identified in the UMNWSR corridor. A portion of the designated trail is located within the Woodhawk area.

### Traditional American Indian Religious Values

In consultation with regional American Indians, Deaver(1986:41) has identified the following traditional contemporary Indian religious sites that may be present in the UMNWSR area:

1. vision quest sites
2. Monumental/anthropomorphic/zoomorphic rock features...
3. rock art sites...
4. burials...
5. habitation sites...containing special purpose ceremonial structures...tepees...and
6. dance grounds...

She notes (Deaver1986:41-42) that particular artifacts may also have ritual significance(e.g., fossils with spiritual power), and sacred plant gathering areas or wildlife nesting areas merit protective BLM management to ensure their continuing value in dynamic religious systems (Knudson 1992).

No formal investigation has been made to identify UMNWSR corridor sacred American Indian geography. One area sacred to the Chippewa Cree, has been noted (24BLC1). This needs verification and identification, and all areas of possible American Indian human burials need

attention. Areas of traditional American Indian religious concern should be expected throughout the UMNWSR (Knudson 1992).

As part of the Judith-Valley-Phillips (JVP) Resources Management Plan and the Upper Missouri National Wild and Scenic River Cultural Resource Management Plan, those sites that are located on BLM lands within the UMNWSR corridor and this activity plan, will be evaluated for National Register eligibility. Known recorded sites will be re-visited, site records updated, and photographed. Unknown cultural sites (historic/prehistoric) discovered during site specific inventories (e.g., range improvements, recreation development) will be recorded and evaluated.

Appendix E contains a summary of the known recorded cultural resources within the boundaries of the Woodhawk Activity Plan. Information includes the site number, site name, site type, and general location. One of these sites, the Nelson Homestead (24FR402), has been evaluated. Through consensus, between the BLM and the Montana State Historic Preservation Office, the Nelson Homestead has been determined to be eligible for listing on the National Register of Historic Places. Only those sites located on BLM lands will be addressed in this activity plan.

## **PALEONTOLOGICAL RESOURCES**

The surface geology exposed by the deeply incised drainage pattern within the Woodhawk area is that of the Cretaceous aged Judith River formation. The sedimentary layers above and below this stratigraphic horizon are derived from a marine depositional environment. The Judith River formation is composed of both marine and terrestrial deposits ranging from fine shales to coarse arkosic sands and coal seams indicative of fresh to brackish water environments. In these sandstone and coal seam deposits there are occurrences of large terrestrial vertebrate animals. The exposed fossil beds in this area are outstanding for their potential of scientific study. The combination of vegetation preserved in and around the coal seams (lignite) and the reptilian fauna gives paleontologists an opportunity to study both the animals and plants which fed them in the same environmental setting where they were preserved.

There have been two inventories conducted on the Upper Missouri Wild and Scenic River. One was a reconnaissance of the entire river completed in the summer of 1984. This was a general study of the entire river corridor from Coal Banks Landing to Fred Robinson Bridge. The other was a PHD Thesis that concentrated on the Judith River Formation to show that such is a facies change of the depositional environment rather than a separate depositional accumulation from that of the Two Medicine Formation exposed along the upper reaches of the Marias River in west central Montana. Both of these studies involved mapping and collecting of surface fossil evidence. The studies confirm that this area has one of the richest fossil assemblages along the river.

## **RECREATION**

### **• Upper Missouri National Wild and Scenic River**

The Upper Missouri National Wild and Scenic River (UMNWSR) is located between Fort Benton and US Highway 191 in North Central Montana. This 149 mile stretch of river flows generally west to east through Chouteau, Blaine, Fergus and Phillips Counties. It was designated a component of the National Wild and Scenic Rivers System in 1976. The UMNWSR forms the north boundary of the Woodhawk area from river mile 112 to river mile 131.5 for a total of nearly 20 river miles. The 16 mile segment of river adjacent to the Woodhawk area between river mile 112 and river mile 128 is classified as "wild", and a 3.5 mile segment from river mile 128 to river mile 131.5 is classified as "scenic". The unique and varied scenery was a key reason for the

Upper Missouri's inclusion in the National Wild and Scenic Rivers system. In defining the boundaries of the management corridor, preservation of the area seen from the river was a prime consideration. The general lack of screening vegetation adds to the visual sensitivity of the "seen area" found within steep slopes and cliffs creating a rim-to-rim boundary (river boundary).

Over the last ten years, an average of 2,230 visitors have registered annually for boating the Upper Missouri National Wild and Scenic River. The actual use is considerably higher since these figures represent about 60% of those using the river during the primary use season (the period between the weekend before Memorial Day through the weekend after Labor Day), and approximately 25% of those using the river during the rest of the year. Hunting use on the river has increased dramatically as land access has become more of an issue. Hunters register only infrequently and use numbers are much higher than recorded. Fluctuations in water levels affect floater numbers, i.e. high flows means more floaters and low flows means fewer floaters.

Of those boating the river, 31% or an annual average of 690 registered visitors depart the river at Kipp Recreation Area. This would convert to an estimated actual use of over 960 visitors who experience the river reach between river mile 112 and river mile 131.5 (Woodhawk area). Given an average days float of 22 miles, the number of visitors along this reach would convert directly to visitor days. Over 200 floaters spend an additional day at Woodhawk Bottom Recreation Area camping, hiking or visiting the Woodhawk Wilderness Study Area (WSA). Over 100 visitor days were spent at other spots (usually riparian areas) along the river in the Woodhawk area by floaters that camp, hike, hunt or view wildlife. **This gives an estimate of over 1300 visitor days by UMNWSR floaters.** There is an estimated 3 to 5% increase annually in river floaters.

#### • Visual Resource Management

BLM land within the planning area has been assigned a Visual Resource Management (VRM) class based on a process that considers scenic quality sensitivity to changes in the landscape and distance zone. There are four VRM classes numbered I to IV. The lower the class number the more sensitive and scenic the area. Each class has a management objective which prescribes the level of acceptable change in the landscape. This area has **three** classes.

Public land within the river corridor in the section classified as wild, (river mile 111.9 to river mile 128.5) including lands adjacent to the corridor (below the rim) and the Woodhawk WSA, have a **Class I VRM** classification. This class provides for natural ecological change and allows limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Public land in the section of the river corridor classified as scenic (river mile 128.5 to river mile 138.8) and lands adjacent to the corridor (below the rim) has a **Class II VRM** classification. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Public lands in the uplands (generally above the rim) has a **Class IV** classification. This class allows for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance and repeating the basic element.

The UMNWSR is the foremost component of the Lewis and Clark National Historic Trail, and the area around Cow Island is a highly significant segment of the Nez Perce National Historic Trail. The visitor days attributed to these trails are included in the visitor days identified in other sections.

The Lewis and Clark National Historic Trail was designated a segment of the National Historic Trail System in 1978. The Lewis and Clark Expedition was one of the most dramatic and significant episodes in the history of the United States. It stands, incomparably, as our Nation's epic in documented exploration of the American West. This portion of the 8000+ mile journey was on the Missouri River. The expedition passed through this area in May 1805 and on the return trip in July 1806. There is a May 26, 1805 Lewis and Clark campsite at river mile 114.2 where the "Corps of Discovery" camped in a "small grove of cotton wood," but now there is no remaining evidence of the campsite or the cotton woods. Clark summarized his opinion of the area they had journeyed through this way; "this Country may with propriety i think be termed the Deserts of America, as I do not Conceive any part can ever be Settled, as it is deficient in water, timber and too Steep to be tilled." History buffs come from all over the world to retrace the route and spend time at the campsite locations.

The Nez Perce National Historic Trail was designated a component of the National Historic Trail System in 1986. The 1170 mile route was used by the Nez Perce Indians, led by Chief Joseph, in an attempt to escape from Oregon to Canada in 1877. The escape was marked by over 20 battles and skirmishes with the Cow Island skirmish of September 23, 1877, being the last encounter prior to the Nez Perce surrender only 45 miles north of the Woodhawk area. The Cow Island skirmish site can be seen from Deweese ridge. However, there is no remaining evidence of the Nez Perce trail. This area attracts the interest of history buffs and Native Americans. Periodically, people try to find the trail and retrace the steps of Chief Joseph and his followers. The area appears much today as it did in 1877.

#### • **Watchable Wildlife Area**

The entire UMNWSR was designated a Watchable Wildlife Area in 1990. It was given this designation because of the abundant, unique and diverse wildlife populations that abound along the UMNWSR. Visitors come from around the world to view the wildlife found in the area. The numbers are included in the floater numbers mentioned above.

#### • **Woodhawk Bottom Recreation Area**

Woodhawk Bottom Recreation Area located along the river from mile 129.5 to mile 130.9 in the north east corner of the area is totally encompassed by the planning area (see map on page 30). The area has road access and is presently a minimally developed recreation area.

This tract was acquired in 1982 through an exchange for its cultural, historical, recreational and wildlife values. One of the spur roads for the Missouri Breaks Back Country Byway leads to this site. The area is the location of the **Gus Nelson homestead (1910)**. The homestead is made of logs with a sod roof. There are several out buildings and an assortment of farm equipment. There has been some stabilization of the homestead, clean up of the area and securing of the farm equipment. There is good dry weather public access to the area. There are two minimal developed campsites at this location. One site is used primarily by land-based visitors and the

# WOODHAWK RECREATION AREA - CURRENT SITUATION

## LEGEND

- FENCES
- ROADS AND TRAILS
- BLM
- STATE
- PRIVATE
- TOILETS



other site is used primarily by floaters. Each campsite has one pit toilet. The entire area has been fenced to exclude livestock and none of the area is allocated for grazing.

This location receives the greatest amount of visitor use of any location on the lower river (Judith Landing to Kipp Recreation Area). The area is a well known place for paddle fishing. During hunting season, hunters come to the area in pursuit of big game, waterfowl and upland game birds. Wildlife viewing, picnicking and hiking are other activities that visitors enjoy at the area. History buffs also frequent the area. Estimated average visitor use for the area is over 500 visitor days a year. (This does not include the 200 visitor days from river floaters mentioned above).

#### • **Woodhawk Wilderness Study Area**

The Woodhawk Wilderness Study Area (WSA) (approx. 8,100 acres) is entirely encompassed by the planning area boundary (see map on page 32). This verifies the primitive condition that many visitors are seeking. The Missouri Breaks Wilderness Suitability Study (1987) found none of the area as suitable for wilderness. However, Section 603 of FLPMA directs BLM to manage lands under wilderness review by Interim Management Policy and Guidelines (IMP). This states "During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness... (emphasis added)" This language is referred to as the "nonimpairment" mandate.

There is good access to and around the boundaries of the WSA. There is also a "cherry stem" trail that bisects the WSA, but driving off existing roads and trails is prohibited. Signs are posted identifying the WSA boundary.

Visitor use to the WSA for its wilderness values is presently estimated at 50 visitor days annually. Hunting, hiking, rock hounding and wildlife viewing accounts for an additional estimated two hundred visitor days in the WSA for an estimated total of **250 visitor days annually in the WSA.**

#### • **Missouri Breaks Back Country Byway (MBBCB)**

The Missouri Breaks Back Country Byway has approximately 16.7 miles within the Woodhawk Area. The Back Country Byway was established in 1993. It traverses one of the most geologically unique and historically significant areas in Montana. There has been no vehicle counter on the roads, but letters and phone calls of interest indicate that over 100 visitors used the roads to enjoy the Back Country Byway.

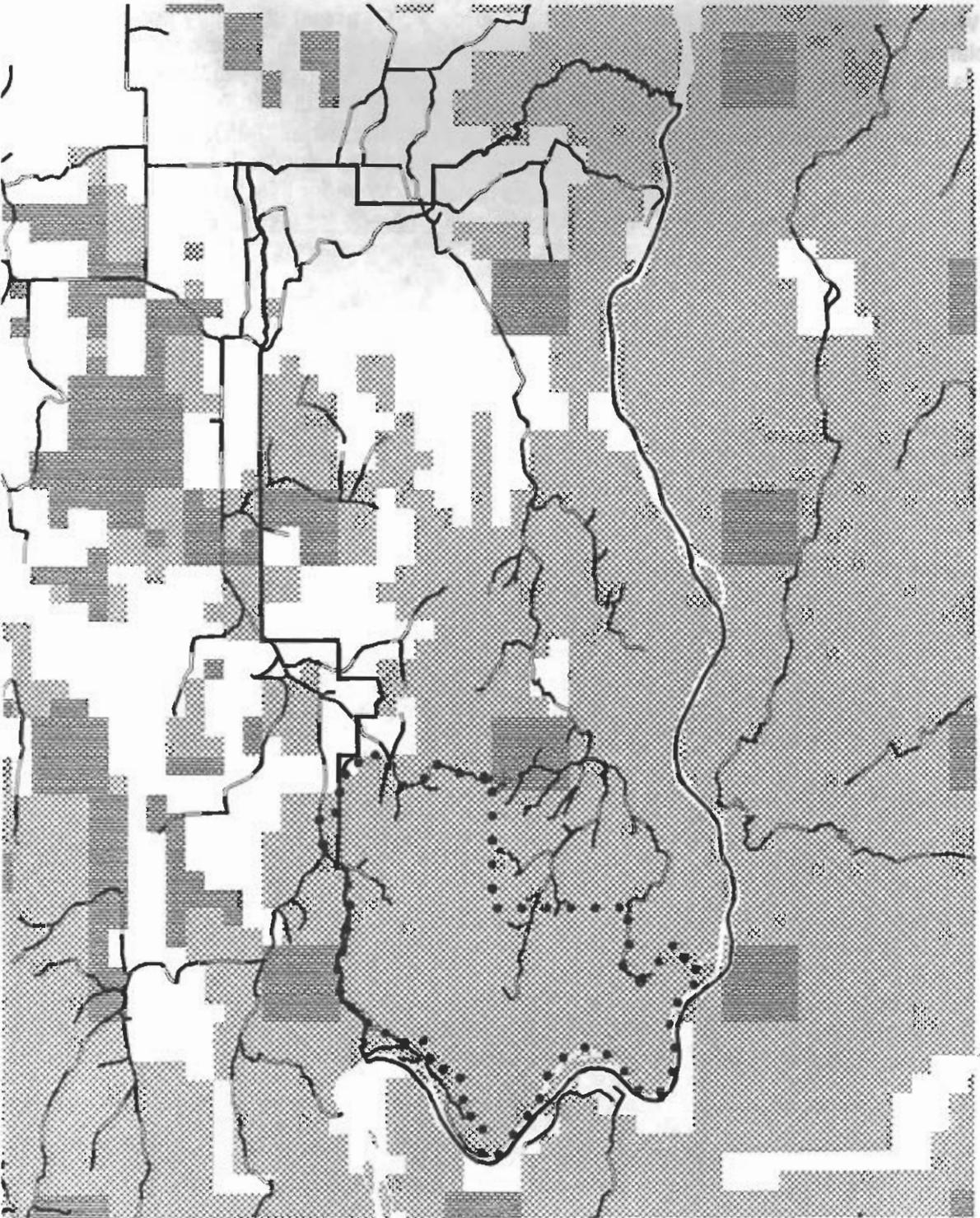
#### • **Outfitting**

In 1996, there were 15 outfitters that were permitted to float the UMNWSR and five outfitters that were permitted for hunting on the public lands in the area. Outfitter numbers and use on the river fluctuate depending on water levels. In 1994 there were only five active outfitters on the river and only two of those utilized the lower section. At the present time, use of the lower section of the river is low but all indications are that there will be an increase in future use. Only one of the hunting outfitters was active in 1994. There has also been interest in this area by other outfitters. Visitor days from river outfitters in 1994 was 32 and visitor days from hunting outfitters was eight. These visitor days are included in the numbers mentioned above.

# WOODHAWK WILDERNESS STUDY AREA

## LEGEND

-  BLM  
25,986 ACRES
-  STATE  
1,767 ACRES
-  PRIVATE  
10,657 ACRES
-  WILDERNESS  
STUDY AREA  
8,095 ACRES
-  MANAGEMENT AREA  
BOUNDARY
-  ROADS AND TRAILS



## • Other Recreational Activities

The remainder of the planning area receives some visits from rock hounds, history buffs, wildlife viewers and other associated recreationists. However, because the area has a good population of big game species and upland game birds, the major recreation use in the uplands is hunting. The road system (see map on page 3), in and adjacent to the planning area provides good access for hunters to enjoy hunting activities on the public land. There has been a significant increase in hunters in the last five years. They frequent the area during archery and general hunting season as well as upland game bird season and also use the area during special hunts in pursuit of bighorn sheep and mountain lion. It is estimated that over 2,000 visitor days of this type are enjoyed on public lands in the Woodhawk area.

## • Total Visitor Use

It is estimated there are 1,300+ visitor days from floaters, and an additional 2,850+ visitor days from land based recreation for a total of 4,200+ recreation visitor days enjoyed in the Woodhawk area.

## FORESTRY

In general terms, forestry in the breaks country is lacking in terms of actual "Management." Very little commercial harvest has taken place and most timber cutting has occurred in response to the need for fence posts, fuelwood, and logs for either homesteads or out buildings. Only recently (the past four to five years) with the increased demand for wood products has there been a demand for commercial cutting.

Most of the breaks country in North Fergus County contains "pockets" of commercial sawlogs. A commercial sawlog is defined as having a minimum of an 8" Diameter Breast Height (DBH) and a 6" top diameter at 16' above the ground. These "pockets" are usually located on Northerly aspects on slopes less than 35% and vary in size from a few trees to several acres of timber. Some stands of timber are located on steep slopes in excess of 35%; however, the value of the timber does not warrant the cost of moving in specialized harvest equipment. Therefore, these stands are essentially non-commercial. Another commercial wood product that is very new to Central Montana is pulpwood. Pulpwood is harvested and processed for use in paper products. A commercial pulp log is defined as having a 3" top at 25'. The opportunity to harvest pulpwood is abundant in the breaks country. Pulpwood harvest typically are in the form of commercial thinning.

## FIRE

Historically, fire occurrence in the breaks country (prior to the advent of modern fire suppression) was classified as **High Frequency - Low Intensity**. This means that fires occurred on a frequent basis therefore allowing little fuel buildup. Since fuel loads were light, fires were low intensity and usually on the ground. These frequent ground fires created a mid serial stage forest development typical of the Missouri breaks ecosystem.

With the introduction of modern fire suppression strategies (the exclusion of fire in the natural cycle) forests are progressing from a dis-climax to climax. The serial stage open stands of Ponderosa pine are evolving to dense stands of mixed conifers consisting primarily of Ponderosa Pine, Douglas-fir and juniper. Coniferous forests are also expanding on to rangelands and diminishing available forage for wildlife and livestock.. Frequent, low intensity ground fires that once maintained forest dis-climax may be replaced with high intensity fires that could be detrimental to watersheds, soil properties and vegetation.

Although there have been several oil or gas wells drilled in the planning unit, they have all been dryholes. There is moderate potential for occurrence of shallow natural gas, but there are no active leases on any federal lands. In addition, the Woodhawk WSA is closed to leasing until a decision on status is made by Congress. The nearest active production is found in the Leroy field across the UMNWSR to the north.

There are no mining claims in the planning unit, but there is some potential for occurrence of diatremes (diamond pipes) due to the presence of associated indicator minerals. The entire area of the planning unit within the UMNWSR corridor is withdrawn from locatable mineral entry under the Mining Law of 1872. In addition, the Woodhawk WSA is similarly withdrawn until the status of the area is determined by Congress.

## LAND ACTION

The Bureau of Land Management continues to look for opportunities to acquire land through exchange from willing landowners within the UMNWSR Corridor. The goal is to protect critical resources for the long term, enhance the Bureau's management opportunities on public land along a nationally recognized waterway, and ensure continued recreational opportunities by the public. Currently, the Woodhawk area contains the following private lands within the UMNWSR Corridor:

- T. 23 N., R. 20 E.**
- sec. 5: Lots 8, 9, 10
- sec. 7: S2SE
- sec. 8: Lot 1, NWNE
- sec. 10: Lot 5
- sec. 11: Lots 4, 5, NWSW
- sec. 14: W2NW
- sec. 15: NENE, S2N2
- sec. 17: N2
- sec. 18: NE, E2NW

At the present time, there is only one 40 acre tract of public land designated suitable for disposal within the Woodhawk Area, specifically:

- T. 23. N, R. 20 E.**
- sec. 33: SWSE

However, should an opportunity arise to acquire some of the lands listed above, other tracts could be evaluated and included in an exchange if deemed suitable.

## RESOURCE MANAGEMENT ISSUES

### ISSUE #1

**Lack of riparian area vegetation, regeneration, and successional development (especially woody species) along the UMNWSR in the planning area.**

Livestock that graze in the planning area tend to concentrate along the UMNWSR during the hot season. This livestock use, particularly grazing and trampling, along with other factors such as ice damage, drought, low water, wildlife use and hydrologic influence from upstream dams has impacted cottonwood age class development and replacement, other woody species regeneration and riverain/riparian ecosystem successional development.

### ISSUE #2

**Noxious plants, including leafy spurge and Russian knapweed, have become established in the planning area. Noxious plant populations are expanding along the UMNWSR and may be expanding to upland sites.**

There has been no chemical control effort along the river since 1992. Existing populations along the river have expanded and new infestations have become established from seeds transported by the river from upstream sources, vehicles, livestock, wildlife, and human activity. Possible expansions into upland locations are primarily due to seed transport by livestock, wildlife and vehicles.

### ISSUE #3

**Some upland areas in the planning unit, particularly the flats, benches and areas near water sources, have vegetative communities in early and mid seral status. Successional status appears to be static, or in some instances degrading.**

Livestock that graze in the uplands are poorly distributed and tend to concentrate on gentle to moderately sloping terrain and/or areas close to water sources. Opportunities to improve cattle distribution and grazing patterns in the uplands are limited due to steep slopes, poor options for fence placement, lack of water (all potential sites are currently developed), poor water quality in some existing reservoirs, and potential over allocation of forage.

### ISSUE #4

**There are conflicts between livestock and recreationists and in some cases between recreationists on the UMNWSR and to some extent in the uplands.**

Many river floaters have expressed that they do not want livestock with the resulting manure and flies in Woodhawk Recreation Area and other undeveloped camping areas (usually riparian areas).

Some hunters feel that concentrations of livestock in the uplands during the big game hunting season affects the quality of the hunt and reduces the chance to harvest game.

Recreationists may harass or disturb livestock and leave gates open. In the uplands this is more prevalent during the big game hunting season. Livestock may be wounded or killed from a misplaced bullet. In addition, there is some concern that there are too many outfitters in the planning area.

#### **ISSUE #5**

**Most of the soils in the planning area are highly susceptible to erosion. Some accelerated erosion is occurring.**

Much of the accelerated erosion occurring in the planning area is due to new roads being created by continual vehicular traffic. However, most can be attributed to increased surface runoff due to farming activity on private lands, livestock trails, lack of vegetative ground cover and road maintenance.

#### **ISSUE #6**

**14.50 miles of Woodhawk Creek are functioning, but are at risk to degradation and 1.50 miles are nonfunctioning.**

Polygons 1, 2, 3, 5 and 6 were found to be properly functioning, but are at risk to degradation due to lack of vegetative communities with a deep, binding root mass, high amounts of human induced bare ground, and significant active lateral cutting of the streambanks. Polygon 4 was found to be nonfunctioning due to a lack of vegetative communities with a deep, binding root mass, and high amounts of human induced streambank alteration and bare ground and significant active lateral cutting of streambanks.

#### **ISSUE #7**

**The Woodhawk Bottom Recreation Area has unsafe (hazard) trees in the camping areas, unsanitary conditions from existing pit toilets that release contents into the water table, poor all weather vehicular access, no accessible facilities (disabled people) and no potable water.**

#### **ISSUE #8**

**Cultural and paleontological resources, primarily sites located within the UMNWSR corridor are experiencing impacts and/or damage from natural erosional processes, livestock, recreationists, and lack of protection efforts. In addition, there is a lack of information of cultural resources in the area.**

With the exception of the Nelson (24FR402) and Middleton (24FRP9) homesteads, the remaining historic and prehistoric cultural resources, within the Woodhawk area are presently being affected by either natural processes (erosion, weathering, etc.), livestock trampling, or the lack of protection measures. In addition, there have been some instances of effects due to human activity, primarily to historic properties.

Specifically, prehistoric sites, 24FR53 and 24FR650, are being severely impacted by cutbank erosion from the Missouri River (high water and ice-gouging). The remaining recorded and unrecorded prehistoric sites, located throughout the Woodhawk area, are being impacted by natural erosion and cattle trampling, to an unknown degree at the present time.

The Nelson and Middleton homesteads, are presently fenced and have been reroofed, affording some degree of protection and stabilization. Unless maintenance and rehabilitation of the structures is maintained, deterioration can be anticipated to occur in the future.

#### **ISSUE #9**

**Big game habitat is being impacted due to excessive roads and degraded vegetative condition forcing big game to use private agricultural lands which reduces the recreational opportunities on the public land.**

Roads are a significant problem for big game. Hunters can access almost every point and

overlook in the area by vehicle which greatly reduces hiding and escape cover for the animals and increases stress. Where block management has been initiated, it has helped wildlife security by closing down unnecessary roads. Hunting pressure in the breaks is also greater than before, the area has gained recognition by both in-state and out-of-state hunters. Predator populations are also increasing. Coyotes and eagles can have a major impact especially on antelope fawns. Mountain lions in the breaks could also be impacting mule deer populations.

Upland vegetation can be critical to wintertime survival for big game. If the quality of sagebrush and other browse species is poor, then antelope and deer will not have the quantity and quality they need to overwinter. The sagebrush is crucial to maintaining healthy big game populations.

#### **ISSUE #10**

**Key T&E and special status species need to have habitat available and protected so that the animals can be present for now and in the future.**

There are potentially three threatened or endangered species in the planning area including pallid sturgeon, bald eagle, and peregrine falcon. Additionally, several more special status species occur with no federal status, but the BLM must provide management to prevent them from being listed. While some animals are present, current planning is not managing for them or their essential habitats.

### **GOALS AND OBJECTIVES**

#### **LAND USE PLAN GUIDANCE**

There are two Resource Management Plans (RMPs) that set forth the land use decisions and conditions guiding management of lands and minerals administered by the BLM within the Woodhawk area. All uses and activities within the Woodhawk area must conform with the decisions, terms and conditions described in these plans. The following section describes the guidance contained in the Judith, Valley, Phillips (JVP) RMP - 1994 and the West Hiline RMP - 1988 that is pertinent to the Woodhawk area:

- **Energy Mineral Resources** - The Woodhawk WSA will remain closed to oil and gas leasing. No surface occupancy restrictions will be used to protect critical paleontology sites and archaeology sites. Seasonal and distance restrictions will be included in oil and gas leases to mitigate impacts to wildlife habitat (**JVP**)

The UMNWSR Corridor is closed to mineral leasing. Exploration activity will avoid, to the maximum extent possible, the "seen area" of the management corridor, and will utilize accepted principals of landscape architecture to minimize temporary and permanent visual impacts (**West Hiline**).

- **Nonenergy Mineral Resources** - Federal minerals are available for exploration and development unless withdrawn (**JVP**). The entire UMNWSR management corridor is withdrawn from location under the mining laws (**West Hiline**).
- **Paleontology** - Major paleontological resources of scientific interest will be protected (**JVP, West Hiline**).

**Soils** - Soil productivity will be maintained or improved by increasing vegetation cover and reducing erosion (**JVP, West Hiline**).

**Water Resource Management** - Surface and groundwater quality will be maintained to meet or exceed state and federal water quality standards (**JVP, West Hiline**).

**Vegetation Management** - The ecological status will be improved or maintained to achieve a plant community of good (late seral) to excellent (potential natural community) on 80% of the BLM lands within 15 years of implementation of activity plans (**JVP**).

Public lands that are in satisfactory (good and excellent) ecological condition will be maintained. Public lands with unsatisfactory (poor and fair) ecological condition will be managed according to multiple use objectives based on ecological site potential for specific uses (**West Hiline**).

About 40% of the vegetation will continue to be allocated to livestock grazing and about 60% will continue to be allocated to watershed protection and wildlife forage and cover (**JVP**).

The quality and quantity of summer wildlife forage will be improved by improving the reproduction and availability of palatable forbs for deer and antelope. Deer and antelope winter range (especially woody species) will be maintained and/or improved. Existing sagebrush stands will be maintained at a canopy cover of 15 to 50% with an effective height over 12 inches (**JVP**).

The quality and quantity of nesting, brood rearing and winter habitat for upland game birds and waterfowl nesting habitat will be improved by providing residual upland grass and forb cover (**JVP**).

Land will be managed for succulent vegetation production, including a variety of forbs, and big and silver sagebrush will be maintained on sage grouse wintering and nesting areas with a canopy coverage of 15 to 50% and an effective height of 12 inches. Woody vegetation will be maintained or improved for sharptailed grouse cover (**JVP**).

**Riparian and Wetland Management** - Riparian-wetland areas will be maintained or improved based on proper functioning condition and desired plant community. Riparian-wetland objectives will be initially accomplished through livestock grazing methods at current stocking levels. If grazing methods are not successful in meeting management objectives, necessary actions will be taken to meet those objectives (**JVP**).

All manageable riparian areas will have management plans implemented to maintain, restore or improve riparian areas to achieve a healthy and productive ecological condition for maximum long term benefits and values (**West Hiline**).

Livestock grazing in specialized, high use recreation sites along the UMNWSR will be controlled through fencing and/or selective grazing (**West Hiline**).

Temporary livestock exclosures, to protect riparian communities, may be necessary when other management actions do not allow seedling establishment of riparian species. Alternate water sources would be provided if primary sources are denied (sic). They would only be in place until riparian species are vigorous enough to withstand proper grazing use as determined by monitoring. Where feasible, riparian pastures will be established to allow rehabilitation of riparian areas while still allowing proper use of AUMs (West Hiline).

Pastures with riparian areas will not be grazed by livestock during the hot season more than 1 year out of 3 in order to maintain or improve riparian communities to a satisfactory condition (West Hiline).

- **Land Treatments** - Land treatments will be used to meet watershed, grazing management and wildlife objectives but will be applied only where grazing management alone will not accomplish the desired result (JVP, West Hiline).
- **Noxious Plants** - Noxious plants will be controlled or eradicated through integrated pest management in order to maintain native rangelands (JVP, West Hiline).
- **Wildlife and Fisheries Management** - Suitable habitat for all wildlife species will be maintained or enhanced. The emphasis for habitat maintenance and development will be on present and potential habitat for sensitive, threatened and/or endangered species, nesting waterfowl, crucial wildlife winter ranges, non-game habitat and fisheries (JVP).

Habitat for wildlife will be maintained and enhanced. The emphasis for habitat maintenance and development will be placed on present and potential habitat for sensitive, threatened and/or endangered species, nesting waterfowl, game birds, fisheries and crucial big-game winter ranges (West Hiline).

- **Prairie Dog Management** - Prairie dog towns will be maintained or managed based on the values or problems encountered (JVP).
- **Elk and Bighorn Sheep Management** - Habitat will be provided for elk in the Missouri Breaks consistent with the MDFWP Elk Management Plan. Habitat will be provided to maintain and expand (where suitable forage is available) bighorn sheep in the Missouri Breaks (JVP).
- **Recreation** - The recreational quality of BLM land and resources will be maintained and/or enhanced to ensure enjoyable recreational experiences. Recreation emphasis will be to develop and maintain opportunities for dispersed recreational activities such as hunting, scenic and wildlife viewing and driving for pleasure.

The UMNWSR will be managed to protect and preserve the remarkable scenic, recreational, geological, fish and wildlife, historic, cultural and other values as directed by Congress in the Wild and Scenic Rivers Act and amendment for the Upper Missouri (West Hiline).

Recreational opportunities will be provided to the broadest possible cross section of users. Chances for recreational activities will be available to floaters motorized water users (with seasonal restrictions), hunters, fishermen, sightseers, rockhounds, photographers hikers day use picniers and many others. Visits to the UMNWSR should be a safe, informative experience.

- **Off-Road Vehicle Use** - ORV use will be restricted yearlong or seasonally to designated roads and trails. ORV use should not impact vegetation and soils that maintain the watershed and water quality. It should not cause user conflicts, livestock disturbance, wildlife harassment or loss of habitat security. ORV use is not allowed in the Woodhawk WSA. (JVP, West Hiline).

ORV use in the Woodhawk WSA will be restricted yearlong to the existing roads and trails to preserve and protect wilderness values in the WSA (JVP).

Specific areas may be closed to ORV use to protect vegetation and soils to maintain watersheds and water quality, reduce user conflicts, reduce harassment of wildlife and provide habitat security (JVP).

ORV use would be limited to designated roads and trails in the UMNWSR Corridor (West Hiline).

Permits may be issued on a case-by-case basis for administrative vehicular use in areas with restrictions (West Hiline).

- **Wilderness Management** - The wilderness values in the Woodhawk WSA will be maintained under interim guidance pending designations by Congress.
- **Visual Resource Management** - Activities will be managed to comply with VRM policies (JVP, West Hiline).
- **Cultural** - Cultural resources will be properly managed through a systematic program of identification and evaluation. The level of conflict between cultural resources and other land and resource uses will be reduced in compliance with existing laws/regulations (JVP, West Hiline, UMNWSR CRMP).

Cultural resources will be enhanced and protected and traditional cultural values will be protected (West Hiline).

- **Fire Management** - Fire will be managed in the manner most cost effective and responsive to resource management objectives (JVP).

Prescribed fire will be utilized only under specific conditions and may be administered on an individual basis in grassland, sagebrush and/or conifer types to improve wildlife habitat and vegetation production. Prescribed burns will be held in abeyance in the Woodhawk WSA (JVP).

Intensive suppression of wildfire will be applied to areas with high resource values, improvements, recreation sites, administrative sites sagebrush and juniper, fire sensitive woody riparian species, and/or cultural values and may also be used to prevent fire from spreading to adjoining private property and structures (JVP).

Conditional suppression will be applied to areas with low resource values or to areas not warranting intensive suppression actions and costs. Conditional suppression actions will be used in Grass/shrub fuel types, Missouri Breaks fuel types and Mountain timber fuel types (JVP).

All wildfire within the UMNWSR Corridor will receive an initial attack unless a modified suppression plan is in effect (West Hiline).

- **Forest Management** - Minor Forest products may be harvested from the Breaks on a selected sustained yield basis with wildlife habitat objectives in mind (**JVP**).

Recreational use of forest products within the UMNWSR Corridor will be limited to dead-and-down material (**West Hiline**).

- **Lands - Resource** values will be protected or enhanced when considering applications or requests for Rights of Ways, leases and permits. Acquisitions will be pursued as opportunities arise through exchange or purchase will willing proponents and/or sellers. The Woodhawk WSA is a temporary exclusion area for ROWs pending wilderness area determination.
- **Access to BLM Land** - Access will be pursued to BLM land where no legal public access exists or where additional access to major blocks of BLM land is needed.
- **Signing** - Appropriate signs and posters will be used to promote safety and convenience for visitors and users, define boundaries, identify management practices, provide information about geographic and historic features and protect vulnerable land areas and resources from misuse.

## WATERSHED SPECIFIC OBJECTIVES

### Riparian Areas

#### A. UMNWSR Corridor

1. Improve or maintain riparian area(s) health along the UMNWSR to proper functioning condition by achieving the desired plant community described at each of the following key areas (see key area map on page 42):

- a. Key Area R-1 (MRA Polygon 2101)

Short term (within 5 years)

Increase sandbar willow (*salix exigua*) seedlings from the current canopy cover class of 3 to a canopy cover class of 5 and sapling/mature sandbar willows from the current combined canopy cover class of 0 to a combined canopy cover class of at least 2.

Long term (within 20 years)

Establish cottonwood (*Populus deltoides*) saplings at a canopy cover class of at least 2.

- b. Key Area R-2 (MRA Polygon 2167)

Short term (within 5 years)

Increase desirable woody species (sandbar willow, yellow willow, peach leaf willow or plains cottonwood) seedlings from the current canopy cover class of a trace (T) to a canopy cover class of at least 2 and sapling/mature sandbar willows from the current combined canopy cover class of 0 to a combined canopy cover class of at least 1.

# WATERSHED KEY AREAS

## LEGEND



UPLAND KEY AREAS



WOODHAWK CREEK  
KEY AREA



MISSOURI RIVER  
KEY AREAS



Long term (within 20 years)

Establish plains cottonwood saplings at a canopy cover class of at least 1.

c. Key Area R-3 (MRA Polygon 2245)

Short term (within 5 years)

Increase desirable woody species (sandbar willow, yellow willow, peachleaf willow or plains cottonwood) seedlings from the current canopy cover class of a trace (T) to a canopy cover class of at least 2 and sapling/mature sandbar willows from the current combined canopy cover class of 0 to a combined canopy cover class of at least 1.

Long term (within 20 years)

Establish plains cottonwood saplings at a canopy cover class of at least 1.

d. Key Area R-4 (MRA Polygon 2330)

Short term (within 5 years)

Increase sandbar willow seedlings from the current canopy cover class of 1 to a canopy cover class of 3 and sapling/mature sandbar willows from the current combined canopy cover class of 0 to a combined canopy cover class of at least 2.

Long term (within 20 years)

Establish cottonwood saplings at a canopy cover class of at least 2.

e. Key Area R-5 (MRA Polygon 2369)

Short term (within 5 years)

Increase sandbar willow seedlings from the current canopy cover class of P to a canopy cover class of 3 and sapling/mature sandbar willows from the current combined canopy cover class of 0 to a combined canopy cover class of at least 2.

Long term (within 20 years)

Establish cottonwood saplings at a canopy cover class of at least 2.

f. Key Area R-6 (MRA Polygon 2396)

Short term (within 5 years)

Increase sapling and mature sandbar willow from the current combined canopy cover class of 2 to a combined canopy cover class of 5.

Long term (within 20 years)

Establish cottonwood saplings at a canopy cover class of at least 2.

g. Key Area R-7 (MRA Polygon 2400)

Short term (within 5 years)

Increase sandbar willow seedlings from the current canopy cover class of a trace (T) to a canopy cover class of 2 and sapling/mature sandbar willow from the current combined canopy cover class of 0 to a combined canopy cover class of 2.

Long term (within 20 years)

Establish cottonwood (*Populus deltoides*) saplings at a canopy cover class of at least 1.

2. Prevent establishment of new noxious weed infestations and limit, reduce or eradicate new and existing noxious plant infestations along the UMNWSR outside of the active channel within 5 years.
3. Prevent establishment of new noxious weed infestations and limit, reduce or eradicate new and existing noxious plant infestations on islands associated with the UMNWSR within 20 years.

B. Woodhawk Creek

1. Improve or maintain riparian area(s) health along Woodhawk Creek to proper functioning condition by achieving the desired plant community and physical conditions described at the following key area:

a. Key Area WC-1 (MRA Polygon 4)

Short term (within 5 years)

Increase the canopy cover of herbaceous graminoids including prairie cordgrass, western wheatgrass, Canadian wildrye and basin wildrye from 30% to at least 50%.

Reduce human induced bareground from 9% to less than 5%.

Reduce human induced streambank alteration from from 10% to less than 5%.

Long term (within 10 years)

Reduce active lateral cutting of the streambank from 50% to 25% or less.

Upland Areas

1. Improve or maintain upland health at proper functioning condition by achieving the conditions described for each key area (see key area map on page 42):

- a. Within 5 years, increase the dry weight production of vegetation as follows:

<u>Key Area</u>	<u>Site Write-up Area</u>	<u>Current Dry Weight Production (lb/ac)</u>	<u>5 Year Objective Production (lb/ac)</u>
E - 1	A004	950	1100
E - 2	A006	2000	2500
E - 3	A002	1000	1150
W - 1	A059	750	1000
W - 2	A010	830	1000
W - 3	A013	650	950
W - 4	A063	800	1000

- b. Within 5 years, increase total vegetative ground cover as follows:

<u>Key Area</u>	<u>Site Write-up Area</u>	<u>Current Vegetative Ground Cover (%)</u>	<u>5 Year Objective Ground Cover (%)</u>
E - 1	A004	70	80
E - 2	A006	60	75
E - 3	A002	65	75
W - 1	A059	50	65
W - 2	A010	50	65
W - 3	A013	45	60
W - 4	A063	50	65

- c. Within 5 years, increase or maintain the total composition of key forage species in clayey range sites (green needlegrass, western wheatgrass and/or bluebunch wheatgrass) at key areas E-2, E-3, W-1, W-2, W-3 and W-4 and overflow range sites (green needlegrass, western wheatgrass, prairie cordgrass, bluebunch wheatgrass and/or canada wildrye) at key area E-1 as follows:

<u>Key Area</u>	<u>Site Write-up Area</u>	<u>Current Composition of Key Species (%)</u>	<u>5 yr Objective Composition (%)</u>
E - 1	A004	50	50
E - 2	A006	35	40
E - 3	A002	31	40
W - 1	A059	28	35
W - 2	A010	32	40
W - 3	A013	24	35
W - 4	A063	37	45

- d. Within 5 years, improve to or maintain an erosion condition class rating of stable (0 - 21) or slight (21 - 40) at Key Areas E-2, E-3, W-1, W-2, W-3 and W-4.

2. Prevent establishment of new noxious weed infestations and limit, reduce or eradicate new and existing noxious plant infestations in upland sites within 5 years.

### Wildlife

1. Reduce access to the total miles of roads and trails within existing big game habitat by 45% which will reduce the impacted big game habitat from 20,700 acres to approximately 13,200 acres by 2000.
2. Implement seasonal road closures on 18 miles of roads during the hunting season which would increase the elk security in the planning area and provide better hunting opportunities by 2000.
3. Improve the vigor of sagebrush to 40% canopy cover and 12" height on upland sites (polygons E-1, E-2, E-3). The upland vegetation objectives already listed will meet this objective.

4. Other objectives concerning riparian management, grazing management, and upland vegetation are adequately covered under riparian objectives for the UMNWSR corridor and Woodhawk Creek as well as the upland objectives. If they are implemented, will provide quality habitat for big game, upland game and nongame species.
5. Improve cottonwood stands along the UMNWSR to ensure a diverse age structure of trees so that cottonwoods will continue to be available to bald eagles for nesting and roosting habitat. Approximately 3 acres of mixed aged cottonwood trees with several trees of larger diameter within one mile of shore should be available. This objective will be adequately covered under the UMNWSR riparian objectives.
6. Improve pallid sturgeon foraging habitat by allowing large woody debris to return to the river instead of cutting and removing trees from the shores.
7. Protect cliff sites from damage and disturbance (especially on the flats above potential nesting sites) so that peregrine falcons can occupy it for nesting.

## Cultural Resources

### A. Historic Sites

1. Maintain current protection and stabilization efforts at Nelson and Middleton Homesteads.
2. Continue efforts to gain new information at other previously recorded sites including the Lewis and Clark camp site at Woodhawk, Deweese Homestead and Frizzell Homestead.
3. Continue efforts to gain information at unrecorded sites.

### B. Prehistoric Sites

1. Protect the scientific value and integrity of sites 24FR53 and 24FR650 and the site associated with Hart Spring.
2. Continue efforts to gain new information at previously recorded sites listed in Appendix C.
3. Continue efforts to gain information at unrecorded sites.

## Recreation (All objectives are short term - 5 years)

### A. Dispersed Recreation

1. Minimize recreation user conflicts to no more than one complaint per year by maintaining commercial outfitting in the planning area, but regulate outfitter numbers in accordance with the Judith Resource Area Outfitter Policy. (Issue #4,#9)

2. Minimize recreationist/livestock conflicts in the uplands (area not in the UMNWSR corridor or at Woodhawk Recreation Area) to no more than three per year. (Issue #4)

**B. UMNWSR**

1. Eliminate recreationist/livestock conflicts at two thirds of the riparian areas where primitive camping takes place.(Issue #4)
2. At the Woodhawk Recreation Area, eliminate conflicts between recreationists and livestock and minimize recreation user conflicts to not more than one per year. (Issue #4)
3. Improve the quality and safety of the recreational facilities at Woodhawk Recreation Area to meet BLM standards. (Issue #7)

**Paleontological Resources**

1. Further enhance the existing knowledge of paleontological resources in the area.
2. Protect existing sites that are in danger of being lost to erosional processes through concentrated efforts to recover fossil assemblages. The first priority will be vertebrate fossils with articulated skeletal remains.

**MANAGEMENT ACTIONS**

**MOTORIZED VEHICLE MANAGEMENT**

Motorized vehicular travel on BLM lands within the entire watershed will be restricted yearlong or seasonally to designated roads and trails or prohibited on specific roads to protect the resource values in the wilderness study area, vegetation and soils to maintain watershed function, reduce user conflicts, reduce harassment of wildlife and livestock and/or provide habitat security (see map on page 48).

**Roads Open Yearlong**

11.3 miles of road in the watershed will be open to motorized vehicular travel on a yearlong basis (see map). The roads in this category include: 1) Woodhawk Trail from the intersection with Knox Ridge Road to the intersection with private land at T.23N., R20E., NESE Section 14 and 2) Sunshine Ridge Road from the intersection with Woodhawk Trail.

**Roads with Seasonal Restrictions**

5.7 miles of road in the watershed will be open to motorized vehicular travel but will have seasonal restrictions to protect resources, reduce user conflicts, prevent harassment of wildlife and livestock, provide habitat security or ensure visitor safety. The roads in the category, along with the seasonal restriction are as follows:

<u>Road Name</u>	<u>Open to Motorized Travel</u>	<u>Closed to Motorized Travel</u>
Deweese Ridge	December 1 to August 31	September 1 to November 30
Middleton Ridge	December 1 to August 31	September 1 to November 30
Woodhawk Bottom	April 15 to November 30	December 1 to April 14

# MOTORIZED VEHICLE MANAGEMENT, ALTERNATIVE 4 (PREFERRED)

## LEGEND

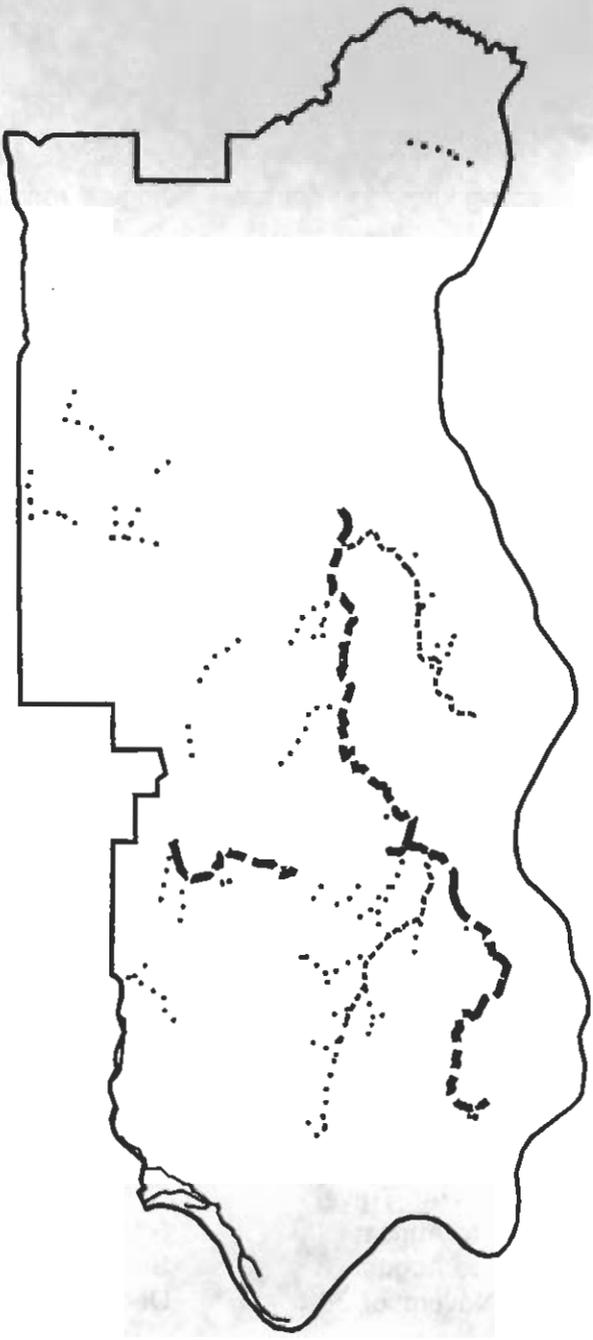
 ROADS OPEN YEAR ROUND  
113 MILES

 ROADS WITH SEASONAL RESTRICTION  
(SEPT 1 - NOV 30)  
5.7 MILES

 ROADS WITH SEASONAL RESTRICTION  
(DEC 1 - APRIL 15)  
6.3 MILES

 ROADS CLOSED  
194 MILES

ONLY ROADS WITH FEDERAL SURFACE OWNER SHIP SHOWN



## **Roads with Yearlong Closure**

19.4 miles of road in the watershed will be closed to all motorized vehicle use to protect resources, reduce user conflicts, prevent harassment of wildlife and livestock, provide habitat security or ensure visitor safety. The roads in this category include all spur roads in the WSA and any other road not mentioned above as seasonally restricted or open yearlong.

## **Implementation**

1. An informative/interpretive sign will be placed at the head of Woodhawk Trail and at the head of Woodhawk Bottom Road where each intersects with the Knox Ridge Road. The signs will identify open, closed and seasonally restricted roads, educate public land users on multiple uses in the planning area and provide information to prevent impact to resources.
2. Roads open yearlong and roads with seasonal restrictions will be numbered in accordance with the Lewistown District Travel Plan.
3. All roads not numbered in accordance with the Lewistown District Travel Plan will be considered closed yearlong.
4. Roads with seasonal restrictions will have small signs that indicate the appropriate restricted date.
5. Game retrieval is permitted on seasonally restricted roads from 10 am to 2 pm.
6. No off-road (cross-country) motorized vehicle travel.
7. Administrative use of seasonally restricted roads will be permissible.
8. Vehicular access for camping will be permissible within 100 yards of roads open yearlong or during the open period on seasonally restricted roads.

## **WOODHAWK BOTTOM RECREATION AREA**

The quality and safety of the recreational facilities at the Woodhawk Bottom Recreation Area will be improved to meet BLM standards for a minimally developed site. In addition, actions will be taken or continued to eliminate conflicts between livestock and recreationists and between recreationists.

The entire recreation area will be closed annually from December 1 to April 14. All of the campground exclosure fences will continue to be maintained by the grazing permittee.

The existing access road will be repaired and maintained to provide safe vehicle access to the recreation area. Where possible, sharp turns will be realigned and safety turnouts and waterbars will be constructed.

Other site specific action/implementation is described below:

### **Lower Campground**

The existing pit toilet will be replaced with a 1000 gallon vault toilet. The new toilet will be placed in the same location as the current toilet. 4 cooking/warming units and 3 concrete tables will replace the existing fire rings and table.

Hazard trees and limbs will be removed, with emphasis on established camp sites. Hazard trees along the immediate river bank or in a position to fall into the river would be placed in the river to benefit pallid sturgeon habitat.

The established campsites may be mowed on occasion if vegetative cover presents a safety problem (snakes/wildfire). If possible, areas with noxious weed infestations will be avoided.

The road through the campground will be minimally reconstructed and maintained to allow loop-type access with minimal resource impact. The current road is damaging riparian vegetation.

A "No Boat Launching" sign will be placed at the entrance to the campground and also along the riparian area that is building between the campground and the river.

### **Middle Campground**

3 cooking/warming units and 1 concrete table will be placed in existing camping locations.

Approximately 100 feet of fence with a walk through gate will be constructed to prevent vehicle intrusion into the upstream floater campground. The fence will be located just above the existing irrigation dugout that currently serves as a natural boat launch area and will tie into the existing north/south interior enclosure fence. A small "no motorized vehicle" sign will be placed at the walk through gate.

Hazard trees and limbs will be removed, with emphasis on established camp sites. Hazard trees along the immediate river bank or in a position to fall into the river would be placed in the river to benefit pallid sturgeon habitat.

The established campsites may be mowed on occasion if vegetative cover presents a safety problem (snakes/wildfire). Areas with noxious weed infestations will be avoided.

An interpretive sign will be placed at the Nelson homestead

### **Upper Campground (Floater's Camp)**

The only access to this campground will be from the river.

The existing pit toilet will be removed. There will not be designated camping areas and no fire rings or picnic tables will be placed in the area.

Trees and limbs may be removed if hazards become prevalent. This campground will not be mowed.

## **HUNTING OUTFITTER MANAGEMENT**

No more than three (3) outfitters will be permitted annually for big game hunting. Permits will be issued on a first come, first served basis, with preference given to active outfitters from the previous year. In addition, total outfitted user days will be limited to 30. The allocated outfitter user days will be equally divided among the permitted outfitters on an annual basis, for example:

<u># of Outfitters</u>	<u>User Day Allocation ( Each )</u>
1	30 Days (Max.)
2	15 Days
3 (Max.)	10 Days

Outfitters must comply with the seasonal and yearlong road/travel restrictions described above in "Motorized Vehicle Management". Off-road game retrieval or other cross country travel is not permitted. Vehicular access for camping will be permissible within 100 yards of roads that are open yearlong or during the open period on seasonally restricted roads.

By applying to the BLM and paying an established fee, an outfitter may be granted an "exclusive" camping area. An "exclusive" camping area is one that another outfitter could not utilize for camping. Approval of this type of arrangement does not grant the outfitter any right or authority to preclude or interfere with use of public lands by any party.

Only certified weed seed free hay may be fed to pack animals.

## **NOXIOUS PLANT MANAGEMENT**

The primary tool for noxious plant control in the watershed will be Integrated Pest Management (IPM). IPM utilizes chemical, biological, mechanical and other strategies to most effectively combat noxious plants while minimizing impacts to the environment. Control efforts will be focused primarily on Leafy Spurge and Russian Knapweed. Biological controls will continue to be emphasized, especially in riparian areas where using chemicals can be environmentally and economically impractical.

### **Biological Control Agents**

New and existing infestations of Leafy Spurge and Russian Knapweed and new infestations of other Category 1, 2, or 3 noxious plants in uplands and within the floodplain of the Missouri River will continue to be combated with biological control agents. As biological control agents become available, dispersal will be made in the following priority order:

1. Campgrounds
2. Islands
3. Infestations within the active channel of the river, not including islands
4. Dense infestations outside the active channel of the river, but within the floodplain
5. Any remaining infestations, including uplands

### **Chemical Control**

Chemicals will not be used to control noxious weeds within the river floodplain (inside or outside of the active river channel ) unless they are shown to be legal, effective, environmentally safe and will not impact riparian vegetation and other non-target species. If such chemicals become available and are proposed for use, only BLM personnel will be authorized to conduct spray efforts in this environmentally sensitive area.

The BLM will enter into a Cooperative Agreement with the grazing permittee to control new and existing infestations of Leafy Spurge, Russian Knapweed and other Category 1, 2, or 3 noxious plants in the upland areas. The BLM will purchase the chemicals and the permittee (or a licensed applicator hired by the permittee) will conduct the spraying in accordance with applicable application guidelines and label specifications. The permittee will notify BLM representatives of

any newly discovered infestations. If a BLM employee discovers an infestation, the grazing permittee will be similarly notified.

If individual noxious plant infestations in the uplands become established and are increasing in size, biological control agents will be introduced and efforts to eradicate or reduce the infestation with chemicals will be suspended. In these instances, only the perimeter of the infestation will be treated with chemicals to prevent expansion.

## **CULTURAL RESOURCES MANAGEMENT**

### **Nelson and Middleton Homesteads**

Within a year after this plan is final, the following actions will be taken by BLM personnel at the Nelson and Middleton Homesteads:

1. Update existing records.
2. Seek determination of eligibility for the Middleton Homestead for inclusion on the National Register of Historic Places.
3. Develop a Cultural Resource Project Plan (CRPP) for significant sites.
4. Take necessary actions to prevent theft and vandalism.
5. Interpret historic values at both homesteads.
6. Maintain enclosures as needed to protect historic values.

### **Other Previously Recorded Historic Properties or Sites**

Within a year, the following actions will be taken by BLM personnel at the Lewis and Clark campsite at Woodhawk, Deweese Homestead and Frizzell Homestead:

1. Class III inventory.
2. Seek determination of eligibility for the Lewis & Clark Campsite (Woodhawk), the Deweese, and the Frizzell Homesteads for inclusion on the National Register of Historic Places.
3. Assess effects and provide for necessary mitigation measures as needed.
4. Place a Lewis and Clark location sign in the general area of the camp site at Woodhawk.

### **Currently Unknown Historic Properties or Sites**

Within three years, the following actions will be taken within the floodplain and adjacent terrace of the Missouri River or at sites as discovered during the course of conducting normal duties:

1. Class III inventory - by contract or agreement, within the floodplain and adjacent terrace of the river.
2. Class III inventory - by BLM cultural resource personnel at sites that are discovered while conducting normal duties.
3. Allocate management use categories.
4. Seek determination of eligibility for inclusion on the National Register of Historic Places.

### **Previously Recorded Prehistoric Sites**

Within one year, the following actions will be taken at Hart Spring and sites 24FR53 and 24FR650:

1. Class III inventory at Hart Spring, 24FR53, and 24FR650 - by BLM cultural resource personnel.
2. Seek determination of eligibility for Hart Spring and sites 24FR 53 and 24FR650 for inclusion on the National Register of Historic Places.
3. Allocate management use categories.

4. Provide emergency protection at Hart Spring - Enclose site with fence (contract).
5. Assess effects at 24FR53 and 24FR650 and provide necessary mitigation measures as needed.

#### **Other Previously Recorded Prehistoric Sites**

Within one year, the following actions will be taken at other previously recorded prehistoric sites listed in Appendix E:

1. Update existing records.
2. Seek determination of eligibility for inclusion on the National Register of Historic Places.
3. Allocate management use categories.
4. Assess effects and provide for mitigation measures as needed.

#### **Currently Unknown Prehistoric Sites**

Within three years, the following actions will be taken within the floodplain and adjacent terraces of the Missouri River or at sites as discovered during the course of conducting normal duties:

1. Class III inventory - by contract or agreement, within the floodplain and adjacent terrace of the river.
2. Class III inventory - by BLM cultural resource personnel at sites that are discovered while conducting normal duties.
3. Allocate management use categories.
4. Seek determination of eligibility for inclusion on the National Register of Historic Places.
5. Assess effects and provide for mitigation measures as needed.

### **PALEONTOLOGICAL RESOURCES MANAGEMENT**

The current survey and collection of material in this area shows that high potential exists for future discovery of large land dwelling dinosaurs. The stratigraphic make up of the sediments indicate that the Judith River Formation was deposited in a coastal plain with marine deposition to the east and south. Studies of the carbonaceous layers indicates that the climactic conditions for preservation of fossil material are superior to those in other areas along the river. To date, there have been isolated finds of bone material from a variety of animals. The majority of the finds have been disarticulated remains. At one location several neck vertebrae and a portion of a skull with the upper jaw intact was collected. The Museum of the Rockies identified the specimen as a juvenile hadrasaur. Further excavation of the site was not pursued when no other connecting bones were found.

The Museum of the Rockies is the only BLM approved curatorial facility in the State at this time. The area that they cover is extensive and they have reached capacity for storage of collected material. It is not anticipated that further excavation and collection of specimens will be pursued under their permit in the next 5 years.

Other facilities that have indicated an interest in the area are the University of Chicago and Mount Royal College in Alberta. These facilities will have students doing thesis work in the area over the next 5 years. There is a chance that a significant find will be made during this time. In the event of a discovery the BLM will prepare a task order, and cost share agreement to pursue the excavation of the site. This could involve the use of heavy equipment to remove overburden material and construction of roads to haul the collected specimen out of the area. The average weight of each portion of the plaster casts is between 1 to 3 tons. This makes removal by helicopter or barge unlikely. Road work would not involve permanent use and nonimpairment

criteria would apply in the WSA and no new roads would be permitted in the WSA. Once the site is excavated the road would be closed and reclaimed. Total estimated disturbance from both road and site excavation would be less than two acres. It is anticipated that 3 of these sites will be found within the Woodhawk Creek Area over the life of this plan. When sites are found, and recovered, interpretation signs will be placed to document the recovery of the material and inform the recreational users in the area.

## LIVESTOCK GRAZING MANAGEMENT

### 1. General Description

The east and west pastures of the current allotment will be divided into 2 upland and 2 riparian pastures. The 2 upland pastures will be grazed in a double-deferred grazing system. The 2 riparian pastures will be grazed in a double rest-rotation grazing system. The AUMs not used (due to prescribed rest) will be placed in voluntary nonuse on an annual basis. The acreage and carrying capacity of the east and west riparian and upland pastures will be based on the 1996 ecological site inventory and the acreage and carrying capacity of the remaining pastures will be based on the current AUMS of authorized livestock grazing. The acreage and carrying capacity by pasture is as follows:

Pasture	BLM Acres/AUMs	State Acres/AUMs	Private Acres/AUMs	Total Acres/AUMs	Percent Public AUMs
W. Riparian	5158/410	0/0	252/37	5410/447	92%
E. Riparian	4752/432	0/0	0/0	4752/432	100%
W. Upland	5079/587	481/56	2735/285	8295/928	63%
E. Upland	7508/1041	647/105	14/2	8169/1148	91%
North River	2997/266	575/70	1824/307	5396/643	41%
<b>Total</b>	<b>25494/2736</b>	<b>1703/231</b>	<b>4825/631</b>	<b>32022/3598</b>	<b>76%</b>

The remainder of the carrying capacity on BLM land in the watershed is intermixed with private crop land. There are 29 AUMs on 160 acres of this type of land. Authorized use in all of the pastures in the watershed will be as follows:

Pasture	Livestock #	Begin Period	End Period	% Public AUMs	AUMs
Custodial	NA	March 1	Feb. 28	100%	29
N. River	13 Horses	May 1	Oct. 31	41%	32
N. River	150 Cattle	June 1	Sept. 24	41%	234
East & West Riparian	580 cattle	May 1	June 15	96%	842
East & West Upland	460 cattle	June 16	Oct. 31	78%	1628

Only the east and west riparian and upland pastures will be included in the grazing system (see pasture map on page 56). Grazing in the watershed will take place according to the following rotational schedule:

Pasture	Livestock #	Year 1	Year 2	Year 3	Year 4
W. Riparian	295 Cattle	05/01-06/15	05/01-06/15	REST	REST
E. Riparian	285 Cattle	REST	REST	05/01-06/15	05/01-06/15
W. Upland	460 Cattle	06/16-08/15	06/16-08/15	08/31-10/31	08/31-10/31
E. Upland	460 Cattle	08/16-10/31	08/16-10/31	06/16--08/30	06/16-08/30
N. River	13 Horses	05/01-10/31	same as yr 1	same as yr 1	same as yr 1
N. River	150 Cattle	06/01-09/24	same as yr 1	same as yr 1	same as yr 1
Custodial	NA	03/01-02/28	same as yr 1	same as yr 1	same as yr 1

Up to 26 horses could be substituted for cattle in the east and west upland pastures, but not in addition to the 460 cattle. For example: if the permittee desired to graze 20 horses, only 440 cattle would be authorized. The horses will be required to follow the same rotational schedule as cattle, but will only be permitted in the upland pastures.

When a riparian pasture is scheduled for rest as identified in the rotational schedule above, the AUMs not used will be placed in voluntary nonuse.

### 3. Flexibility

Any deviation from the annual scheduled use will be coordinated between the BLM and permittee and be approved by the authorized officer prior to such use taking place. The guidelines for upland utilization, riparian area stubble heights and woody species browse (outlined below) and progress toward meeting allotment specific objectives will be considered when reviewing requests for deviation from annual scheduled use.

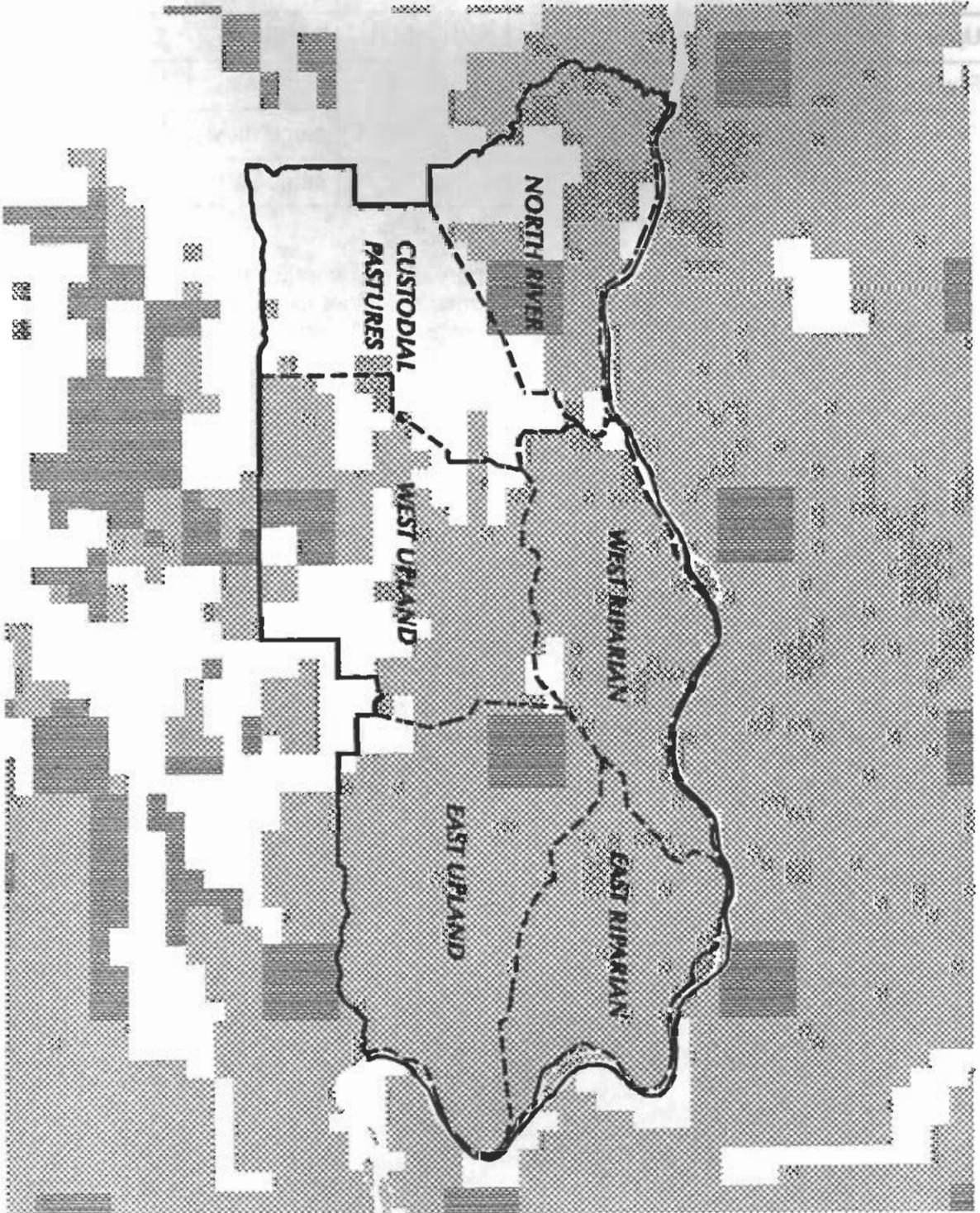
During periods of drought or at the earliest possible time when it is apparent that drought conditions during an upcoming grazing season are likely, the BLM and permittee will meet to discuss any management changes needed to reduce resource impacts.

The sequence of rotation identified above will be repeated continuously. The dates indicated in the rotational schedule are considered mandatory pasture movement dates. Earlier move dates could be required based on resource or livestock condition or if the guidelines identified below are exceeded.

# LIVESTOCK GRAZING MANAGEMENT, ALTERNATIVES 2 AND 4

## LEGEND

-  BLM/  
26,946 ACRES
-  STATE  
1,787 ACRES
-  PRIVATE  
10,652 ACRES
-  MANAGEMENT AREA  
BOUNDARY
-  PASTURE  
BOUNDARIES



Guidelines for grazing management will be implemented. Guidelines for grazing management are preferred practices determined to be appropriate to ensure that site specific objectives can be met. The guidelines are provided to maintain or improve resource conditions in upland and riparian habitats available to livestock grazing. In both riparian and upland habitats, the guidelines focus on establishing and maintaining proper functioning condition and reaching site specific objectives at key areas (see key area map on page 42).

**A. Wetland and Riparian Areas - UMNWSR and Woodhawk Creek**

The objective established for wetland and riparian areas associated with the UMNWSR and Woodhawk Creek is to improve or maintain riparian area health to proper functioning condition by achieving desired plant communities through improving the health and vigor of native riparian species, increasing native plant diversity and increasing plant root structure.

**Stubble Height Guidelines<sup>1</sup> For Palatable Herbaceous Riparian Species<sup>2</sup>  
On Key Areas Along the UMNWSR and Woodhawk Creek**

Key Area	Key Species	Average Stubble Height <sup>1</sup>
R-1 (MRA Polygon 2101) R-2 (MRA Polygon 2167) R-3 (MRA Polygon 2245) R-4 (MRA Polygon 2330) R-5 (MRA Polygon 2369) R-6 (MRA Polygon 2396) R-7 (MRA Polygon 2400)	Palatable Obligate and Facultative Wetland Graminoids <sup>2</sup>	Average Five (5) Inch Stubble Height
WC-1 (MRA Polygon 4)	Palatable Obligate and Facultative Wetland Graminoids <sup>2</sup>	Average Four (4) Inch Stubble Height

- 1 - Livestock would be removed from the pasture when these levels are achieved.
- 2 - As identified in "Classification and Management of Montana Riparian and Wetland Sites" and summarized in Appendix G

**Utilization Guidelines<sup>1</sup> For Palatable Herbaceous Upland Species<sup>2</sup>  
On Key Areas Along the UMNWSR and Woodhawk Creek**

Key Area	Key Species	Average Utilization Limit <sup>1</sup>
R-1 (MRA Polygon 2101) R-2 (MRA Polygon 2167) R-3 (MRA Polygon 2245) R-4 (MRA Polygon 2330) R-5 (MRA Polygon 2369) R-6 (MRA Polygon 2396) R-7 (MRA Polygon 2400) WC-1 (MRA Polygon 4)	Palatable Facultative and Facultative Upland Graminoids <sup>2</sup>	Average Utilization of 50% By Weight

- 1 - Livestock would be removed from the pasture when these levels are achieved.
- 2 - As identified in "Classification and Management of Montana Riparian and Wetland Sites" and summarized in Appendix G

**Browse Level Guidelines<sup>1</sup> For Woody Species  
On Key Areas Along the UMNWSR**

<b>Key Area</b>	<b>Key Species</b>	<b>Allowable Browse Level<sup>1</sup></b>
R-1 (MRA Polygon 2101) R-2 (MRA Polygon 2167) R-3 (MRA Polygon 2245) R-4 (MRA Polygon 2330) R-5 (MRA Polygon 2369) R-6 (MRA Polygon 2396) R-7 (MRA Polygon 2400)	Willows, Cottonwoods, Dogwood, Green Ash and/or Boxelder	25 Percent of Available Leaders (Current Years Growth)

<sup>1</sup> - Livestock would be removed from the pasture when these levels are achieved.

**B. Uplands**

The objective established for upland areas is to improve or maintain upland health to proper functioning condition by achieving desired plant communities through improving the health and vigor of native species, increasing native plant diversity and cover.

**Utilization Guidelines<sup>1</sup> For Desirable Herbaceous Species  
On Key Areas In Uplands**

<b>Key Area</b>	<b>Key Species</b>	<b>Average Utilization Limit<sup>1</sup></b>
E-1	Green Needlegrass, Western Wheatgrass and/or Bluebunch Wheatgrass, Prairie Cordgrass and/or Canada Wildrye	Average Utilization of 50% By Weight
E-2, E-3, W-1, W-2, W-3 W-4	Green Needlegrass, Western Wheatgrass, and/or Bluebunch Wheatgrass	Average Utilization of 50% By Weight

<sup>1</sup> - Livestock would be removed from the pasture when these levels are achieved.

**C. Administrative Actions**

The guidelines described above are considered best management practices necessary to achieve objectives and to maintain or improve rangeland resources. Herbivore use that exceeds these guidelines will reduce BLM ability to maintain proper range conditions. The success of these guidelines is dependent on active involvement by the grazing permittee in the day-to-day management of this allotment. Even with increased permittee involvement, it is anticipated that the guidelines could be exceeded and overuse could occur from time to time. It is realized that livestock are often unpredictable and unexpected priorities quickly arise in the ranching business. These unexpected circumstances however, will not reduce the tremendous importance of active permittee livestock management in the Woodhawk Watershed.

If the guidelines are exceeded and overuse occurs, corrective action will be implemented during

the next grazing season to insure that such use does not occur again and prevent necessary vegetative recovery from taking place. In such instances, prior to the next grazing season, the permittee and BLM Area Manager will cooperatively develop these corrective adjustments. The recommended management adjustments identified below are a tool that could be used, modified, or added to, on a case by case basis. The BLM would prefer that the grazing permittee suggest corrective actions needed to maintain vegetative health and vigor while still meeting livestock management needs. If however, a cooperatively developed corrective adjustment cannot be reached, the following adjustments will be applied:

**Prescribed Stubble Height for Riparian Species = 5 inches**

<b>Actual Stubble Height (inches)</b>	<b>Corrective Adjustment</b>
4 to 5 inches any one year	Discuss situation w/permittee
4 to 5 inches 2 consecutive years	6 inch stubble height next season
4 to 5 inches 2 or more consecutive years	7 inch stubble height next season
2 to 4 inches any one year	6 inch stubble height next season
2 to 4 inches 2 consecutive years	7 inch stubble height next season
2 to 4 inches 2 or more consecutive years	Rest the pasture next season
2 inches or less in any one year	Rest the pasture next season

**Prescribed Stubble Height for Riparian Species = 4 inches**

<b>Actual Stubble Height (inches)</b>	<b>Corrective Adjustment</b>
3 to 4 inches any one year	Discuss situation w/permittee
3 to 4 inches 2 consecutive years	5 inch stubble height next season
3 to 4 inches 2 or more consecutive years	6 inch stubble height next season
2 to 3 inches any one year	5 inch stubble height next season
2 to 3 inches 2 consecutive years	6 inch stubble height next season
2 to 3 inches 2 or more consecutive years	Rest the pasture following season
2 inches or less in any one year	Rest the pasture following season

## Prescribed Riparian Woody Species Browse Level = 25% current years growth

Actual Browse Level (% current year growth)	Corrective Adjustment
30 to 60% of current year growth removed any one year	10% or less the next season
30 to 60% of current year growth removed 2 or more consecutive years	Rest the pasture the next season
60% or greater of current year growth removed in any one year	Rest the pasture the next season

## Upland Species Utilization Level = 50% by Weight

Actual Utilization Level (%)	Corrective Adjustment
Exceeds prescribed level by more than 10% but less than 25%	Adjust utilization to 40% the next season
Exceeds prescribed level by more than 25%	Rest the pasture the following season

## 5. Rangeland Management Projects

Approximately 12 miles of fence and 2 watersavers would be required to implement the grazing system identified above. The fence would be constructed with 3 barbed wires and one smooth wire to BLM specifications. The fence would follow the Woodhawk Trail Road east from its intersection with private lands at T.23N., R20E., NESE Section 14, down the road on Deweese Ridge and tie into the enclosure fence at Woodhawk Bottom. A drift fence would be constructed to separate the east and west riparian pastures. It would follow the Sunshine Ridge Road and tie into a steep ridge in T.23N., R.21E., Section 3. Fence materials may be dropped by helicopter in the WSA if access by ATV is not possible. No new roads would be constructed for fence building.

As water sources fail in the future, a well could be drilled (if feasible) and a pipeline could be constructed. This would be a long term project and would not be necessary to implement the outlined grazing system.

## 6. Interim Grazing Management

The 1970 AMP will be implemented pending completion of the watersavers and fence construction or until the system proposed above is otherwise implemented and in effect.

## 7. Billing

Billing will be based on actual use (reported by pasture) which will be submitted to the BLM within 15 days of the date cattle are removed from the public lands in the watershed.

## MONITORING AND EVALUATION

### MONITORING

Monitoring will be conducted in two distinct forms. Short term monitoring will be the responsibility of the grazing permittee. It will be the grazing permittees responsibility, under the terms of this activity plan, to constantly monitor utilization levels and stubble heights in identified key areas to ensure that pasture changes are consistent with established guidelines. The permittee has been given lead responsibility because he is in the best position to continuously evaluate the variables affecting the vegetation in the watershed.

Longer term monitoring tied to tracking progress toward meeting objectives will be the responsibility of the BLM in consultation with the grazing permittee and other interested parties. This monitoring information will be the basis for evaluations and changes in grazing management. The following parameters will be observed and collected:

#### A. Actual Use

Actual use data will be collected by pasture. Turnout and removal dates will be tracked so that the AUMs used in each pasture can be evaluated. The permittee will be responsible for submitting actual use records to the BLM at the end of each grazing season. However, the BLM may also collect actual use data through more direct means such as ground and aerial counts.

#### B. Utilization

Herbaceous utilization data will be collected from key upland areas and key areas along the UMNWSR (see key area map on page 42). This data will be collected by BLM personnel on an annual basis using the Ocular Estimate Method (Interagency Technical Reference 4400-3, *Utilization Studies*). Data to be collected as follows:

<u>Key Area</u>	<u>Key Species</u>
E1, E2, E3 W1, W2, W3 W4	Green Needlegrass and Western Wheatgrass
R1, R2, R3 R4, R5, R6 R7, WC1	Palatable facultative and facultative upland graminoids (See Appendix G)

Browse utilization data will be collected from the key areas along the UMNWSR (see key area map on page 42). This data will be collected by BLM personnel on an annual basis using the Cole Browse Method (Interagency Technical Reference 4400-3, *Utilization Studies*). Data to be collected as follows:

<u>Key Area</u>	<u>Key Species</u>
R1, R2, R3 R4, R5, R6 R7	Willow sp., cottonwood dogwood, greenash and/or boxelder

#### C. Residual Vegetation

Residual vegetation levels will be determined at key areas along the UMNWSR and along

Woodhawk Creek (see key area map on page 42). This data will be collected by BLM personnel on an annual basis using the Stubble Height Method (Interagency Technical Reference 4400-3, *Utilization Studies*). Data to be collected as follows:

<u>Key Area</u>	<u>Key Species</u>
R1, R2, R3	Palatable obligate and
R4, R5, R6	facultative wetland graminoids
R7 and WC1	(See Appendix G)

#### D. UMNWSR Riparian Community Cover Classes

Riparian community cover classes will be determined at key areas along the UMNWSR (see key area map on page 42). The data will be collected by BLM personnel on an annual basis in accordance with Montana Riparian Association methods using the UMNWSR Monitoring Form.

#### E. Ecological Site Inventory (ESI)

Vegetative cover, production and composition will be determined at key areas E1, E2, E3, W1, W2, W3 and W4 (see key area map on page 42). The data will be collected by BLM personnel on a 5 year basis using the ESI method.

#### F. Climate

Precipitation data is a key consideration in interpreting other monitoring data. Precipitation amounts will be collected annually from gauges in Winifred, Montana.

### **EVALUATION**

It is expected that the grazing system and monitoring data will be evaluated continuously . All parties involved should be aware of status in relation to vegetation objectives. A year end summary of monitoring and other information will be completed annually. After 5 years from implementation of the grazing management plan, an extensive evaluation will be completed on the progress toward meeting objectives.

**APPENDIX A**  
**SUCCESSIONAL STATUS OF RIPARIAN COVER TYPES ALONG THE**  
**MISSOURI RIVER IN THE WOODHAWK AREA \***

<b>RIPARIAN COVER TYPE</b>	<b>ACRES</b>	<b>% TOTAL</b>	<b>RIPARIAN TYPE</b>
Seedling stage of cottonwoods and/or willows co-dominates the site.	113	7.5	A
Sapling stage of cottonwoods and/or willows co-dominates the site.	8	.5	A
Pole stage of cottonwoods dominates the site. Green Ash, boxelder or peach-leaf willow may also be present.	4	.4	A
Mature stand of cottonwoods with a closed overstory. Understory dominated by various tree and/or shrub species.	20	1.3	B
Mature stand of cottonwoods with open overstory. Understory dominated by various tree and/or shrub species.	31	2.0	B
Mature stand of cottonwoods with an open overstory and understory dominated by herbaceous species.	54	3.6	C
Decadent stand of cottonwoods with an understory dominated by various tree or shrub species.	20	1.3	D
Decadent stand of cottonwoods with an understory dominated by herbaceous species.	7	.5	E
Green ash dominates site, although other tree species may be present.	3	.2	F
Boxelder dominates the site, although other tree species may be present.	2	.1	G
Peach-leaf willow dominates the site, although other tree species may be present.	14	.9	H

APPENDIX A (cont.)  
**SUCCESSIONAL STATUS OF RIPARIAN COVER TYPES ALONG THE  
MISSOURI RIVER IN THE WOODHAWK AREA \***

RIPARIAN COVER TYPE	ACRES	% TOTAL	RIPARIAN TYPE
Sandbar willow dominates the site, although young trees may be present.	144	10.0	I
Silver sagebrush dominates the site. Trees are essentially absent from the site.	571	38.0	J
Western snowberry dominates the site and trees are absent or essentially so.	46	3.1	K
Site co-dominated by woods rose and western snowberry. Trees are absent or essentially so.	52	3.5	L
Western wheatgrass dominates the site and trees/shrubs are absent or essentially so.	52	3.5	M
Agricultural land, including farm buildings, cropland, seedings or fallow.	89	6.0	N
Barren land such as gravel bars, cobble bars, etc. not including agricultural land.	12	.8	O
Mixed herbaceous species dominate the site and trees/shrubs are absent or seedlings may be present, but herbaceous species including common "weedies" or "invaders" dominate	255	17.0	O

\* - See **Inventory, Classification, and Management of Riparian Sites Along the Upper Missouri National Wild and Scenic River (Hansen 1989)** for a more complete description of Riparian Types and Riparian Cover Types.

JAMC

**APPENDIX A (cont.)  
SUCCESSIONAL STATUS OF RIPARIAN COVER TYPES ALONG THE  
MISSOURI RIVER IN THE WOODHAWK AREA \***

- A** - Refers to those riparian types that represent an early seral stage of Great Plains Cottonwood/Red Osier Dogwood Community Type; however, if these sites become severely disturbed resulting in the elimination of shrubs, they will convert to the Great Plains Cottonwood/Kentucky Bluegrass Community Type.
- B** - Great Plains Cottonwood/Red Osier Dogwood Community Type
- C** - Great Plains Cottonwood/Kentucky Bluegrass Community Type
- D** - Depending upon the degree of disturbance, these sites may represent any on of the following: Green Ash/Common Chokecherry Habitat Type, the Boxelder/Common Chokecherry Habitat Type, the Silver Sagebrush/Western Wheatgrass Habitat Type, the Woods Rose Community Type, or the Western Snowberry Community Type.
- E** - Is successional to the Kentucky Bluegrass Community Type or the Western Wheatgrass Riparian Site Type depending upon the degree of disturbance.
- F** - Green Ash/Common Chokecherry Habitat Type.
- G** - Boxelder/Common Chokecherry Habitat Type.
- H** - Peach-leaf Willow Community Type.
- I** - Sandbar Willow Community Type.
- J** - Silver Sagebrush/Western Wheatgrass Habitat Type.
- K** - Western Snowberry Community Type.
- L** - Western Snowberry or Woods Rose Community Type.
- M** - Western Wheatgrass Riparian Site Type.
- N** - Unknown
- O** - Represents a site in the earliest stages of succession. Close observation of both site and vegetational characteristics may indicate possible successional status and trend.

**APPENDIX B  
FUNCTIONAL STATUS AND TREND OF RIPARIAN AREAS  
ALONG THE MISSOURI RIVER IN THE  
WOODHAWK AREA**

<b>RIVER MILE(S)</b>	<b>TOTAL MILES</b>	<b>TOTAL ACRES</b>	<b>POLYGON</b>	<b>STATUS</b>	<b>TREND</b>
112.0 - 112.4	.4	50	2093 - 2101	FAR*	Down
112.4 - 112.9	.5	-	None	NR*	N/A
112.9 - 114.7	1.8	166	2102 - 2114	NF*	Static
114.8 - 115.4	.6	-	None	NR	N/A
115.4 - 116.1	.7	35	2123,2124 2125,2130	FAR	Static
Islands		7	2126 - 2127	UNK*	UNK
116.1 - 117.3	1.2	23	2128, 2129 2139	NF	Static
Island		2	2133	UNK	UNK
117.3 - 119.0	1.7	1	2159	NR	N/A
Island		37	2134 - 2138	PFC*	Static
Island		9	2156 - 2158	PFC	Static
119.0 - 122.5	3.5	247	2165 - 2214	NF	Down
122.5 - 123.2	.7		None	NR	N/A
123.2 - 125.5	2.3	309	2218 - 2256	FAR	Down
125.5 - 125.8	.3		None	NR	N/A
125.8 - 126.5	.7	29	2282 - 2284	FAR	Static
126.5 - 127.4	.9		None	NR	N/A

APPENDIX B (cont.)  
 FUNCTIONAL STATUS AND TREND OF RIPARIAN AREAS  
 ALONG THE MISSOURI RIVER IN THE  
 WOODHAWK AREA

RIVER MILE(S)	TOTAL MILES	TOTAL ACRES	POLYGON	STATUS	TREND
Islands		79	2307 - 2317 2321 - 2325 2332	PFC	Static
Islands		31	2318 - 2320	FAR	Down
127.4 - 128.6	1.2	254	2326 - 2354	FAR	Down
128.6 - 128.8	.2		None	NR	N/A
128.8 - 130.1	1.3	206	2362 - 2372	PFC	Upward
130.1 - 130.9	.8	-	2392	NR	N/A
Island		43	2393 - 2399	FAR	Upward
130.9 - 131.4	.5	19	2400 - 2402	PFC	Static
131.4 - 131.6	.2	10	2404	FAR	Static

\* NR = Non - Riparian, NF = Nonfunctioning, FAR = Functioning at risk, PFC = Properly Functioning Condition.

**Totals:**

- Proper Functioning Cond. W/Upward Trend - 1.3 mi/206 ac.**
- Proper Functioning Cond. W/Static Trend - .5 mi (+islands)/144 ac.**
- Functioning at Risk W/Upward Trend - Only island/43 ac.**
- Functioning at Risk W/Static Trend - 1.6 mi/74 ac.**
- Functioning at Risk W/Downward Trend - 3.9 mi (+ islands)/644 ac.**
- Nonfunctioning W/Static Trend - 3.0 mi/189 ac.**
- Nonfunctioning W/Downward Trend - 3.5 mi/247 ac.**
- Non - Riparian (No Rating) - 5.7 mi/0 ac**
- Islands With Unknown Status - 2 islands/9 ac.**

**APPENDIX C**  
**Water Sources**  
**Woodhawk West Pasture**

Project Name	Location	Number	Year Built	Condition	Reliability	Est. Life (Years)	BLM Cost \$	Comments
Sunshine Watersaver	T23N,R21E SENW 7	444907	1968	Good	Good	18	22052	Reconstructed in 1990
Badlands Reservoir	T23N,R20E SENE 13	444472	1951	Fair	Good	13	322	Small but sound
South Reservoir	T23N,R21E SWNW 17	443937	1970	Good	Good	13	1400	Small but sound
Depression Reservoir	T23N,R21E NWNE 20	444471	1951	Poor	None	0	525	Silted in
Tough Day Reservoir	T23N,R21E NWSE 19	444975	1972	Poor	Poor	3	1492	Nearly full of silt
Winter Reservoir	T23N,R21E NENE 29	444977	1972	Fair	Fair	5	1078	D/S pipe out, but still fair cond.
Unnamed Reservoir	T23N,R20E NWNE 23	None	Unk	Fair	Good	Unk	None	1/2 of dam on BLM, rest private
Unnamed Reservoir	T23N,R21E NESE 19	None	Unk	Unk	Unk	Unk	None	None
Unnamed Reservoir	T23N,R20E NWNW 26	None	Unk	Poor	Poor	Unk	Unk	Nearly full of silt
Unnamed Reservoir	T23N,R20E SESW 26	None	Unk	Poor	Poor	Unk	None	On private land
Unnamed Reservoir	T23N,R21E SWSW 29	None	Unk	Fair	Good	Unk	None	On private land
Unnamed Reservoir	T23N,R21E NESW 18	None	Unk	Fair	Fair	8	None	Unauthorized on BLM. Built w/dozer and is failing
Unnamed Reservoir	T23N,R21E NENE 31	None	Unk	Good	Good	Unk	None	On private land
Unnamed Reservoir	T23N,R20E SWSE 25	444502	Unk	Fair	Fair	Unk	Unk	None
Unnamed Reservoir	T23N,R20E NWSE 36	None	Unk	Good	Good	Unk	None	On private land
Unnamed Reservoir	T23N,R20E NESE 34	None	Unk	Fair	Fair	Unk	Unk	None
Hart Spring Develop	T23N,R20E SESW 35	444540	1961	Poor	Poor	0	300	Trampled in

**APPENDIX C  
Water Sources  
Woodhawk East Pasture**

<b>Project Name</b>	<b>Location</b>	<b>Number</b>	<b>Year Built</b>	<b>Condition</b>	<b>Reliability</b>	<b>Est. Life (Years)</b>	<b>BLM Cost \$</b>	<b>Comments</b>
Ridge Watersaver	T23N,R21E NWNW 12	446368	1978	Poor	None	0	12000	To be rebuilt in FY97
Unnamed Reservoir	T23N,R21E SESE 3	None	Unk	Poor	None	0	Unk	Breached
Sunshine Reservoir	T23N,R21E NWSE 9	444429	1944	Poor	Poor/Fair	3	440	Nearly silted in
Breaks Reservoir	T23N,R21E NENW 15	444920	1969	Fair	Fair	13	100	Small drainage
Seep Reservoir	T23N,R21E SESE 10	444931	1970	Fair	Fair	13	1500	Poor late season water
Deweese Watersaver	T23N,R21E NWNW 14	446600	1977	Good	Good	18	29546	Rebuilt in 1992
Deweese Reservoir	T23N,R21E SESW 13	444490	1953	Poor	Fair	8	183	Poor late season water - high silt
Sandpoint Reservoir	T23N,R21E SESE 15	444819	1967	Good	Good	13	11552	Rebuilt in 1994
Wood Pit Reservoir	T23N,R21E NWNW 21	447857	1981	Good	Good	18	6590	Can be used yearlong
Woodhawk Watersaver	T23N,R21E SWNE 28	448996	1981	Good	Good	18	15973	None
Bull Reservoir	T23N,R21E NWSW	444964	1971	Good	Good	13	5642	Rebuilt in 1994
Hawk Watersaver	T23N,R21E SWSW 25	A136	1984	Good	Good	18	14730	None
Alkali Reservoir	T23N,R21E NWNW 25	444962	Unk	Unknown	Unknown	Unk	Unk	None
Clay Reservoir	T23N,R21E SWSE 22	444919	Unk	Poor	None	0	Unk	Abandoned
Unnamed Reservoir	T23N,R21E SESE 28	None	Unk	Unknown	Unknown	Unk	Unk	None
Ford Reservoir	T23N,R21E SWNE 26	444855	1966	Poor	None	0	Unk	Abandoned
White Pit	T23N,R21E SESE 27	447856	1983	Poor	None	0	2039	Inadequate drainage

**APPENDIX D  
T&E SPECIES  
WOODHAWK WATERSHED (2-96 USFWS listing)**

Listed Species

Peregrine falcon ( <i>Falco peregrinus</i> )	Endangered
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	Threatened
Black-footed Ferret ( <i>Mustela nigripes</i> )	Endangered
Pallid Sturgeon ( <i>Scaphirhynchus albus</i> )	Endangered

Mountain plover ( <i>Charadrius montanus</i> )	Candidate
Swift fox ( <i>Vulpes velox</i> )	Candidate
Sicklefin chub ( <i>Macrhybopsis meeki</i> )	Candidate
Sturgeon chub ( <i>Macrhybopsis gelida</i> )	Candidate

**BLM Species of Special Concern- Animals**

Mammals

- Black-tailed prairie dog (*Cynomys ludovicianus*)
- Merriam's shrew (*Sorex merriami*)
- North American Lynx (*Felis lynx*)
- Preble's shrew (*Sorex prebeli*)
- Spotted skunk (*Spilogale putorius*)
- Swift fox (*Vulpes velox*)
- Townsend's big-eared bat (*Plecotus townsendii*)

Birds

- Baird's sparrow (*Ammodramus bairdii*)
- Black tern (*Chlidonias niger*)
- Canvasback duck (*Aythya valisineria*)
- Ferruginous hawk (*Buteo regalis*)
- Hairy woodpecker (*Picoides villosus*)
- LeConte's sparrow (*Ammodramus leconteii*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Long billed curlew (*Numenius americanus*)
- Mountain plover (*Charadrius montanus*)
- Northern Goshawk (*Accipiter gentilis*)
- Swainson's hawk (*Buteo swainsoni*)
- Three-toed woodpecker (*Picoides trida ctylus*)
- Trumpeter swan (*Cygnus buccinator*)

Reptiles

- Snapping turtle (*Chelydra serpentina*)
- Spiny softshell turtle (*Trionyx spiniferus*)

Fish

- Paddlefish (*Polyodon spathula*)
- Blue sucker (*Cycleptus elongatus*)
- Northern redbelly X Finescale dace (*Phoxinus eos* X *Phoxinus neogaeus*)

**APPENDIX E  
RECORDED CULTURAL RESOURCES  
WOODHAWK AREA**

1. 24FRP008 - Lewis & Clark Campsite/Woodhawk Camp - Historic - Missouri River bottom
2. 24FR402 - Nelson Homestead - Historic - Missouri River bottom.
3. 24FRP10 - DeWeese Homestead - Historic - Missouri River bottom.
4. 24FRP15 - Frizelle Homestead - Historic - Missouri River bottom.
5. 24FR650 - Sturgeon Island - No record of site type- Missouri River bottom.
6. 24FRP9 - Middleton Homestead - Historic - Missouri River bottom.
7. 24FR329 - Cabin Rapids/Smith Homestead - Historic - Missouri River bottom.
8. 24FR93 - Whitedam - Prehistoric - Uplands.
9. 24FR96 - Duhl - Prehistoric - Uplands.
10. 24FR97 - Woodpit - Prehistoric - Uplands.
11. 24FR233 - No name - Prehistoric - Uplands.
12. 24FR234 - No name - Prehistoric - Uplands.
13. 24FR240 - No name - Prehistoric - Uplands.
14. 24FR270 - No name - Prehistoric - Uplands.
15. 24FR282 - No name - Historic(homestead) - Uplands .

**APPENDIX F  
ACTUAL GRAZING USE MADE IN  
THE WOODHAWK WATERSHED**

<b>Year</b>	<b>Actual Grazing Use AUMs Used</b>	<b>% Authorized Use</b>
1976	1055	38
1977	725	26
1978	1607	58
1979	1126	41
1980	882	32
1981	1717	62
1982	2044	74
1983	1875	68
1984	1598	58
1985	1447	53
1986	1636	59
1987	1804	65
1988	1621	59
1989	1357	49
1990	1806	66
1991	1912	69
1992	1403	51
1993	2756	100
1994	2535	92
1995	2289	83
1996	1838	67
<b>21 Year Avg.</b>	1668	61
<b>Last 5 years Avg.</b>	2164	79

APPENDIX G  
 PALATABLE HERBACEOUS RIPARIAN AND UPLAND SPECIES FOR STUBBLE HEIGHTS  
 AND PRESCRIBED UTILIZATION LEVELS AT KEY AREAS  
 ON THE UMNWSR AND WOODHAWK CREEK

SPECIES	WETLAND STATUS <sup>1</sup>	PALATABILITY (CATTLE) <sup>2</sup>
<i>Agropyron repens</i> (quackgrass)	FACU	Good
<i>Agropyron smithii</i> (western wheatgrass)	FACU	Good
<i>Agrostis stolonifera</i> (redtop)	FACW	Fair
<i>Beckmannia syzigachne</i> (American sloughgrass)	OBL	Good
<i>Bromus inermis</i> (smooth brome)	FAC	Good
<i>Calamagrostis canadensis</i> (bluejoint reedgrass)	FACW	Good
<i>Carex aquatilis</i> (water sedge)	OBL	Good
<i>Carex microptera</i> (small-winged sedge)	FAC	Fair
<i>Carex nebrascensis</i> (Nebraska sedge)	OBL	Good
<i>Carex rostrata</i> (beaked sedge)	OBL	Fair
<i>Deschampsia cespitosa</i> (tufted hairgrass)	FACW	Good
<i>Distichlis spicata</i> (inland saltgrass)	FACW	Fair
<i>Eleocharis acicularis</i> (needle spike-rush)	OBL	Fair
<i>Elymus canadensis</i> (Canada wildrye)	FAC	Fair
<i>Elymus cinereus</i> (basin wildrye)	FACU	Good
<i>Glyceria striata</i> (fowl mannagrass)	OBL	Good
<i>Juncus balticus</i> (Baltic rush)	OBL	Fair
<i>Phalaris arundinacea</i> (reed canarygrass)	FACW	Good
<i>Phragmites australis</i> (common reed)	FACW	Fair
<i>Poa palustris</i> (fowl bluegrass)	FAC	Fair
<i>Poa pratensis</i> (Kentucky bluegrass)	FACU	Good
<i>Puccinellia nuttalliana</i> (Nuttall alkaligrass)	OBL	Fair
<i>Scirpus acutus</i> (hardstem bullrush)	OBL	Fair
<i>Scirpus maritimus</i> (alkali bullrush)	OBL	Fair
<i>Scirpus pungens</i> (sharp bullrush)	OBL	Fair
<i>Spartina pectinata</i> (prairie cordgrass)	OBL	Good

<sup>1</sup> - OBL (obligate wetland), FACW (faculative wetland), FAC (faculative), FACU (faculative upland)

<sup>2</sup> - Good = highly relished and consumed, Fair = moderately relished and consumed