

BIGHORN NATIONAL FOREST

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Land and Resource Management Plan - Draft

# Geographic Areas

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## Introduction

A geographic area is a piece of land, 175,000 acres or smaller, that is used as an intermediate scale analysis unit between the site-specific project scale and the forest scale.

## Relationship to Forest Plan Direction

Geographic areas provide a link between forest planning and project identification, and between forest plan implementation and monitoring. In addition, they provide a landscape view of the ecosystem that a larger or smaller scale cannot adequately address.

Analyses at the geographic area level provide a framework for short and long-term projects, for monitoring the effectiveness of forest-wide and management area standards and guidelines, and for achieving forest-wide goals and objectives. At this level, landscape or watershed issues are identified and other long-range management activities are planned to implement the forest plan based on the preferred alternative.

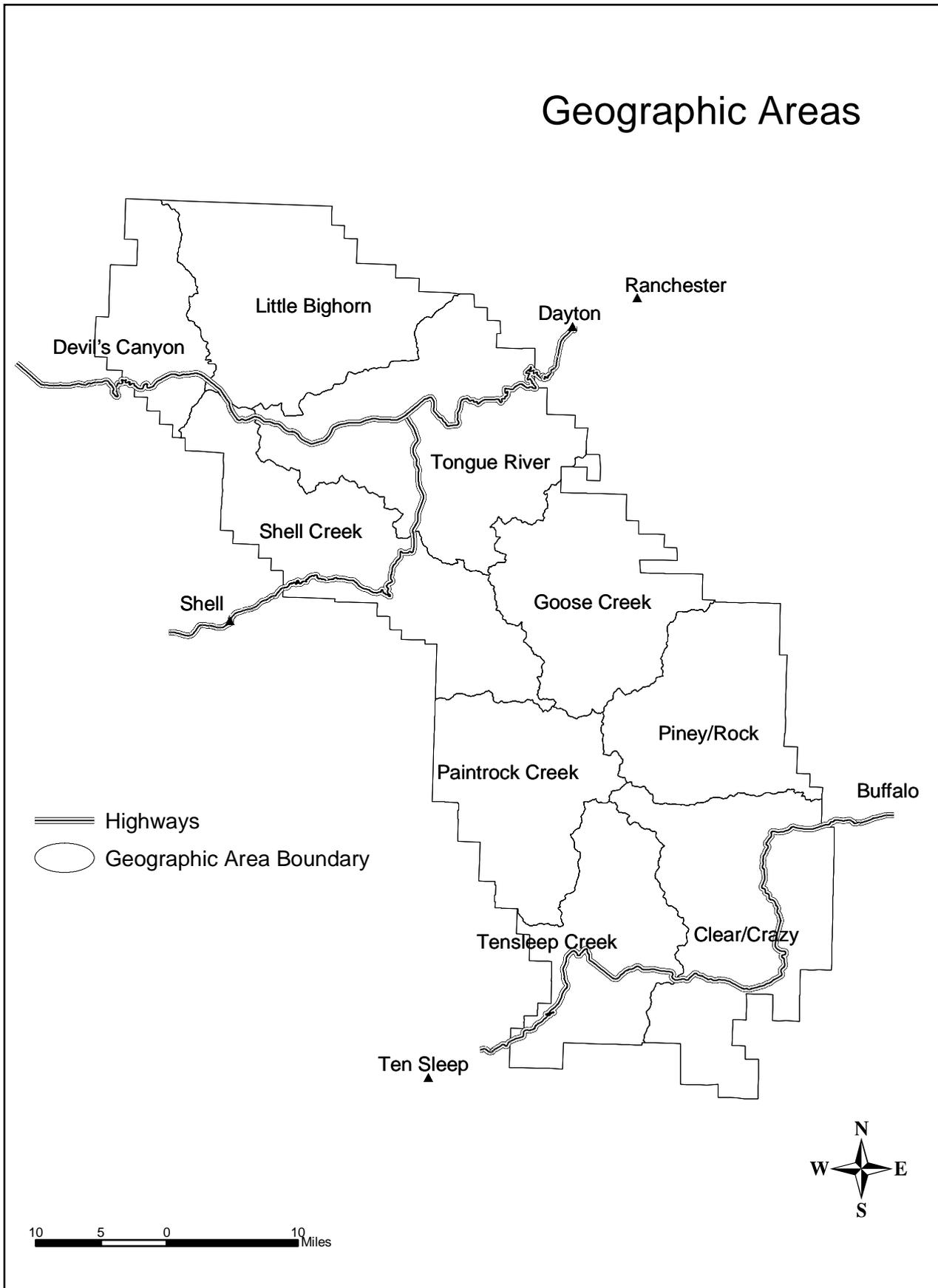
Grouping management area prescriptions at the geographic area level ties land management activities to the landscape scale. There were no separate management standards and guidelines developed for individual geographic areas, although some forest-wide management direction applies to geographic areas (e.g., biodiversity of structural stages – old growth and young seral).

## Desired Condition

Geographic area desired conditions are based on the unique combination of ecological and social processes inherent to the defined area. These descriptions were largely obtained from the forest-wide and geographic area assessments conducted as part of the revision. These descriptions, combined with the management area prescriptions from the preferred alternative, provide a framework for the desired condition of geographic area. Application of the management area prescriptions and associated standards and guidelines will move specific portions of each geographic area toward the desired condition.

GEOGRAPHIC AREAS

Map 3-1. Location of geographic areas on the Bighorn National Forest.



## **Purpose of Geographic Areas**

- ◆ Geographic areas will be the focal point for implementing forest plan decisions based on ecological assessments at various levels in collaboration with other land managers.
- ◆ Geographic areas link the forest plan to management at a landscape or watershed scale.
- ◆ Geographic areas provide flexibility to respond to unique resource situations.
- ◆ Geographic areas provide a tool for better communication with the public.

## **Description of Geographic Areas**

Nine geographic areas have been established on the Bighorn National Forest. They vary in size from 60,891 acres to 174,300 acres. The location of each geographic area is shown in the preceding map.

## Clear Creek/Crazy Woman Creek Geographic Area

### Unique Features

Approximately 154,865 acres occur in this area, with all streams being tributary to the Powder River basin. Located in the southeast corner of the Forest and administered by the Powder River Ranger District, it is well roaded for motorized access purposes as Highway 16 crosses through it, along with the Hazelton Road and the Crazy Woman canyon road as other main access points. Historically, it has had the most development in terms of road construction and timber harvest of any geographic area on the Forest, originating back to the tie hack era. The area was the subject of the first and second landscape assessments conducted on the Forest in support of allotment management plan revisions. It is also the subject of a current travel management planning effort, due to its previous provision of off-road travel opportunities and higher road densities.

Unique features include the rock formations on the edge of the Forest, typically viewed from the Crazy Woman canyon road. Scenic vistas into the Cloud Peak wilderness and several open parks along Highway 16 led to the designation of Highway 16 as a Scenic Byway. Past timber harvests along the highway were conducted to improve scenic opportunities. Summer traffic volume is high as many visitors to the Yellowstone area select this route. The area includes primary access points to the Cloud Peak wilderness, including Circle Park and Hunter Park. Tie Hack Reservoir, constructed in 1998, is a highly used recreation destination within the area, along with several other campgrounds, picnic areas, and trailheads. The Tie Hack Reservoir is also a municipal watershed for the city of Buffalo. The Paradise Guest Ranch, Pines Lodge, and South Fork Inn provide commercial tourism destinations. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. Five small private inholdings occur within the watershed, with summer home cabins on them. Private land developments, primarily cabins, occur just off the National Forest and would likely continue to expand in the Billy Creek, Hazelton, and Dullknife areas. Winter motorized and non-motorized recreation opportunities are both sought in the area.

The historic Sheep Mountain fire lookout shows past management emphasis of forest management and provides a beautiful overlook of the area. Active timber sales continue within the area, primarily in lodgepole pine, with past clearcuts evident being successfully regenerated to provide vegetative diversity. The Lost Fire of 1988 and other historic fires have largely shaped the forested vegetation patterns within the area, with timber harvest comprising a secondary disturbance process.

Livestock grazing occurs throughout the watershed, with management emphasis currently on riparian area improvement. Past tie hack disturbances to riparian areas have largely healed. Moose and elk are common highly visible big game species in the area, with condition of willow resources of concern. Big game winter range is a noted component of the area. Fisheries are non-native and stocked in streams and mountain lakes. Beaver

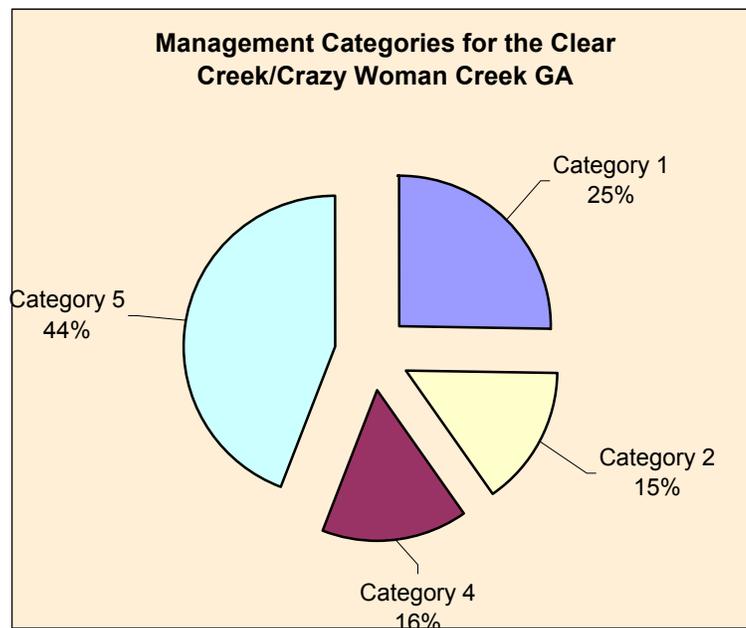
occur in main stream zones with efforts planned to expand their distribution. Old growth lodgepole pine is noted to be unique in the Powder River drainage.

Mineral developments have largely only been for gravel opportunities in support of Highway 16 construction/reconstruction, though the area does contain some of the only potential oil and gas leasing areas with no anticipated development potential.

The Forest maintains the Hunter Creek work center where summer crews are stationed.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Clear Creek/Crazy Woman Creek/Powder River Geographic Area are displayed in the following figure.

Figure 3-1. Clear Creek/Crazy Woman/Powder River management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

**Geographic Area Desired Condition**

Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and non-motorized pursuits (e.g. motorized trails and wilderness). Travel management would continue to implement recently proposed changes through project-level decisions.

The Scenic Byway would continue to have management emphasis as evidenced by the scenery prescription applied to this area. Other existing uses would largely continue, with no additional lodges or other developed sites anticipated other than a potential rest area along Highway 16. There is some potential for interpretive trail construction or designation along this highway corridor.

**GEOGRAPHIC AREAS**

With regard to forested vegetation management, the current and desired structural stages are displayed in the following table for those cover types that may be affected by planned management activities, usually timber harvest or prescribed fire. Wildfire and insect and disease activity is not shown in this table as they are not planned.

Table 3-1. Acres of current, desired, and anticipated forested structural stages in Clear Creek/Crazy Woman.

|  |   | <b>Spruce-fir</b> | <b>Lodgepole</b> |
|--|---|-------------------|------------------|
| Current Habitat Structural Stage (HSS)   | 1 | 0                 | 3,500            |
|  | 2 | 464               | 7,104            |
|  | 3 | 10,290            | 62,312           |
|  | 4 | 7,133             | 19,709           |
| HSS in 10 to 15 years <sup>1</sup><br><i>(Will be completed for Final Forest Plan)</i> | 1 |                   |                  |
|  | 2 |                   |                  |
|  | 3 |                   |                  |
|  | 4 |                   |                  |
| HSS – Desired in 50 years<br><i>(Will be completed for Final Forest Plan)</i>          | 1 |                   |                  |
|  | 2 |                   |                  |
|  | 3 |                   |                  |
|  | 4 |                   |                  |

Lodgepole pine will continue to be the dominant cover type and the most actively managed. Past pole cutting areas would likely continue to be provided. Ponderosa pine would likely continue to be in an atypical condition class due to fire suppression as it primarily occurs along the faces on the edge of the Forest, and no residential communities exist that would provide an impetus for management treatment.

There will be quality habitat in big game winter range along the eastern edge of the area, following the Hospital Hill ridge. In riparian areas, vegetation/condition will include a mix of seral stages, including various age classes of aspen and willow, with monitoring to determine carrying capacity of ungulate use. Elk security habitat would be emphasized in the Doyle Creek area.

Aspen resources exist as small pockets on the fringe of conifer stands, primarily in drainage bottoms, and are characterized by conifer succession and ungulate browsing of regeneration that will be addressed through management efforts. Past regeneration treatments are evident in several areas, though predominantly mature conditions persist.

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<sup>1</sup> The anticipated condition represents what may be completed from planned silvicultural treatments (harvest and prescribed fire). Wildfire, wildland fire use, or other natural disturbances (insects and disease, blowdown) could significantly alter what actually occurs.

## Tensleep Creek Geographic Area

### Unique Features

A total of approximately 100,331 acres occur in this area, with all streams being tributary to the Big Horn River basin. Located in the southwest corner of the Forest and administered by the Powder River Ranger District, it is well roaded for motorized access purposes as Highway 16 crosses through it. Historically, it has had some development in terms of road construction and timber harvest. There are two proposed Research Natural Areas in the Tensleep Geographic Area. Leigh Creek is a remote sedimentary canyon encompassing approximately 1,500 acres. The McClain Lake proposed Research Natural Area (approximately 2,300 acres) is also in this watershed. A historical American Indian travel route occurs near the Meadowlark Lake area as well.

Unique features include the rock formations in Tensleep Canyon and Leigh Creek, easily viewed from Highway 16. Rock climbing has become a popular recreation use in the canyon. Scenic vistas into the Cloud Peak wilderness and several open parks along Highway 16 led to the designation of Highway 16 as a Scenic Byway. Summer traffic volume becomes high as many visitors to the Yellowstone area select this route. The area includes the most heavily used access point to the Cloud Peak wilderness, the West Tensleep Lake trailhead. Meadowlark Lake is a highly used recreation destination within the area, along with several other campgrounds, picnic areas, and trailheads. The Meadowlark Lake and DeerHaven lodges provide commercial tourism destinations. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. The Big Horn ski area is one of two developed downhill ski areas on the Forest, and is located on Meadowlark Lake. Winter motorized and non-motorized recreation opportunities are both sought in the area. Summer home cabins are concentrated along the West Tensleep road and near Meadowlark Lake. There are five private inholdings within the watershed, all largely undeveloped. Other private cabins occur in Tensleep Canyon and in Onion Gulch adjacent to the Forest, and the Nature Conservancy operates the Tensleep Preserve near the Forest as well.

The historic High Park fire lookout provides a scenic overlook of the area. Active timber sales continue within the area, primarily in lodgepole pine. Past clearcuts are being successfully regenerated and are providing vegetative diversity. The Meadowlark Fire and other historic fires have largely shaped the forested vegetation patterns within the area, with timber harvest comprising a secondary disturbance process. The large die-off of trees in Tensleep Canyon is attributable to whitepine blister rust occurring in the limber pine trees and to mortality from the Douglas-fir beetle and ponderosa pine mortality from mountain pine beetle. The geographic area has many shrubland and grass openings interspersed with forested stands.

Livestock grazing occurs throughout the watershed, with management emphasis currently on riparian area improvement. Deer and elk are common highly visible big game species

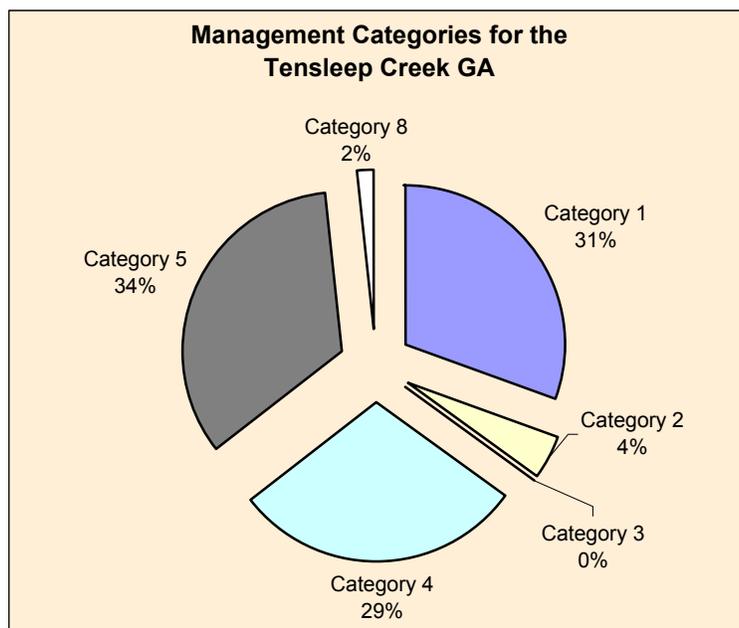
## GEOGRAPHIC AREAS

in the area. Big game winter range is a noted component of the area on the western edge, and peregrine falcons have reestablished an aerie in the canyon. Fisheries are non-native and stocked in streams and mountain lakes. The Tensleep Fish Hatchery, operated by the WGFD, is located on NFS land near the Forest boundary in the canyon. Beaver are largely absent from the area. Sage grouse occur in the summer in several areas of the watershed.

Mineral developments have largely only been for gravel opportunities in support of Highway 16 construction/reconstruction. The Forest maintains the Tyrell work center along the West Tensleep road where summer crews are stationed.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Tensleep Geographic Area are listed in the following figure.

Figure 3-2. Tensleep Creek management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Desired Condition

Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and non-motorized pursuits (e.g. motorized trails and wilderness). The Scenic Byway would continue to have management emphasis as evidenced by the scenery prescription applied to this area. Other existing uses would largely continue, with no additional lodges or other sites developed other than a potential rest area along Highway 16. There is some potential for interpretive trail construction or designation along this highway corridor.

**G E O G R A P H I C   A R E A S**

With regard to forested vegetation management, the current and desired structural stages are displayed in the following table for those cover types that may be affected by planned management activities, usually timber harvest or prescribed fire. Wildfire and insect and disease activity is not shown in this table as they are not planned.

Table 3-2. Acres of current, desired, and anticipated forested structural stages in Tensleep Creek.

|   |   | <b>Spruce-fir</b> | <b>Lodgepole</b> |
|---|---|-------------------|------------------|
| Current Habitat Structural Stage (HSS)  | 1 | 0                 | 760              |
|   | 2 | 0                 | 415              |
|   | 3 | 6,527             | 16,655           |
|   | 4 | 8,557             | 9,707            |
| HSS in 10 to 15 years<br><i>(Will be completed for Final Forest Plan)</i>     | 1 |                   |                  |
|   | 2 |                   |                  |
|   | 3 |                   |                  |
|   | 4 |                   |                  |
| HSS – Desired in 50 years<br><i>(Will be completed for Final Forest Plan)</i> | 1 |                   |                  |
|   | 2 |                   |                  |
|   | 3 |                   |                  |
|   | 4 |                   |                  |

Lodgepole pine will continue to be the dominant cover type and the most actively managed. Ponderosa pine would likely continue to be in an atypical condition class due to fire suppression as it primarily occurs along the faces on the edge of the Forest. However, a currently proposed management project may seek to alter these conditions in the area.

There will be quality habitat in big game winter range along the western edge of the area, near the mouth of Tensleep canyon. In riparian areas, vegetation/condition will include a mix of seral stages, including various age classes of aspen and willow. This area has the least potential and least existing elk security habitat on the Forest.

Aspen resources exist as small pockets on the fringe of conifer stands, primarily in drainage bottoms, and are characterized by conifer succession and ungulate browsing of regeneration that will be addressed through management efforts.

## Paintrock Creek Geographic Area

### Unique Features

A total of approximately 107,912 acres occur in this area, with all streams being tributary to the Big Horn River basin. Located near the southwest corner of the Forest and administered by the Medicine Wheel/Paintrock Ranger District, it is a more remote geographic area with no highways in it. Historically, it has had some development in terms of road construction and timber harvest, mainly near the Cold Springs and Paintrock Lakes area.

Unique features include the rock formations in Paintrock Canyon. Scenic vistas into the Cloud Peak wilderness at its summit and several open parks occur along access roads. Paintrock Lakes is a highly used recreation destination within the area, along with several other campgrounds, picnic areas, and trailheads. The Paint Rock Lodge is also located in this area, providing commercial tourism opportunities. The Battle Park trailhead is a favorite wilderness access point for horse riders. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. Winter motorized and nonmotorized recreation opportunities are both sought in the area. There are no private inholdings within the watershed. Several concentrations of historical Native American archaeological sites occur within the Battle Park area.

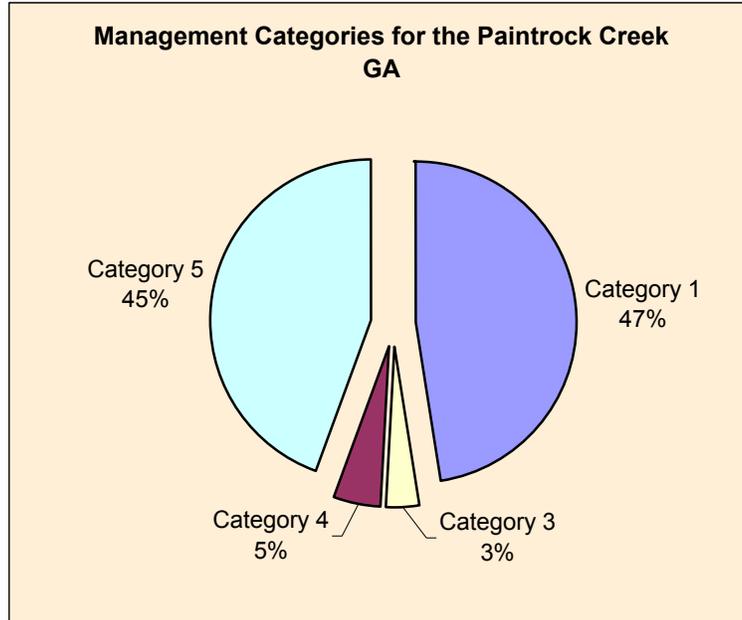
Timber harvest has played a minor role in this geographic area. Historic fires have largely shaped the forested vegetation patterns within the area, with timber harvest comprising a minor secondary disturbance process. The geographic area has many shrubland and grass openings interspersed with 52% of the area that is forested.

Livestock grazing occurs throughout the watershed, with management emphasis currently on riparian area improvement. Deer and elk are common highly visible big game species in the area. Big game winter range is a small component of the area on the western edge. Fisheries are non-native and stocked in streams and mountain lakes, with one population of Yellowstone cutthroat trout in Paintrock Creek. Beaver are largely absent from the area. Sage grouse are known to occur in some areas in the summer.

Mineral developments have largely only been for gravel opportunities in support of road construction and are very small in size. The Forest maintains a small guard station at Paintrock Lakes.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Paintrock Creek Geographic Area are listed in the following figure.

Figure 3-3. Paintrock Creek management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

**Geographic Area Desired Condition**

Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and non-motorized pursuits (e.g. motorized trails and wilderness). Other existing uses would largely continue, with no additional lodges or other sites developed.

With regard to forested vegetation management, the current and desired structural stages are displayed in the following table for those cover types that may be affected by planned management activities, usually timber harvest or prescribed fire. Wildfire and insect and disease activity are not shown in this table as they are not planned.

**GEOGRAPHIC AREAS**

Table 3-3. Acres of current, desired, and anticipated forested structural stages in Paintrock Creek

|   |   | <b>Spruce-fir</b> | <b>Lodgepole</b> | <b>Douglas-fir</b> |
|---|---|-------------------|------------------|--------------------|
|   | 1 | 0                 | 31               | 0                  |
| Current Habitat Structural Stage (HSS)  | 2 | 221               | 126              | 221                |
|   | 3 | 10,081            | 15,921           | 4,705              |
|   | 4 |                   |                  |                    |
|   | 5 |                   |                  |                    |
| HSS in 10 to 15 years<br><i>(Will be completed for Final Forest Plan)</i>     | 1 |                   |                  |                    |
|   | 2 |                   |                  |                    |
|   | 3 |                   |                  |                    |
|   | 4 |                   |                  |                    |
| HSS – Desired in 50 years<br><i>(Will be completed for Final Forest Plan)</i> | 1 |                   |                  |                    |
|   | 2 |                   |                  |                    |
|   | 3 |                   |                  |                    |
|   | 4 |                   |                  |                    |

Lodgepole pine (27%) and spruce-fir (19%) will continue to be the dominant cover types and the most actively managed. There are minor amounts of ponderosa pine in this watershed.

There will be quality habitat in big game winter range along the western edge of the area. In riparian areas, vegetation/condition will include a mix of seral stages, including various age classes of aspen and willow. This area has minimal potential and existing elk security habitat on the Forest.

Aspen resources exist as small pockets on the fringe of conifer stands, primarily in drainage bottoms, and are characterized by conifer succession and ungulate browsing of regeneration that will be addressed through management efforts. There are some larger aspen and willow communities unique to this area near Willow Swamp.

## Shell Creek Geographic Area

### Unique Features

A total of approximately 139,974 acres occur in this area, with all streams being tributary to the Big Horn River basin. Located on the western flank of the Forest and administered by the Medicine Wheel/Paintrock Ranger District, it is well roaded for motorized access purposes as Highway 14 crosses through it. Historically, it has had some development in terms of road construction and timber harvest. Shell Creek canyon has remote areas, and includes the Shell Creek Research Natural Area (approximately 730 acres).

Unique features include the rock formations in Shell Canyon, easily viewed from Highway 14. The Shell Falls Visitor Center is a highly visited site due to the water falls and interpretive trail located adjacent to it. Scenic vistas in Shell Canyon and into the Cloud Peak wilderness at its summit and several open parks along Highway 14 lead to the designation of Highway 14 as a Scenic Byway. Summer traffic volume becomes high as many visitors to the Yellowstone area select this route. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. Antelope Butte ski area provides the larger of two developed ski area opportunities on the Forest. The Ranger Creek Lodge provides commercial tourism opportunities. Winter motorized and non-motorized recreation opportunities are both sought in the area. Summer home cabins are concentrated along Shell Creek and near the Antelope Butte area. There is one private inholding (157 acres) within the watershed.

Active timber sales have been almost nonexistent in this watershed with only a few hundred acres of harvest in the past few decades. The Shell Canyon Fire and other historic fires have largely shaped the forested vegetation patterns within the area, with timber harvest comprising a secondary disturbance process. The large die-off of Douglas-fir trees in Shell Canyon is largely attributable to the Douglas-fir beetle. The geographic area has a nearly equal mix of forested and non-forested cover types making it naturally quite diverse.

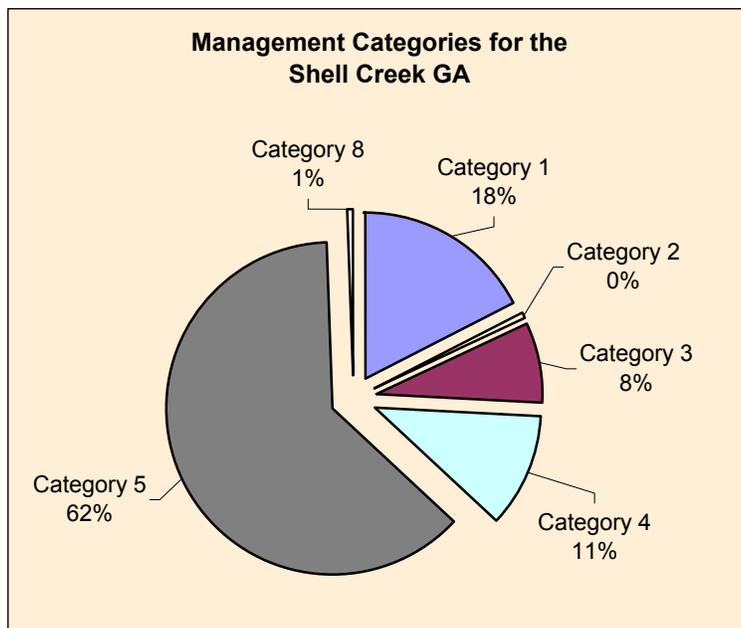
Livestock grazing occurs throughout the watershed, with management emphasis currently on riparian area improvement. Deer and elk are common highly visible big game species in the area. Big game winter range is a noted component of the area on the western edge, and peregrine falcons have reestablished an aerie in Shell canyon. Fisheries are non-native and stocked in streams and mountain lakes, with one population of Yellowstone cutthroat trout in Deer Creek. Beaver are largely absent from the area. There are still bighorn sheep in the area following reintroduction in the early 1990s; however, populations continue to decline due to a variety of factors. Bighorn sheep use high alpine summer range and migrate to the west edge of the Forest in the winter. Sage grouse are also known to occur in the summer. Prescribed burns within Shell Canyon and sagebrush dominated mesas within the area have had been used to alter seral stages, although mature conditions in brush cover types continue to dominate the landscape.

## GEOGRAPHIC AREAS

Mineral developments have largely only been for gravel opportunities in support of road construction/reconstruction. The Forest maintains the Shell Creek work center where summer crews are stationed.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Shell Creek Geographic Area are listed in the following figure.

Figure 3-4. Shell Creek management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Desired Condition

Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and non-motorized pursuits (e.g. motorized trails and wilderness). The Scenic Byway would continue to have management emphasis as evidenced by the scenery prescription applied to this area. Other existing uses would largely continue, with no additional lodges or other sites developed.

With regard to forested vegetation management, the current and desired structural stages are displayed in the following table. Most forested areas would likely continue to mature, except where natural disturbances occur. Although less than other watersheds, the use of 5.13 management prescription in this area is anticipated to allow continued active management for timber harvest and structural diversity, suppressing insect and disease outbreaks where feasible and having low likelihood for wildland fire use lower in the watershed. Old growth may occur above the levels prescribed by forest-wide direction due to more remote areas that occur.

**G E O G R A P H I C   A R E A S**

Table 3-4. Acres of current, desired, and anticipated forested structural stages in Shell Creek GA.

|   |   | <b>Spruce-fir</b> | <b>Lodgepole</b> | <b>Douglas-fir</b> |
|---|---|-------------------|------------------|--------------------|
| Current Habitat Structural Stage (HSS)  | 1 | 0                 | 30               | 0                  |
|   | 2 | 0                 | 23               | 0                  |
|   | 3 | 10,964            | 7,244            | 15,086             |
|   | 4 | 15,661            | 4,485            | 9032               |
| HSS in 10 to 15 years<br><i>(Will be completed for Final Forest Plan)</i>     | 1 |                   |                  |                    |
|   | 2 |                   |                  |                    |
|   | 3 |                   |                  |                    |
|   | 4 |                   |                  |                    |
| HSS – Desired in 50 years<br><i>(Will be completed for Final Forest Plan)</i> | 1 |                   |                  |                    |
|   | 2 |                   |                  |                    |
|   | 3 |                   |                  |                    |
|   | 4 |                   |                  |                    |

Spruce-fir (20%) and Douglas-fir (17%) are the dominant cover types in the geographic area. However, lodgepole pine, although a minor component, will be the most actively managed. Some management activities may occur to promote fire breaks in the summer home and more developed areas of the canyon. More juniper and limber pine also occur in this watershed.

There will be quality habitat in big game winter range along the western edge of the area, near the mouth of Shell canyon. In riparian areas, vegetation/condition will include a mix of seral stages, including various age classes of aspen and willow. This area has little potential and existing elk security habitat. Prescribed burning in brush habitats would likely continue to be emphasized.

Aspen resources exist as small pockets on the fringe of conifer stands, primarily in drainage bottoms, and are characterized by conifer succession and ungulate browsing of regeneration that will be addressed through management efforts. Past regeneration treatments are also evident in larger stands of aspen in upper Shell Creek near the work center.

## Devil Canyon Geographic Area

### Unique Features

A total of approximately 60,891 acres occur in this area, with all streams being tributary to the Big Horn River basin. Located on the northwest corner of the Forest and administered by the Medicine Wheel/Paintrock Ranger District, it is well roaded for motorized access purposes as Highway 14A crosses through it. Historically, it has had some development in terms of road construction and timber harvest. The most notable feature of the area is the Medicine Wheel archaeological and interpretive site, though several other archaeological sites also occur on other peaks in the area. Devil Canyon is a remote canyon with striking rock formations and two waterfalls, Porcupine Falls and Bucking Mule Falls.

Unique features include the Bucking Mule Falls National Recreation Trail. The scenic vistas and canyons have also lead to the designation of Highway 14A as a scenic byway. There is no wilderness or wilderness access points in the area. Summer traffic volume becomes high as many visitors to the Yellowstone area select this route. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. The High Country Outfitters Lodge provides commercial tourism opportunities. Winter motorized and non-motorized recreation opportunities are both sought in the area. Summer home cabins are concentrated near the Porcupine guard station. There are no private inholdings within the watershed; there is one state inholding of approximately 306 acres. Rare plant species are more common in this geographic area due to the unique combination of high elevation and sedimentary substrate.

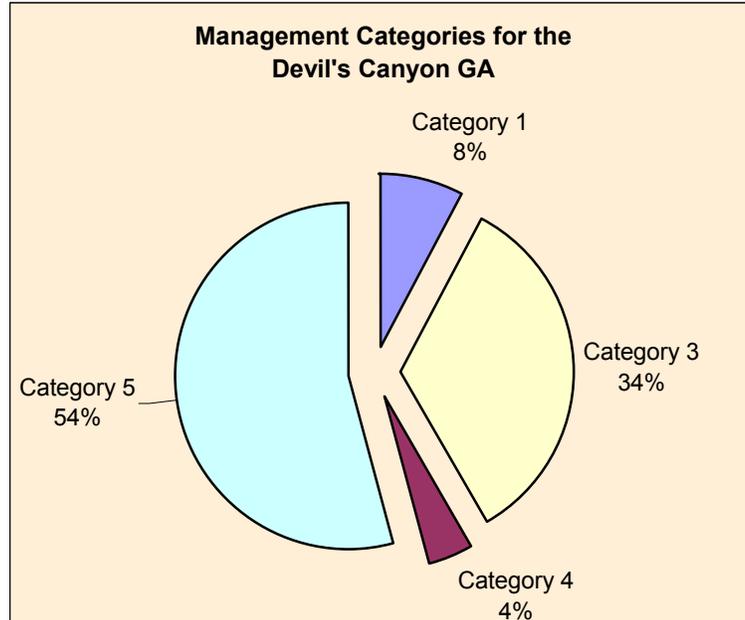
Timber sales have occurred in the area, primarily in lodgepole pine and spruce-fir. Past clearcuts have successfully regenerated to provide vegetative diversity. The Intermission Fire and other historic fires were important mechanisms for shaping the forested vegetation patterns within the area; timber harvest also contributed to the disturbance process in the geographic area. The geographic area has many shrubland and grass openings interspersed with forested stands.

Livestock grazing occurs throughout the watershed, with management emphasis currently on riparian area improvement. Deer and elk are common highly visible big game species in the area. Big game winter range is a small component of the area on the western edge. Fisheries are non-native and stocked in streams and mountain lakes, with one population of Yellowstone cutthroat trout in Porcupine Creek. Beaver are largely absent from the area.

Mineral developments have largely only been for gravel opportunities in support of Highway 14 construction/reconstruction. The Forest maintains the Porcupine work center where summer crews are stationed.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Devil Canyon Geographic Area are listed in the following figure.

Figure 3-5. Devil Canyon management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

**Geographic Area Desired Condition**

Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and nonmotorized pursuits (e.g. motorized trails and back-country non-motorized trails). The Medicine Wheel Special Interest Area dominates the recreation setting for the area.

The Scenic Byway would continue to have management emphasis as evidenced by the scenery prescription applied to this area. Other existing uses would largely continue, with no additional lodges or other anticipated site development.

With regard to forested vegetation management, the current and desired structural stages are displayed in the following table. Unsited areas would likely continue to mature, except where natural disturbances occur. Although less than other watersheds, the use of 5.11, 5.12, and 5.13 management area prescriptions is anticipated to allow continued active management for timber harvest and structural diversity, suppressing insect and disease outbreaks where feasible and having low likelihood for wildland fire use lower in the watershed. Old growth may occur above the levels prescribed by forest-wide direction due to more remote areas that occur.

**GEOGRAPHIC AREAS**

Table 3-5. Acres of current, desired, and anticipated forested structural stages in Devil Canyon GA.

|   |   | <b>Spruce-fir</b> | <b>Lodgepole</b> | <b>Douglas-fir</b> |
|---|---|-------------------|------------------|--------------------|
|   | 1 |                   |                  |                    |
| Current Habitat Structural Stage (HSS)  | 2 |                   |                  |                    |
|   | 3 | 7,796             | 1,109            | 6,358              |
|   | 4 | 9,058             | 3,400            | 7,107              |
|   |   |                   |                  |                    |
| HSS in 10 to 15 years<br><i>(Will be completed for Final Forest Plan)</i>     | 1 |                   |                  |                    |
|   | 2 |                   |                  |                    |
|   | 3 |                   |                  |                    |
|   | 4 |                   |                  |                    |
| HSS – Desired in 50 years<br><i>(Will be completed for Final Forest Plan)</i> | 1 |                   |                  |                    |
|   | 2 |                   |                  |                    |
|   | 3 |                   |                  |                    |
|   | 4 |                   |                  |                    |

Spruce-fir (28%) and Douglas-fir (22%) will continue to be the dominant cover type, although lodgepole pine may be the most actively managed. Some management activities may occur to promote fire breaks in the summer home and more developed areas.

There will be quality habitat in big game winter range along the western edge of the area. In riparian areas, vegetation/condition will include a mix of seral stages, including various age classes of aspen and willow. This area has little potential and existing elk security habitat, though elk are known to highly use the area as they migrate north and west for winter range.

Aspen resources exist as small pockets on the fringe of conifer stands, primarily in drainage bottoms, and are characterized by conifer succession and ungulate browsing of regeneration that will be addressed through management efforts. Aspen is nearly non-existent in this geographic area as compared to others.

## Little Bighorn River Geographic Area

### Unique Features

A total of approximately 141,815 acres occur in this area, with all streams being tributary to the Little Bighorn River. Located on the northeast corner of the Forest and administered by both the Medicine Wheel/Paintrock Ranger District and the Tongue Ranger District, it is well roaded for motorized access purposes as Highway 14A crosses through it. Historically, it has had some development in terms of road construction and timber harvest, though only in headwater portions of watersheds. Little Bighorn River is a remote canyon with striking rock formations. There is one existing and one proposed Research Natural Areas (RNAs) in this geographic area: Bull Elk Park RNA (1,719 acres) and the proposed Mann Creek RNA (approximately 7,000 acres).

Unique features include the Bald Mountain City historic site. The Forest Service nominated the Little Bighorn and Dry Fork Rivers for inclusion in the Wild and Scenic River system; however, Congress never acted on the proposed designation. Little Bighorn is one of the most primitive recreation areas on the Forest outside the Cloud Peak Wilderness. The scenic vistas and canyons have also lead to the designation of Highway 14A as a scenic byway. There is no wilderness or wilderness access points in the area. Summer traffic volume becomes high as many visitors to the Yellowstone area select this route. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. There are no commercial lodges in the area. Winter motorized and non-motorized recreation opportunities are both sought in the area. Summer home cabins are concentrated near the mouth of the Little Bighorn River. There are no private inholdings within the watershed.

Timber harvest has been an important influence in the upper portion of the geographic area. Past clearcuts are successfully regenerating, providing vegetative diversity. Vegetation patterns in the area were shaped by fires in the early 1900s. The geographic area has many shrubland and grass openings interspersed with forested stands.

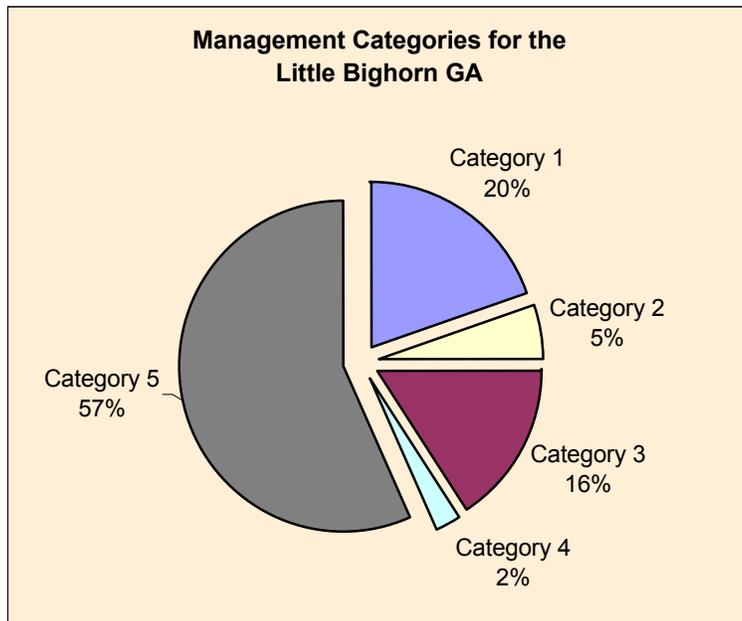
Livestock grazing occurs throughout the watershed, with management emphasis currently on riparian area improvement. Deer and elk are common highly visible big game species in the area. Big game winter range is a small component of the area on the western edge. Fisheries are non-native and stocked in streams and mountain lakes, with populations of Yellowstone cutthroat trout in the Little Bighorn River. Beaver are largely absent from the area.

Mineral developments have largely only been for gravel opportunities in support of road construction/reconstruction. The Kerns Big Game Winter Range occurs adjacent to the area on the eastern edge of the Forest, and is managed by the WGFD. The Crow Indian Reservation (in Montana) is north of this geographic area.

## GEOGRAPHIC AREAS

**Management Area Prescription Allocation** – The management area prescriptions applied to the Little Bighorn River Geographic Area are listed in the following figure.

Figure 3-6. Little Bighorn River management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Desired Condition

Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and non-motorized pursuits (e.g. motorized trails and back-country nonmotorized).

Current and desired structural stages for forested vegetation are displayed in the following table. Unsited forest areas would likely continue to mature, except where natural disturbances occur. Although less than other watersheds, the use of 5.13 management prescription in this area is anticipated to allow continued active management for timber harvest and structural diversity, suppressing insect and disease outbreaks where feasible and having low likelihood for wildland fire use lower in the watershed. Old growth may occur above the levels prescribed by forest-wide direction due to more remote areas that occur.

Table 3-6. Acres of current, desired, and anticipated forested structural stages in the Little Bighorn River geographic area.

|   |   | Spruce-fir | Lodgepole | Douglas-fir |
|---|---|------------|-----------|-------------|
|   | 1 |            |           |             |
| Current Habitat Structural Stage (HSS)  | 2 | 1,102      | 97        |             |
|   | 3 | 17,212     | 8,138     | 19,251      |
|   | 4 | 26,041     | 3,186     | 11,563      |
|   |   |            |           |             |
| HSS in 10 to 15 years<br><i>(Will be completed for Final Forest Plan)</i>     | 1 |            |           |             |
|   | 2 |            |           |             |
|   | 3 |            |           |             |
|   | 4 |            |           |             |
| HSS – Desired in 50 years<br><i>(Will be completed for Final Forest Plan)</i> | 1 |            |           |             |
|   | 2 |            |           |             |
|   | 3 |            |           |             |
|   | 4 |            |           |             |

Spruce-fir (31%) and Douglas-fir (22%) will continue to be the dominant cover types; however, lodgepole pine may be the most actively managed. Some management activities may occur to promote fire breaks in the summer home and more developed areas, and proposed prescribed burns in the area will seek to alter structural stages of forested stands.

There will be quality habitat in big game winter range along the eastern edge of the area. In riparian areas, vegetation/condition will include a mix of seral stages, including various age classes of aspen and willow. This geographic area has some of the most potential and existing elk security habitat.

Aspen resources exist as small pockets on the fringe of conifer stands, primarily in drainage bottoms, and are characterized by conifer succession and ungulate browsing of regeneration that will be addressed through management efforts. Several larger aspen stands occur in the Dry Fork area, some of which have had regeneration treatments.

## Tongue River Geographic Area

### Unique Features

A total of approximately 174,300 acres occur in this area, with all streams being tributary to the Tongue River, later merging into the Yellowstone River. Located on the northeast flank of the Forest and administered by the Tongue Ranger District, it is well roaded for motorized access purposes as Highway 14 crosses through it. Historically, it has had considerable development in terms of road construction and timber harvest. Tongue River canyon is a popular recreation site with striking rock formations including Steamboat Rock and Twin Buttes. The Burgess Visitor Center is a highly developed and visited destination site in the area. There are no Research Natural Areas within the area.

Unique features include the historic tie hacking sites and associated splash dams and flumes still intact in the watershed. The scenic vistas and canyons have also led to the designation of Highway 14 as a scenic byway. Sibley Lake is a popular recreation destination, and includes a popular cross-country ski trail system. There is no wilderness or wilderness access points in the area. Summer traffic volume becomes high as many visitors to the Yellowstone area select this route. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. Bear Lodge, Arrowhead Lodge, and Big Horn Mountain Lodge all provide commercial tourism opportunities. Winter motorized and non-motorized recreation opportunities are both sought in the area. Summer home cabins are concentrated in the Woodrock and Burgess Junction areas. One large private inholding occurs in the area near Burgess Junction. The historic Black Mountain fire lookout provides a unique vista opportunity for the area.

Active timber sales continue within the area, primarily in lodgepole pine, with past clearcuts evident being successfully regenerated to provide vegetative diversity. Historic fires and timber harvest have largely shaped the forested vegetation patterns within the geographic area. The geographic area has many shrubland and grass openings interspersed with forested stands. Timber harvest is a larger component of the uses as compared to other watersheds.

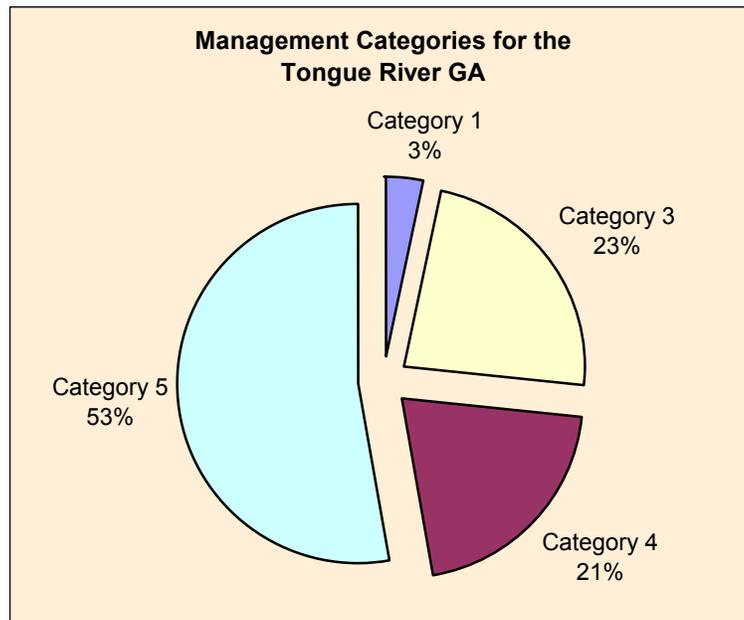
Livestock grazing occurs throughout the watershed, with management emphasis currently on riparian area improvement, particularly along the Tongue River. Moose, deer, and elk are common highly visible big game species in the area. Big game winter range is a small component of the area on the eastern edge. Fisheries are non-native and stocked in streams and mountain lakes, with one population of Yellowstone cutthroat trout in the Tongue River. The Tongue River is a highly used recreational fishery. Beaver are present in the upper watershed areas.

Mineral developments have largely only been for gravel opportunities for Highway 14 construction/reconstruction. The Forest maintains the Burgess Ranger Station, and the smaller Woodrock Guard Station for summer crews. The Highway Department also has a

large facility at Burgess Junction. The Amsden Big Game Winter Range occurs adjacent to the area on the eastern edge of the Forest, and is managed by the WGFD.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Tongue River Geographic Area are listed in the following figure.

Figure 3-7. Tongue River management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

**Geographic Area Desired Condition**

Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and non-motorized pursuits (e.g. motorized trails and back-country non-motorized).

The Scenic Byway would continue to have management emphasis as evidenced by the scenery prescription applied to this area. Other existing uses would largely continue, with no additional lodges or other sites developed. Tongue River would continue to be emphasized as a high quality fishery.

With regard to forested vegetation management, the current and desired structural stages are displayed in the following table. Unsuitable forest areas would likely continue to mature, except where natural disturbances occur. The use of 5.11, 5.12, and 5.13 management area prescriptions is anticipated to allow continued active management for timber harvest and structural diversity, suppressing insect and disease outbreaks where feasible and having low likelihood for wildland fire use. Old growth would not likely occur above the levels prescribed by forest-wide direction.

**G E O G R A P H I C   A R E A S**

Table 3-7. Acres of current, desired, and anticipated forested structural stages in the Tongue River Geographic Area.

|   |   | <b>Spruce-fir</b> | <b>Lodgepole</b> | <b>Douglas-fir</b> |
|---|---|-------------------|------------------|--------------------|
|   | 1 |                   |                  |                    |
| Current Habitat Structural Stage (HSS)  | 2 | 217               | 1,255            |                    |
|   | 3 | 30,719            | 43,029           | 5,170              |
|   | 4 | 14,677            | 14,873           | 2,948              |
|   |   |                   |                  |                    |
| HSS in 10 to 15 years<br><i>(Will be completed for Final Forest Plan)</i>     | 1 |                   |                  |                    |
|   | 2 |                   |                  |                    |
|   | 3 |                   |                  |                    |
|   | 4 |                   |                  |                    |
| HSS – Desired in 50 years<br><i>(Will be completed for Final Forest Plan)</i> | 1 |                   |                  |                    |
|   | 2 |                   |                  |                    |
|   | 3 |                   |                  |                    |
|   | 4 |                   |                  |                    |

Lodgepole pine and spruce-fir will continue to be the dominant cover type and the most actively managed.

There will be quality habitat in big game winter range just off the Forest along the eastern edge of the area. In riparian areas, vegetation/condition will include a mix of seral stages, including various age classes of aspen and willow. This area has some potential but little existing elk security habitat.

Aspen resources exist as small pockets on the fringe of conifer stands, primarily in drainage bottoms, and are characterized by conifer succession and ungulate browsing of regeneration that will be addressed through management efforts. Several larger aspen stands occur in the Burgess Junction area, some of which have had regeneration treatments.

## Goose Creek Geographic Area

### Unique Features

A total of approximately 114,891 acres occur in this area, with all streams being tributary to the Goose Creek, later merging into the Tongue and Yellowstone Rivers. Located on the east flank of the Forest and administered by the Tongue Ranger District, it is well roaded for motorized access purposes, with the Red Grade road crossing through it. Historically, it has had relatively little road construction and timber harvest. There are no Research Natural Areas within the area.

Scenic vistas and dispersed recreation are the main attractions to the area. A historic Native American trail occurs in the remote Walker Prairie area. Wilderness access includes the Coffeen Park trailhead. This area is a favorite among Sheridan area residents as a weekend destination, and numerous summer cabins occur both within and adjacent to the Forest. Sheridan gets its municipal water from the Big Goose watershed, and the Twin Lakes reservoir was constructed for this purpose. Other reservoirs are also used for irrigation water purposes. The Spear o' Wigwam resort provides commercial tourism opportunities in the watershed. Winter motorized and non-motorized recreation opportunities are both sought in the area. Motorized trails are highly used by ATVs in the Little Goose area. Private inholdings occur near Big Goose, at Dome Lake, and in the Bighorn reservoir areas.

Active timber sales continue within the area, primarily in lodgepole pine, with past clearcuts evident being successfully regenerated to provide vegetative diversity. Historic fires and past timber harvest have largely shaped the forested vegetation patterns within the area. The geographic area is one of the most heavily forested on the Bighorn National Forest, with correspondingly low levels of natural diversity.

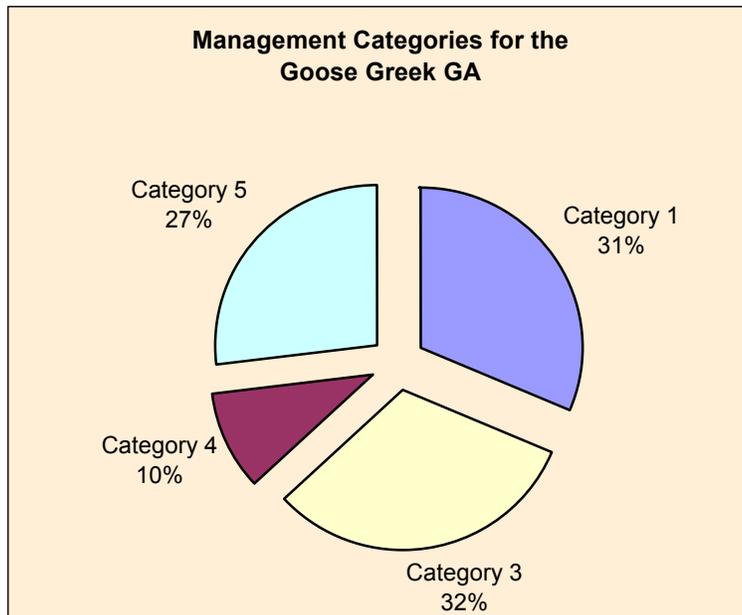
Livestock grazing occurs throughout the watershed, with management emphasis currently on riparian area improvement. Moose, deer, and elk are common highly visible big game species in the area. Big game winter range is a small component of the area on the eastern edge. Fisheries are non-native and stocked in streams and mountain lakes. Beaver are present in the upper watershed areas, though very limited.

Mineral developments have largely only been for gravel opportunities in support of road construction/reconstruction. The Forest maintains the Big Goose guard station for summer crews.

## GEOGRAPHIC AREAS

**Management Area Prescription Allocation** – The management area prescriptions applied to the Goose Creek Geographic Area are shown in the following figure.

Figure 3-8. Goose Creek management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Desired Condition

Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and non-motorized pursuits (e.g. motorized trails and wilderness). Prior and currently proposed travel management decisions would continue to be implemented.

Current and desired structural stages are displayed in the following table. for those cover types anticipated to have active management. Unsited forest areas would likely continue to mature, except where natural disturbances occur. The use of 5.13 management prescription in this area is anticipated to allow continued active management for timber harvest and structural diversity, suppressing insect and disease outbreaks where feasible and having low likelihood for wildland fire use. Old growth would not likely occur above the levels prescribed by forest-wide direction.

Table 3-8. Acres of current, desired, and anticipated forested structural stages in the Goose Creek Geographic Area.

|   |   | Spruce-fir | Lodgepole | Douglas-fir |
|---|---|------------|-----------|-------------|
|   | 1 |            |           |             |
| Current Habitat Structural Stage (HSS)  | 2 |            |           |             |
|   | 3 | 16,616     | 48,688    | 2,557       |
|   | 4 | 7,422      | 13,229    | 1,194       |
| HSS in 10 to 15 years<br><i>(Will be completed for Final Forest Plan)</i>     | 1 |            |           |             |
|   | 2 |            |           |             |
|   | 3 |            |           |             |
|   | 4 |            |           |             |
| HSS – Desired in 50 years<br><i>(Will be completed for Final Forest Plan)</i> | 1 |            |           |             |
|   | 2 |            |           |             |
|   | 3 |            |           |             |
|   | 4 |            |           |             |

Lodgepole pine (54%) and spruce-fir (21%) will continue to be the dominant cover type and the most actively managed.

Minimal but quality habitat in big game winter range along the eastern edge of the area. In riparian areas, vegetation/condition will include a mix of seral stages, including various age classes of aspen and willow. This area has some potential but little existing elk security habitat.

Aspen resources exist as small pockets on the fringe of conifer stands, primarily in drainage bottoms, and are characterized by conifer succession and ungulate browsing of regeneration that will be addressed through management efforts.

## **Piney Creek / Rock Creek Geographic Area**

### **Unique Features**

A total of approximately 110,255 acres occur in this area, with all streams being tributary to the Powder River basin. Located on the east flank of the Forest and administered by both the Powder River and Tongue Ranger Districts, it is one of the least roaded geographic area for motorized access purposes. This geographic area contains the proposed Pheasant Creek Research Natural Area (approximately 9,100 acres).

Scenic vistas and backcountry, nonmotorized recreation are the main attractions to the area. Motorized access occurs through trails out of Story linking to other trails, ending at several reservoirs including Willow Park and Kearney reservoirs used for irrigation water purposes. There are some motorized roads and trails in the south portion of the geographic area. Winter recreation is limited because the area is heavily forested, snowfall amounts are low, and there are no maintained trails. There are no commercial lodges in the area. There are no private inholdings. Some nonmotorized recreation use occurs through easements on the HF Bar ranch.

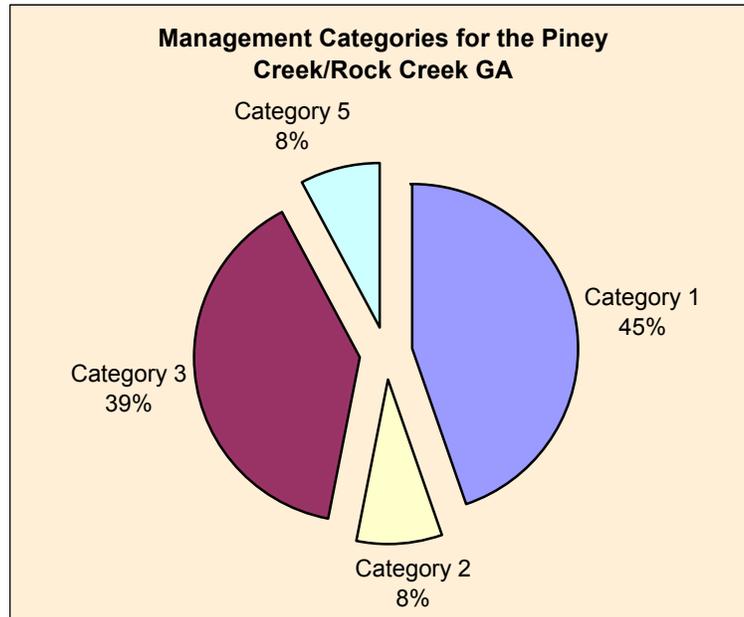
There have been no timber sales within the area. Historic fires have largely shaped the forested vegetation patterns within the area. The geographic area has few shrubland and grass openings interspersed with forested stands, and this is the most forested (79%) of any geographic area.

Livestock grazing occurs throughout the watershed at very low levels, with management emphasis currently on riparian area improvement. Deer and elk are common highly visible big game species in the area. Big game winter range is a small component of the area on the eastern edge. Fisheries are non-native and stocked in streams and mountain lakes. Beaver are present in the upper watershed areas, though very limited.

No mineral developments have occurred. The Bud Love Big Game Winter Range occurs adjacent to the Forest and is managed by the WGFD.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Piney Creek/ Rock Creek Geographic Area are listed in the following figure.

Figure 3-9. Piney/Rock Creek management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

**Geographic Area Desired Condition**

Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and nonmotorized pursuits (e.g. motorized trails and wilderness). The large roadless areas would continue to be managed as such.

Current and desired structural stages are displayed in the following table. Unsited forest areas would likely continue to mature, except where natural disturbances occur. Old growth would likely occur above the levels prescribed by forest-wide direction.

**GEOGRAPHIC AREAS**

Table 3-9. Acres of current, desired, and anticipated forested structural stages in Piney/Rock Creek geographic area.

|   |   | <b>Spruce-fir</b> | <b>Lodgepole</b> | <b>Douglas-fir</b> |
|---|---|-------------------|------------------|--------------------|
|   | 1 |                   |                  |                    |
| Current Habitat Structural Stage (HSS)  | 2 |                   | 14               |                    |
|   | 3 | 45,683            | 14,594           | 553                |
|   | 4 | 11,966            | 8,764            | 551                |
| HSS in 10 to 15 years<br><i>(Will be completed for Final Forest Plan)</i>     | 1 |                   |                  |                    |
|   | 2 |                   |                  |                    |
|   | 3 |                   |                  |                    |
|   | 4 |                   |                  |                    |
| HSS – Desired in 50 years<br><i>(Will be completed for Final Forest Plan)</i> | 1 |                   |                  |                    |
|   | 2 |                   |                  |                    |
|   | 3 |                   |                  |                    |
|   | 4 |                   |                  |                    |

Lodgepole pine (52%) and spruce-fir (21%) will continue to be the dominant cover type although it is likely the level of management will be low compared to other geographic areas.

Minimal but quality habitat in big game winter range occurs along the eastern edge of the area. In riparian areas, vegetation/condition will include a mix of seral stages, including various age classes of aspen and willow. This area has the largest area of potential and existing elk security habitat.

Aspen resources exist as small pockets on the fringe of conifer stands, primarily in drainage bottoms, and are characterized by conifer succession and ungulate browsing of regeneration that will not be addressed through management efforts, unless wildfires occur to regenerate stands.