Assessment

Forest Plan Revision

Final Scenery Report

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for:
Custer Gallatin National Forest

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Introduction

A draft of this report was released for public review on November 30, 2016 and feedback was requested by January 6, 2017. No changes were made to the final report based on public feedback.

The 2012 Land Management Planning Rule requires the Forest Service to take into account the contribution of the National Forest scenery to the social and economic sustainability of the plan area. The Planning Rule also requires the Forest Service to identify and evaluate existing information relevant to the plan area for sustainable recreation settings and scenic character. Taken together, these requirements direct the Forest Service to evaluate the scenery in such a way that considers the views of national forest land for people who are recreating and viewing scenery from inside the national forest as well as for those who are viewing national forest land from outside the national forest. This emphasizes the distinction that the national forest scenery is not solely a component of the recreation experience on the national forest, but a resource that is enjoyed and appreciated by people who are not even visiting the national forest.

Process and Methods

The current management direction in both forest plans for scenery (then referred to as "visual resource management") was reviewed.

The Gallatin National Forest Plan standards, called visual quality objectives, have been included in this document for reference only, because this forest plan revision process will result in the determination of new objectives. Also reviewed and included in this report are portions of the 1980s scenery-visual resource inventory upon which the Gallatin Forest Plan visual quality objectives were based, specifically the inherent scenic attractiveness (then referred to as "variety class"). Because the 1980 results for the landscape visibility (concern levels and distance zones) need to be updated to incorporate current day settlement patterns and travel routes, as well as public input, they have not been included in this report.

An informal and incomplete inventory of the scenery done in 2008 on the Custer National Forest was also reviewed and some of those results (inherent scenic attractiveness) are described in this document in a way that creates consistency across the now-combined Forests. Because neither of the two forest plans have scenic character descriptions, those were prepared and included in this document as required by the 2012 Planning Rule. Data from a Forest Service regionally-produced effort that mapped the existing condition of the scenery was also reviewed and included in this document, with the caveat that the data has not been ground-verified and that the scale is extremely coarse. Also included is a correlation between the 1974 Forest Service "visual management system" that directed the Gallatin National Forest's Plan visual/scenery inventory process and the newer (1995) and required "scenery management system."

Scenery Inventory Process for Forest Plan Revision

To understand what components of the existing scenery inventories will be used in the forest plan revision process, it is helpful to compare the 1974 Forest Service visual management system with the newer process described by the in USDA Agricultural Handbook 701, Landscape Aesthetics: A Handbook for Scenery Management, 1995 (referred to as the scenery management system). Both the visual management system and scenery management system present a systematic approach for inventorying, analyzing, and determining the relative value and importance of the national forest scenery. Both systems establish overall scenery goals and objectives that allow proactive and reactive management and serve as a reference for monitoring: Visual quality objectives were a forest plan product of the

visual management system process, and scenic integrity objectives will be a forest plan product from the scenery management system process. The scenery management system that is now required by Forest Service direction retains many of the same basic inventory elements of the 1974 visual management system, with new terms and vocabulary, but also introduces a few new, key concepts.

- The scenery management system recognizes that the landscape and scenery are dynamic, and that especially the vegetative components are affected by a variety of natural disturbance processes such as insects, disease, wind throw, fires, and droughts; and thus, have varied and evolved over time. The scenery management system recognizes that a dynamic landscape creates scenery that is not a static image. This means that the application of the scenic integrity objectives does not relate to a static scenic character description but to a description that considers dynamic and changing landscape processes.
- The overall goal of the scenery management system, as of the visual management system, is to recognize the value of a natural-appearing national forest landscape. However, the scenery management system recognizes that some human-introduced components of the landscape may be considered as positive, valued scenic attributes that contribute meaning, associations, and variety. Examples include reservoirs and historic elements like rustic cabins, agricultural or ranch settings, wood fences, old historic mining features, or ghost towns.

For this assessment report, there are four major components that will help form the basis for moving toward the forest plan revision process. Those steps are shown in figure 1.

Figure 1. Forest Service scenery management system: Steps for the Custer Gallatin National Forest Plan Revision process

(Definition) Scenic Character. The 2012 Planning Rule defines scenic character as "a combination of the physical, biological, and cultural images that gives an area its scenic identity and contributes to its sense of place. Scenic character provides a frame of reference from which to determine Scenic Attractiveness and to measure Scenic Integrity." This is especially critical for the Custer Gallatin National Forest because from west to east, the Custer Gallatin National Forest sweeps across roughly 450 miles and an incredible diversity of landscapes, from high alpine, glaciated peaks and valleys of southwestern and southcentral Montana to rocky, eroded, storied buttes, pine savannas and rolling prairie grasslands of eastern Montana and northwestern South Dakota.

The scenic character incorporates a description of the visible, natural physical and biological features, as well the context and ways the scenery is viewed and experienced. Scenic character also includes associations that viewers have with that scenery based upon visible historic and cultural elements and significant and broadly relevant special places. This includes national designations such as national scenic or historic trails or wild and scenic rivers. The combination of these elements creates meaning for the scenery that can help the national forest more fully consider potential effects of different management scenarios.

(Definition) Inherent Scenic Attractiveness. Inherent scenic attractiveness is a classification of how visually unique, distinctive, and thus valued, specific scenery is. Inherent scenic attractiveness refers to enduring visual qualities of the landscape that do not generally change, even as elements, such as an unusually large fire that may change the scenic character; or roads, mines or timber harvest that may lower the condition of the scenery. Inherent scenic attractiveness ratings are based upon commonly held perceptions of beauty related to land forms and rock features, vegetation patterns and composition, water features and their characteristics, along with concepts such as uniqueness, variety (including seasonal), mystery, and vividness of the line, form, color and texture of the scenery. Sometimes positive cultural features, such as log cabins, fences, or historic mining features or ghost towns that have become valued over time add to the inherent scenic attractiveness. Transient visible features, such as wildlife or wild horses in the Pryor Mountains, may attract viewers but are generally not considered a factor of the inherent scenic attractiveness rating.

To avoid comparing the more subtle beauty of Ashland or Sioux Districts' pine savanna landscapes to overtly spectacular alpine scenery of the Absaroka Beartooth or Madison Mountains, the national forest land is compared to all land within the frame of reference of larger regions with boundaries based upon ecological factors. The comparable component in the visual management system was called "variety class". For the Gallatin National Forest Plan, the variety class determinations were based on the subregions described by USDA Forest Service (1980a), prepared as an integral part of the national forest landscape management in Region 1 of the Forest Service. For this forest plan revision scenery assessment, the visual management system variety class determinations for the Gallatin National Forest were reviewed and included in this document as inherent scenic attractiveness ratings. In a consistent manner, inherent scenic attractiveness determinations were made for the former Custer National Forest units. To do that, the Scenery Management System Handbook suggests using ECOMAP units developed in 1993. However, those have been subsequently updated; therefore, this assessment uses the newer mapped and described "sections" from USDA Forest Service (2007).

Inherent scenic attractiveness has three ratings:

- **Class A–Distinctive:** Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, patterns, and balance.
- **Class B–Typical/Common:** Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide ordinary or common scenic quality. These landscapes have positive yet common attributes of variety, unity, vividness, mystery intactness, order, harmony, uniqueness, patterns and balance.
- **Class C–Indistinctive:** Areas where landform, vegetation patterns, water characteristics, and cultural features have low scenic quality. Often, water and rock form of any consequence are

missing in class C landscapes. These landscapes have weak or missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

(Definition) Existing Scenic Integrity. Existing scenic integrity refers to the current condition of the scenery as it is influenced or changed by human modifications or constructed features, such as roads, mines, or timber harvest, that are generally not considered to be valued components of the national forest scenery. Existing scenic integrity indicates the degree of intactness and wholeness of the landscape character, or conversely, it measures the degree of visible disruption. In the visual management system, this rating was referred to as the existing visual condition.

The most recent comprehensive assessment of the existing scenic integrity for both national forests was done at a very coarse Forest Service Northern Region-wide scale in 2010. It was entirely a GIS-generated product, using available data at the time that has not yet been verified on the ground from key observation travel routes and points. The resulting product rated the existing scenic integrity of the scenery on national forest land at the time into one of five levels: Very high, high, moderate, low, and unacceptably low.

Scale

The spatial scale for this assessment is generally just the national forest land managed by the Custer Gallatin National Forest. However, the scenic character descriptions include the overall visual images of the landscape areas, which include non-national forest land adjacent to and in the same viewsheds as the national forest land.

The temporal scale of this assessment for reviewing the existing documentation, inventories, and trends, is roughly from the early 1980s to the present. The time period for looking ahead at trends is very roughly 20 years.

Existing Information Sources

The Gallatin National Forest has the hand-drawn, pre-GIS late 1970s/1980s visual management system inventories, including the variety class layers (today referred to as the inherent scenic attractiveness), as well as maps of the “inventoried” visual quality objectives and the final adopted forest plan visual quality objectives. In 2007–2008, the Custer National Forest prepared an informal, incomplete, and internal scenery inventory. Also described in this report are the results of a 2010 very coarse scale regional GIS product that displays the existing visual condition/existing scenic integrity. As the forest plan revision process moves ahead, the GIS layers for the national forest travel routes, as well as county roads layers, will be used to determine the landscape visibility (concerns levels and distance zones) as well as to ground-verify the existing visual condition/existing scenic integrity information.

Current Forest Plan Direction

The overall goal for both national forest plans is to maintain the natural appearing landscape, recognizing that there are some areas that will be affected by management activities. The direction for scenery management in both the Custer and the Gallatin National Forest plans is based upon the Forest Service Visual Management System Handbook, dated 1974.

Gallatin National Forest Existing Plan Direction

The Gallatin National Forest developed forest plan standards, called visual quality objectives, which provide guidance for all landscape-altering activities. Where a proposal will not meet the visual quality

objectives, the project will either be modified to meet the visual quality objectives or the forest plan will be amended.

In the early 1980s, the Gallatin National Forest undertook a visual management inventory in preparation for the forest plan work at that time. Following the visual management system-directed process, a landscape inventory, based upon a 0.5 inch to 1-mile scale (thus somewhat coarse) took into account the following.

- The characteristic landscape and character type of the landscape.
- The variety class which divided the scenery into three levels of distinctiveness.
- The sensitivity of the viewsheds from travel routes and areas, divided into three levels. This was based upon the premise that the travel routes with the greatest numbers of people with the greatest concern for scenery were the highest priority for scenery management.
- The sensitivity levels were combined with distance zones that delineated foreground (up to approximately 0.25- to 0.5-mile away), middle-ground (up to approximately 3 to 5 miles away) and back-ground from those travel routes and areas.
- The polygons derived from all of the above analysis were overlaid using pre-GIS Mylar methods. The combination of factors resulted in assignments of the five levels of "measurable standards or objectives" called inventoried visual quality objectives.
- The inventoried visual quality objectives were then considered along with all other resource needs. That inter-resource process resulted in the determination of the 1987 Gallatin National Forest Plan visual quality objectives. These visual quality objectives correspond to viewsheds and not to management area boundaries.

The following table shows the acreage for the visual quality objectives adopted by the Gallatin National Forest Plan. A map of the adopted forest plan visual quality objectives is not included in this assessment report because: (1) new scenic integrity objectives will be determined through this forest plan revision process to replace the existing visual quality objectives, and (2) to display all of the visual quality objective polygons, which are very detailed in some areas, would require voluminous, large-scale maps.

Table 1. Current Gallatin National Forest Plan visual quality objectives (definitions and acres)

Visual Quality Objectives and Definitions	Total Acres for Gallatin National Forest Land in 1987
Preservation: Only ecological changes are allowed to alter the natural landscape.	747,771 acres = 44% of the Gallatin National Forest in 1987 This applies to designated Wilderness areas.
Retention: Human activities are not evident to the casual Forest visitor.	385,267 = 22% of the Gallatin National Forest in 1987
Partial Retention: Human activities may be evident, but must remain subordinate to the characteristic landscape.	397,370 acres = 23% of the Gallatin National Forest in 1987
Modification: Human activity may dominate the characteristic landscape but must, at the same time, utilize naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed in the middle-ground or background.	167,874 acres = 9% of the Gallatin National Forest in 1987
Maximum Modification: Human activity may dominate the characteristic landscape, but should appear as natural when viewed as background.	4,657 acres = <1% of the Gallatin National Forest in 1987 This applies to the New World and East Boulder mining areas.
Rehabilitation: A short-term management alternative used to restore landscapes that contain undesirable visual impacts.	0 acres. This visual quality objective has been assigned by forest plan amendments for projects to mitigate existing obtrusive straight lines and visually dominant unnatural shapes where mitigation can be effective.

Custer National Forest Existing Plan Direction

The Custer Forest Plan has management standards regarding scenery for certain specific activities such as minerals and geology (siting development and using earth tone colors) and timber production and overhead power poles (minimize visual impacts). For the Beartooth Scenic Byway, the Custer Forest Plan assigned the visual quality objective of “retention” to all areas seen from the Byway, not including the highly developed recreation area along the creek bottom.

The Custer National Forest did not go through the full visual management system inventory process for development of its 1986 forest plan, but instead assigned a range of visual quality objectives to each management area, and directed that any proposed projects go through a project-specific analysis to determine the appropriate project area visual quality objectives. As stated above in the “Current Forest Plan Direction” summary section, the Custer National Forest Plan has management standards regarding scenery for certain specific activities such as minerals and geology, timber production, overhead power poles and the Beartooth Scenic Byway. For management areas where mining activities were either anticipated or already on-going, the forest plan incorporated a stipulation that the scenery objectives were “subject to valid existing rights”.

Existing Condition

Scenic Character and Inherent Scenic Attractiveness

As directed by the Forest Service scenery management system, inventories of scenic character should be conducted relative to the ecological context and the appropriate ecological land unit. The Custer Gallatin National Forest spans three different ecological provinces and within those, six different ecological units called “sections,” as described in USDA Forest Service (2007).

Each section encompasses more land than just the national forest and is used in this report as a basis for grouping assessment landscape areas in regard to their overall biological and physical scenic character descriptions. More refinement is then added relative to each landscape area in terms of the most common contexts in which the national forest scenery is viewed, special places, quintessential views, cultural associations, historic meanings, national designations, and other concepts that bring meaning to the scenery. Landscape areas were selected to try to break up these vast land areas into more conceivable units and to recognize some salient differences between them. These scenic character descriptions are broad scale and are not appropriate for specific project-scale future planning.

Scenic character descriptions and inherent scenic attractiveness ratings are grouped by ecological sections and location, as shown below.

- M331A Yellowstone Highlands Ecological Section
  Henry's Lake Mountains, Madison Mountains, and the Gallatin River corridor
  Gallatin Mountains
  Absaroka and Beartooth Mountains
- M332D Belt Mountains Ecological Section
  Bridger and Bangtail Mountains
  Crazy Mountains
- M331B Bighorn Mountains Ecological Section
  Pryor Mountains
- 331G Powder River Basin Ecological Section
  Ashland District
- 331K North Central Highlands Ecological Section
  Chalk Buttes and Ekalaka Hills land units of the Sioux District
- 331M Missouri Plateau Ecological Section
  Long Pines, North and South Cave Hills, East and West Short Pines, Slim Buttes land units of the Sioux District

Yellowstone Highlands Ecological Section

- Henry's Lake Mountains, Madison Mountains, and the Gallatin River corridor
- Gallatin Mountains
- Absaroka and Beartooth Mountains

The landscape of this area includes high, rugged mountains with rounded ridges, cirques, and broad valleys. Much of the area has been glaciated. Rocks are of volcanic origin and consist of rhyolites, tuffs, and mafic basalts. Vegetation includes lodgepole pine, fir-spruce, sagebrush, and alpine tundra cover types (USDA Forest Service 2007).

Prevailing westerly winds, along with altitude and slope exposure, affect the vegetation zones and patterns. South- and west-facing slopes have sparser trees and tend to sharply contrast with more densely conifer-covered north- and east-facing slopes, especially at lower elevations. Subalpine fir, spruce, lodgepole, and Douglas-fir are commonly found throughout the area, with some whitebark pine

in higher elevations. Grass openings in the lower areas are often contiguous with the sagebrush-covered land. Lodgepole pine and (sometimes) aspen most often come in after fire. Large wildlife commonly seen include elk, deer, black and grizzly bears, moose, and specifically near West Yellowstone, bison. In the higher elevations, especially in the Beartooth Mountains, visitors enjoy seeing Rocky Mountain goats.

Inherent scenic attractiveness ratings for the Yellowstone Highlands Ecological Section are based upon combinations and distinctiveness of visible criteria that include: [1]

Land Forms

- Dramatically glaciated or snow-shaped mountain slopes with frequent avalanche chutes
- Serrated ridgetops and narrow, deep valleys; high, flat, narrow plateaus with dramatic drop-offs
- Uplifted land that ends or is edged with sharp, dramatic cliffs

Rock Forms

- Numerous and dominant glacial boulders and erratics; prominent rock cliffs and rock spires
- Steep talus slopes; dominant vertical rock cliffs or exposed strata layers
- Massive rock outcrops and unusual rock formations; massive and dramatic landslides

Vegetation

- Dominant patterns and juxtapositions created by the strong interplay of coniferous, deciduous and grass vegetation; strong year-long or seasonal variation in color
- Krummholz with windswept gnarled conifers; dominant north-south slope variation

Water Forms

- Glacial cirque lakes in dramatic settings
- High gradient or fast-flowing streams with turbulence due to rock rubble, lined with a variety of vegetation and overhanging trees
- Waterfalls and cascades; unusually convoluted, meandering through lush wetlands
- Lakes with high reflectivity, irregular shorelines, and steep-walled settings

Cultural Features

- Historic cabins and ranches; historic Civilian Conservation Corps structures

Henry's Lake Mountains, Madison Mountains, and Gallatin River Corridor (the river and Highway 191)

This area is appreciated for its ridges, peaks, and forested valleys, and provides the scenic backdrop for the communities of West Yellowstone, Big Sky, and the Gallatin Valley. It also provides the viewsheds, varying from immediate foreground to background, for travelers, residences, and businesses along

[1] Criteria are partly based upon USDA Forest Service, Visual Character Types and Variety Class Descriptions, R1-80-11.

Highway 20 between West Yellowstone and Targhee Pass; Highway 287 along Hebgen Lake and downstream along the Madison River to Earthquake Lake and its massive landslide; and the Big Sky Spur Road, Highway 64, where its sharp ridge of cirques and avalanche gullies offers a dramatic backdrop to million-dollar houses. From Highway 191, between West Yellowstone and the Gallatin Valley, the national forest land in the Madison Range comprises the viewshed to the west (and southwest as seen from the Gallatin Valley), except for the portion of the highway that passes through Yellowstone National Park.

Figure 2. View of the Madison Range, toward the Madison River Canyon, from the Highway 287 corridor looking across Hebgen Lake to the west

All of these roads are heavily travelled, especially during the summer when high numbers of national and international tourists or second-home owners spend their vacations in Montana, many sightseeing on their way to the west entrance of Yellowstone National Park. Large parts of the interior of this landscape area are included in the three separate units of the Lee Metcalf Wilderness, where its snow and wind-sculpted peaks (the highest being Gallatin Peak at 11,015 feet), windswept long open ridges, deep forested valleys, and glacial cirques dotted with alpine lakes are popular hiking or horseback riding destinations. Between the two southern units of the Lee Metcalf Wilderness is the Cabin Creek Wildlife Management Area, with its extensive willow-covered wetlands and thick conifer forests. Locals and visitors seek out “blue ribbon” fishing on the Madison River, parts of which are eligible for potential classification as a wild and scenic river per the 1987 Gallatin Forest Plan.

Sections of the Gallatin River are also eligible for potential classification as a wild and scenic river. Coursing along part of the east side of this landscape area, it divides the Madison Mountains from the Gallatin Mountains on the east. The Robert Redford film “A River Runs Through it”, partially filmed on the Gallatin River in 1992 near the historic Civilian Conservation Corps bridge at the Squaw Creek Ranger Station and other locations, was responsible for a resurgence in fly fishing on the Gallatin and in Montana in general. In places the Gallatin is lined with spectacular granite and limestone cliffs that entirely visually dominate or protrude from the adjacent steep conifer-covered slopes with Douglas-fir that hang over the river. Kayakers and rafters are attracted to the rapids, especially downstream of Big Sky where the amount of water, boulders, and rapids increase. In contrast, the river upstream from Big Sky meanders more through wide, flat willow bottoms, lined by steep hills and cliffs.

Viewers in this area can see remnants of the area’s history in the form of historic cabins that represent not only the early days of the Forest Service but the early settlers, tie cutters, and others associated with the railroads, or the early ranchers. A few of the historic Forest Service cabins and former ranger stations include Spanish Creek, Cinnamon Station, Wapiti and Beaver Creek and most notably the Squaw

Creek Ranger Station that was the site of the Squaw Creek Civilian Conservation Corps camp. Some of the recreation residences on national forest land, built around the 1930s, still appear fairly rustic and fit their setting. The historic Covered Wagon Ranch on national forest land functions today as a dude ranch. Highway 20 over Targhee Pass is also the Nez Perce National Historic Trail-Autotour Route that follows the 1877 flight of the Nez Perce on their way towards Yellowstone National Park. Targhee Pass on Highway 287 is also where the Continental Divide National Scenic Trail crosses on its north-south route. Highway 287 passes through the Earthquake Lake Geologic Area and along the eerily beautiful Earthquake Lake. This corridor, along with the Highway 20 corridor, is a popular Montana Department of Tourism loop tour, enjoyed by bus groups and tourists, along with bicycle tourers, with one of the popular stops at the Forest Service Earthquake Lake Visitor Center.

Winter attracts a different set of adventure seekers to the Big Sky area for downhill or cross-country skiing at the Lone Mountain Ranch, with its extensive set of groomed trails, some that wind from dense national forest conifer woods to open expensive viewpoints. West Yellowstone is transformed into a "Snowmobile Capital" when many visitors enjoy the Big Sky Snowmobile Trail and the Two Top Snowmobile Trail, both designated national recreation trails. The lodgepole pine covered rolling hills immediately south of West Yellowstone also attract national and international cross-country skiers on the professionally groomed Rendezvous Ski Trails. The Refuge Point Cross-Country Ski Trail that leads to an overlook of the upper end of Earthquake Lake and the Ghost Village area is a designated national recreation trail.

Table 2. Inherent scenic attractiveness acres: Henry's Lake and Madison Mountains, Gallatin River

Inherent Scenic Attractiveness Level	Acres of National Forest Land [1]	Percent of National Forest Land
Distinctive	128,199	28
Typical/Common	242,411	53
Indistinctive	87,093	19
Totals	**457,703**	**100**

[1] Acres are based upon hand digitized 0.5 inch = 1 mile 1980s hand-drawn maps. Acres for land lost or acquired since then are not included.

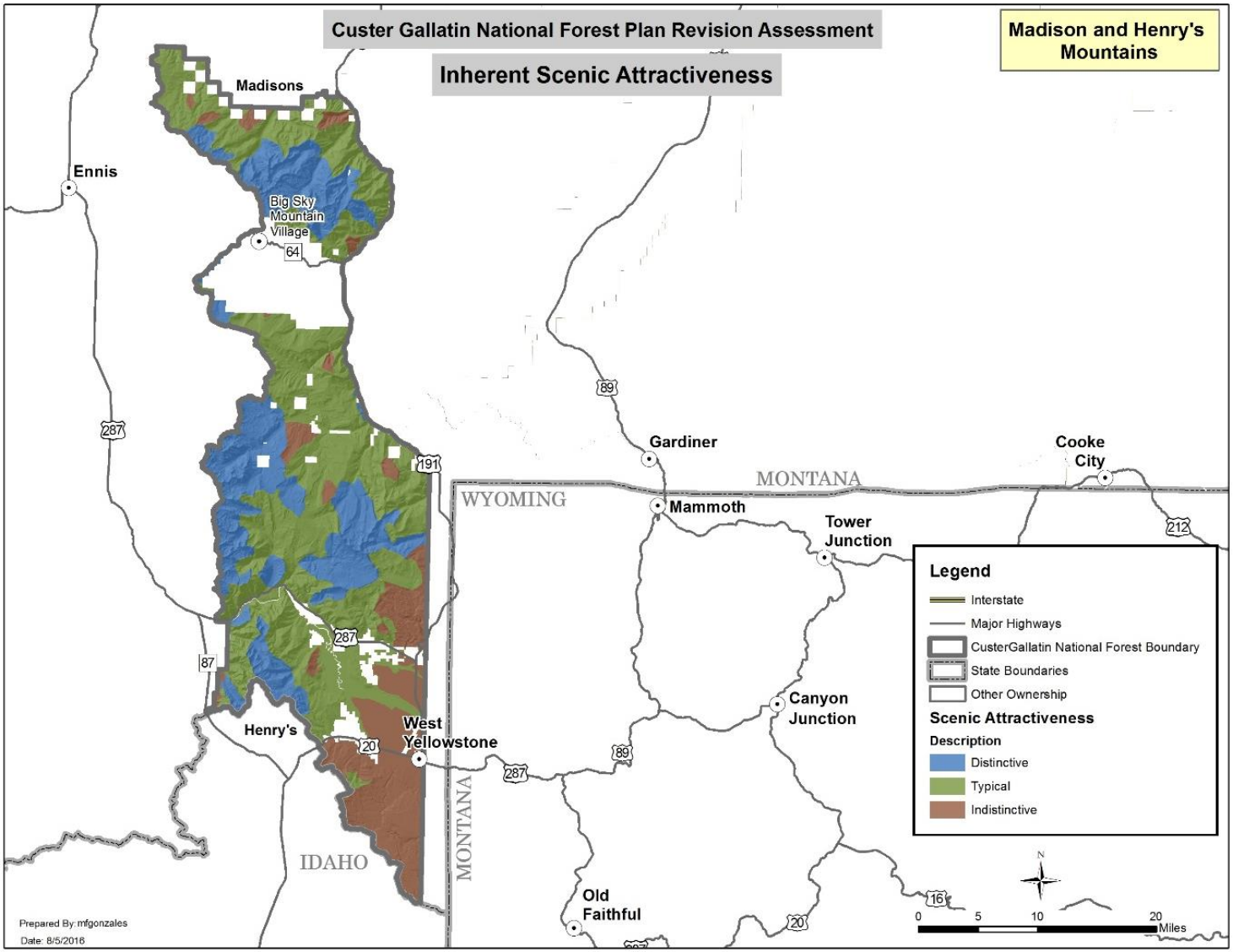

Figure 3. Inherent scenic attractiveness map: Henry's Lake and Madison Mountains; Gallatin River Corridor

Gallatin Mountains

The Gallatin Mountains are a roughly north-south trending mountain range about 75 miles long and 20 miles wide, with about half that length on the Custer Gallatin National Forest and the southern half inside Yellowstone National Park. These mountains form the southern viewshed for the rapidly growing population of the Gallatin Valley. The upper parts of the sharp volcanic cliffs, peaks and subalpine and alpine meadows, cirques and lakes in the Hyalite area, considered by many to be the jewel of the Gallatin Mountains, can be seen from the north part of Gallatin Valley. Portions of the western edge of the Gallatin Range, where it parallels Highway 191 and the Gallatin River, present exposed slabs of vertical and stair-stepped limestone and gneiss cliffs that alternately create a spectacular foreground or frame views up side drainages. Except for farther south closer to and inside Yellowstone National Park, the Gallatin Mountains, when viewed from along Highway 89 and Paradise Valley, appear as a series of rounded ridges and are overshadowed by the more angular Absaroka peaks on the east side of Paradise Valley.

Figure 4. View towards the southeast of Hyalite Reservoir, Hood Creek Campground and Sleeping Giant Mountain in the Gallatin Mountains, Bozeman District

Note: Photo by Jane Ruchman

Numerous side ridges and drainages branch off of the main ridge. Many of the north and east-facing slopes are densely covered with mostly lodgepole pine and Douglas-fir and some whitebark pine at the highest elevations. Contrastingly, the south- and west-facing slopes are often sparser or completely open and grass-covered.

Most of the interior of this range is within the Hyalite Porcupine Buffalo Horn Wilderness Study Area, with its sharp, treeless ridges that alternate between grassy and broad to narrow and rocky, talus and scree slopes that dramatically sweep down into grassy subalpine meadows punctuated with angular boulders or small lakes, cliff faces where petrified wood pieces are found. The Garnet Mountain Trail, the Palisade Falls Trail, and the Gallatin Riverside Trail are all national recreation trails. The Gallatin Petrified Forest Trail originates in the Tom Miner drainage on the east side.

In the lower parts of some of the drainages, historic remnants of earlier Forest Service days and settlers contribute to the sense of place and identity, including the Big Creek Cabin, Buffalo Horn Cabin, the

Squaw Creek Ranger Station, and the site of the Squaw Creek Civilian Conservation Corps Camp. Remnants of Corps projects include rock walls and trails, the Maxey Cabin, Window Rock Cabin, the Porcupine administrative cabin, and the Little Bear cabin. Along the Yellowstone River in the Paradise Valley side of the Gallatin Mountains, remnants of the historic Yankee Jim Toll Road and other early approaches to Yellowstone National Park are easily visible. Many of the privately owned recreation residences on national forest land in Gallatin Canyon built around the 1930s still retain much of their historic appearance.

Signs that fire is shaping the vegetation are clearly discernible in many different parts of the Gallatin Mountains, including the Purdy Creek Fire, the Fridley Fire, and most recently the Millie Fire in 2012. Photo documentation from more than 100 years ago shows that fire has had a long history in this area of burning large areas that eventually revegetate (Gruell 1983).

Table 3. Inherent scenic attractiveness: Acres for the Gallatin Mountains

Inherent Scenic Attractiveness Level	Acres of National Forest Land [1]	Percent of National Forest Land
Distinctive	81,471	23
Typical/Common	203,211	59
Indistinctive	63,014	18
Totals	**347,697**	**100**

[1] Acres are based upon hand digitized 0.5 inch = 1 mile 1980s hand-drawn maps. Acres for land lost or acquired since then are not included.

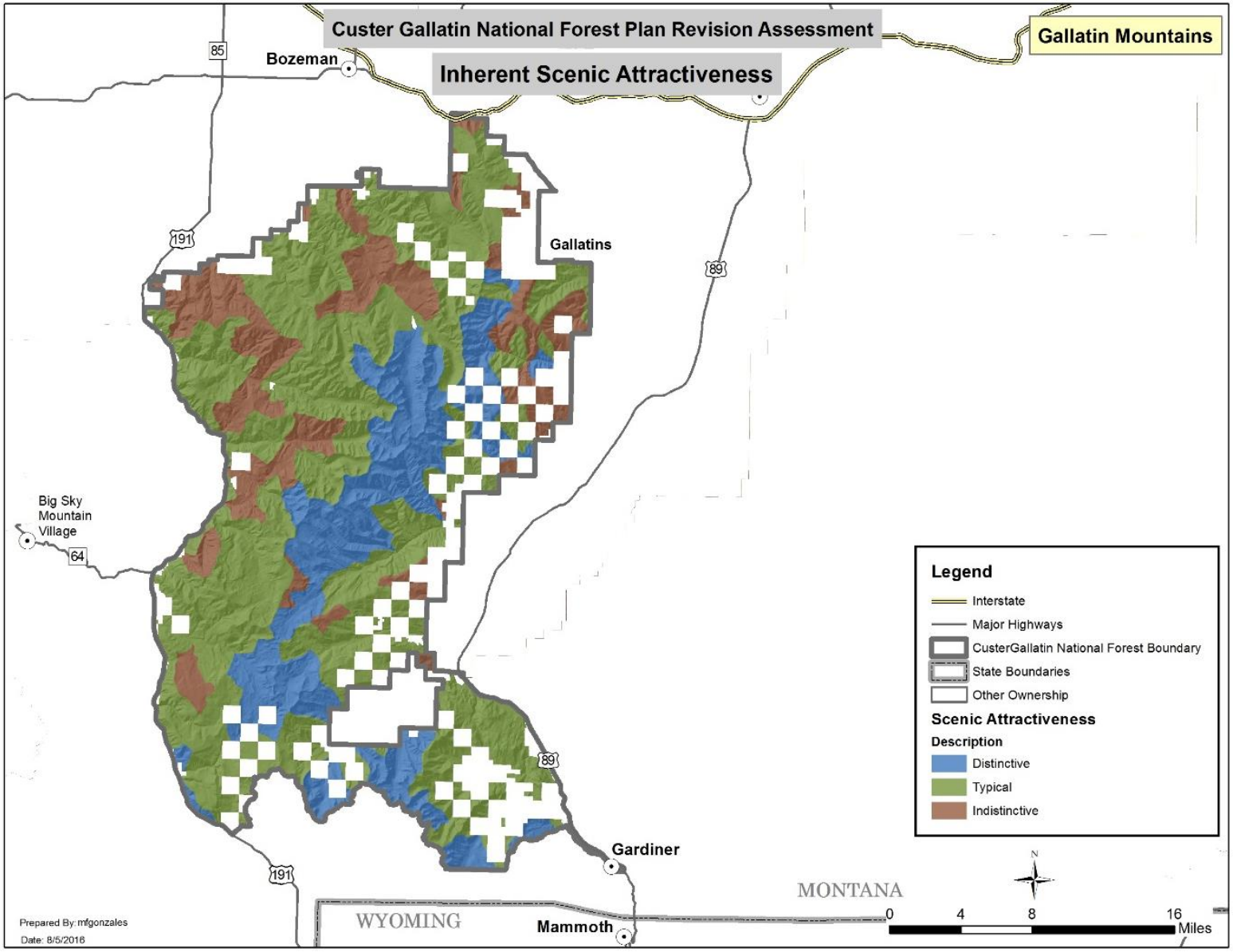

Figure 5. Inherent scenic attractiveness for the Gallatin Mountains

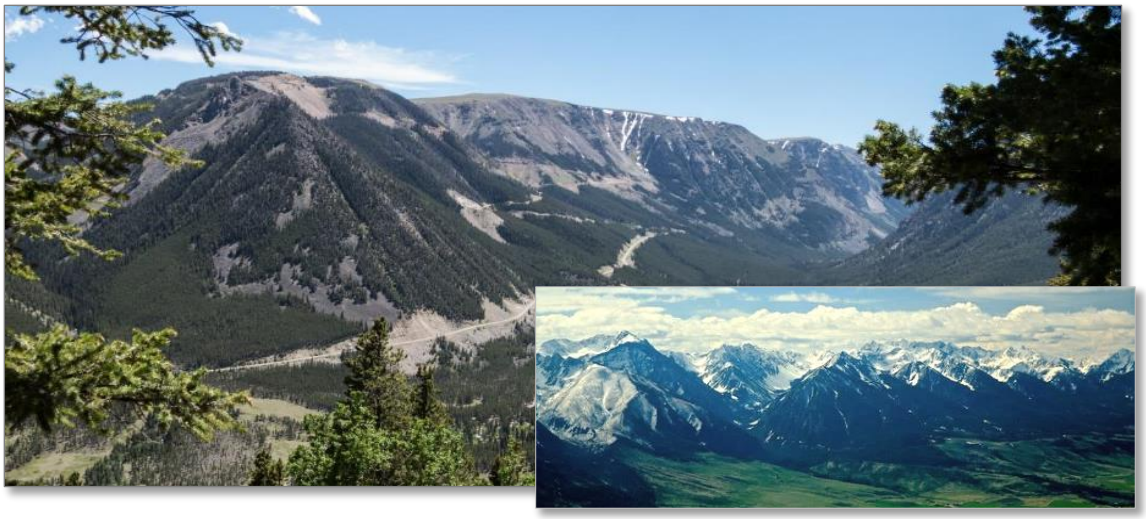

Figure 6. (Photo left) View of Beartooth Scenic Byway and Rock Creek drainage, looking southwest; (photo right) view of the Absaroka Mountains south of Livingston; east side Yellowstone River

Note: Photo (left) by John Thompson

Along the west side of this area, views are from the Yellowstone River Valley, also called Paradise Valley and the Highway 89 corridor between Livingston and Gardiner. From here, the views of peaks, cirques and densely-forested lower slopes are jaw-dropping, especially when partly snow-covered. The I-90 corridor east of Livingston offers stunning glimpses into the north side of this landscape area, of the ramped dolomite block of Elephanthead Mountain surrounded by other peaks about 10 miles to the south. Highway 78, between Absarokee and Red Lodge, parallels the uplifted east face of the Beartooth visible above private rolling ranch lands. The road gets closer to the face as it approaches Red Lodge, from where some of the Red Lodge Mountain Ski Resort runs are visible surrounded by the densely forested side slopes. A number of smaller roads follow sparkling creeks up into this area from the east, north, and west, the longest being the Main Boulder Road that offers “cherry stem” road access at the dividing line between the Absaroka Mountains on the west and the Beartooth Mountains on the east.

There are many visible reminders of the history of this landscape area that add depth and meaning to the scenery. The early days of dude ranching is exemplified in the OTO Ranch, north of Gardiner. The Civilian Conservation Corps built many recreation facilities, including Pine Creek Campground, Lions Organizational Camp, and Camp Senia Dude Ranch near Red Lodge. There are other existing historic Forest Service structures and those left by miners, early residents, homesteaders, or herders. Many of these have been repurposed, but still add to the area’s stories, such as the Fourmile Cabin, the West Boulder Station, Meyers Creek Station, Box Canyon Cabin, and Mill Creek Cabin. Although there is still active mining in some parts of this landscape area, there are a few areas where the remnants of the mining activity have become part of the image of the landscape over time, such as at Independence at the head of the Main Boulder, New World Mining District near Cooke City, and Benbow on the northeast Beartooth face. While the Nez Perce did not actually come through Cooke City on their 1877 tragic flight seeking freedom, the Beartooth Scenic Byway is the location of the Nez Perce National Historic Trail Autotour Route.

Owing to the area’s quintessential scenery, a number of trails have been designated as national recreation trails: Boulder River Natural Bridge and Falls Trail, Basin Lake Trail, Parkside Ski Touring Trail, Silver Run Ski Trail, and Wild Bill Lake Trail. Portions of the Main Boulder River, the Yellowstone River,

Rock Creek, West Fork of Rock Creek, the Stillwater River, East Rosebud Creek, Lake Fork of Rock Creek, and West Rosebud are eligible for potential classification as wild and scenic rivers. Water features also play a dominant role is the visual image of the area, with lakes, ponds and creeks glistening and sparkling throughout this area and especially in the Beartooth Mountains, as well as some constructed impoundments that also add beauty, such as Glacier Lake, Mystic Lake, and Wild Bill Lake.

Fire has played a visually dominant role in some of the drainages and up the side ridges, changing the existing character by burning much of the conifers, such as up the West Fork of Rock Creek, Pine Creek, West Boulder, and Mill Creek. In addition, many older fire scars are still slightly discernible due to the even age and texture of what is most often regenerated lodgepole pine.

Table 4. Inherent scenic attractiveness: Acres for the Absaroka and Beartooth Mountains

Inherent Scenic Attractiveness Level	Acres of National Forest Land [1]	Percent of National Forest Land
Distinctive	768,415	57
Typical/Common	548,246	40
Indistinctive	36,634	3
Totals	**1,353,295**	**100**

[1] Acres are based upon hand digitized 0.5 inch = 1 mile 1980s hand-drawn maps. Acres for land lost or acquired since then are not included.

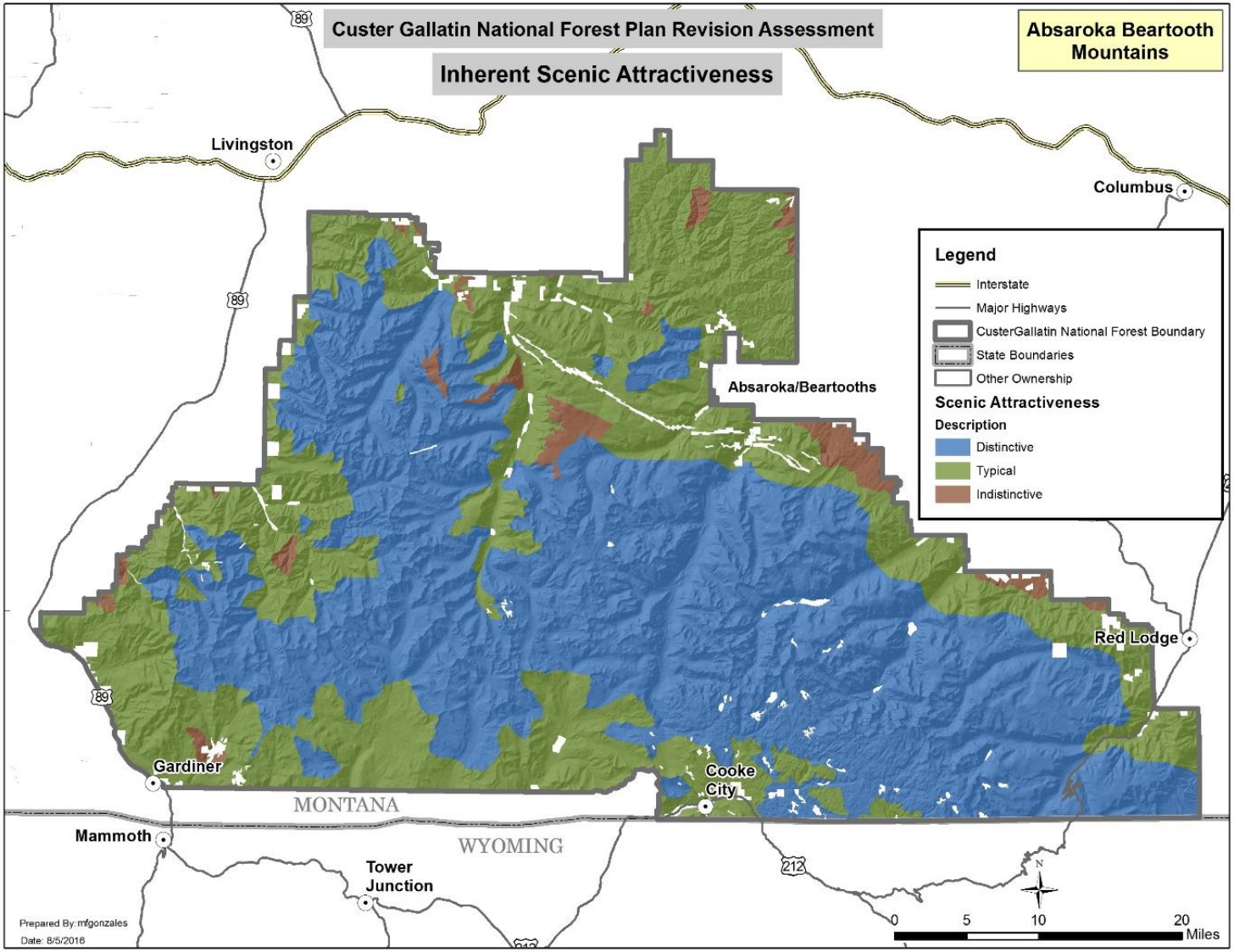

Figure 7. Inherent scenic attractiveness map: Absaroka and Beartooth Mountains

Belt Mountains Ecological Section

- Bridger and Bangtail Mountains
- Crazy Mountains

> This Ecological Section consists of rugged, high-elevation mountains with lower foothills of hilly terrain. Geologic formations are mainly limestones. Vegetation is Great Plains grasslands and mountain grasslands cover types. This [Section] consists of high mountains with associated intermontane valleys; some areas of plains and rolling hills. Soils formed in soft sedimentary rocks. At higher elevations there is some whitebark pine, though subalpine fir and Douglas fir are more common, along with lodgepole pine and spruce, especially in wetter soils. Ponderosa pine is found in some parts of this Section, though not in the Bridger, Bangtail or Crazy Mountains. The bases of foothills often are open meadow, though in places the conifer forest continues from the side slopes onto adjacent flatter ground. Visitors may see black bear and mountain goats are a fairly common sight along the Bridger Ridge and on steep rocky slopes in the Crazy Mountains (USDA Forest Service 2007).

Inherent scenic attractiveness ratings for the Belt Mountains Ecological Section are based upon combinations and distinctiveness of visible criteria that include: [2]

Land Forms

- Well defined, angular mountain tops or ridges; narrow valleys or abrupt changes from valley bottom to side slopes
- Steep side slopes; strong dissection
- Well defined avalanche gullies

Rock Forms

- Prominent rock cliffs and rock spires; expanses of bare rock; major boulder fields
- Steep talus slopes; dominant vertical rock cliffs or exposed strata layers especially with strong color contrasts
- Large rock outcrops and unusual rock formations

Vegetation

- Dominant, well-defined patterns and juxtapositions created by the strong interplay of coniferous, deciduous and grass vegetation; strong year-long or seasonal variation in color
- Dominant north-south slope variation
- Wind and exposure shaped trees

Water Forms

- Cirque lakes in dramatic steep-walled settings, mostly open or above tree-line, surrounded by mixed rock, alpine tundra with irregular shorelines

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[2] Criteria are partly based upon USDA Forest Service, Visual Character Types and Variety Class Descriptions, R1-80-11.

- High gradient or fast flowing streams with turbulence due to rock rubble, lined with a variety of vegetation; rock or cliff-edged waterfalls and cascades

Cultural Features

- Historic cabins, minor ranching features

Bridger and Bangtail Mountains

The approximately 38-mile long north-south trending Bridger Mountains comprise the Gallatin Valley's much-loved eastern viewshed, rising up as a convoluted series of secondary ridges and valleys leading off from the main ridge, lined by small creeks and riparian vegetation. Part of Bozeman's domestic water supply comes from a creek on the west side of the Bridgers. From the west, the Bridgers appear mostly conifer tree-covered, though the middle part of the main ridge has a long, undulating, tree-free skyline and slightly articulated summits. In spring, when the west-facing slopes hold snow after it has melted off the foothills and valley floor, the view of the snowy Bridgers forms an impressive backdrop to the communities and surroundings of Bozeman and Belgrade, especially when illuminated by the setting sun. The ridge's spine gains elevation from south to north, culminating at Sacajawea Peak (the highest at 9,666 feet). When viewed from the northwest and the Manhattan area, individual peaks and landmarks are more distinct, especially the exposed rock plug of Ross Peak with its limestone spires and fins next to the open grassy Ross Pass. Flathead Pass, to the north, is also an easily distinguishable feature from the west, even from a distance. Most of the slopes on the west side appear tree-covered, with many of the sub-ridges exhibiting strong north-south patterns of bare, grassy south-facing or direct west-facing slopes and conifer-covered north-facing slopes. Currently, large portions of many of the dense north-facing conifer stands appear gray and dead, due to repeated attacks of spruce budworm and mountain pine beetle.

Views of the east side of the Bridgers are primarily from Highway 86, also called the Bridger Canyon Road, and from the Jackson Creek Road and all of the adjacent residences. The east side of the Bridgers appears more dramatic and lusher and displays much more defined avalanche slopes and scoured-off visible rock faces and treeless upper slopes. This is largely due to the prevailing westerly wind and orientation to the sun that causes more snow to be deposited and stay longer on the east side, creating cornices, subsequent avalanches, and more available moisture. From this side the broken limestone dome of Ross Peak appears more dramatic. Skiers and riders enjoy this combination of factors at the Bridger Bowl Ski Area. From the Fairy Lake area, massive rock fins and walls enhance the area's rugged feel. North of the Fairy Lake area, spectacularly uplifted and twisted multi-colored rock strata are visible from Highway 86.

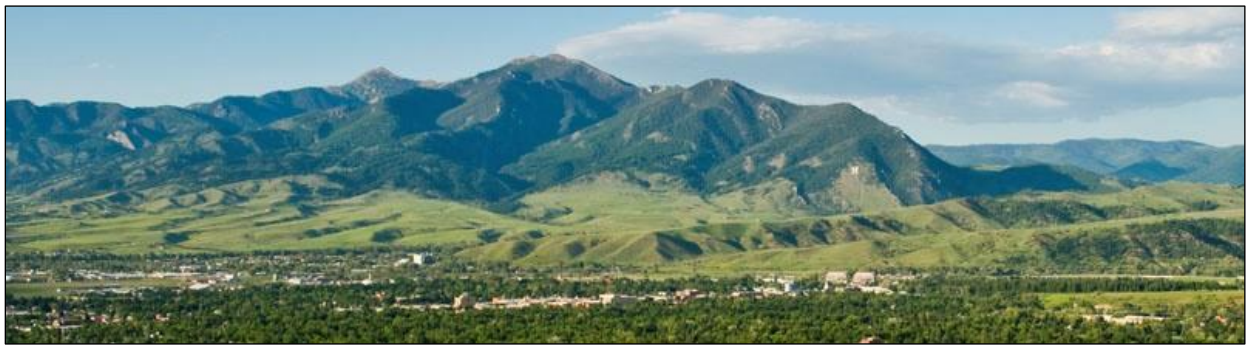

Figure 8. View of southwest side of Bridger Mountains over Bozeman, Montana (Bangtail Mountains on far right)

In addition to the commanding views to the north and south available from the top of the ski area and its runs and ridges, skiers and riders look east to the Bangtail Mountains, a smaller and lower northwest-southeast trending ridge, with its highest point being the aptly-named Grassy Mountain (7,622 feet). Most of the national forest land in the Bangtails is on the east-facing side. The east side of the Bridger Mountains is visible and identified by a sign for west-bound travelers on Highway I-90. From I-90, the national forest portion of the Bangtails is not easily identifiable.

Perhaps due to its proximity to the Gallatin Valley, there are not a lot of visible historic remnants. The Battle Ridge Cabin, an earlier Forest Service guard station in the Bangtails, is one of the national forest's most popular rental cabins. The Bridge Mountain National Recreation Trail connects the "M" and Fairy Lake.

Table 5. Inherent scenic attractiveness: Acres for the Bridger and Bangtail Mountains

Inherent Scenic Attractiveness Level	Acres of National Forest Land [1]	Percent of National Forest Land
Distinctive	7,343	8
Typical/Common	74,385	84
Indistinctive	7,443	8
Totals	**89,172**	**100**

[1] Acres are based upon hand digitized 0.5 inch = 1 mile 1980s hand-drawn maps. Acres for land lost or acquired since then are not included.

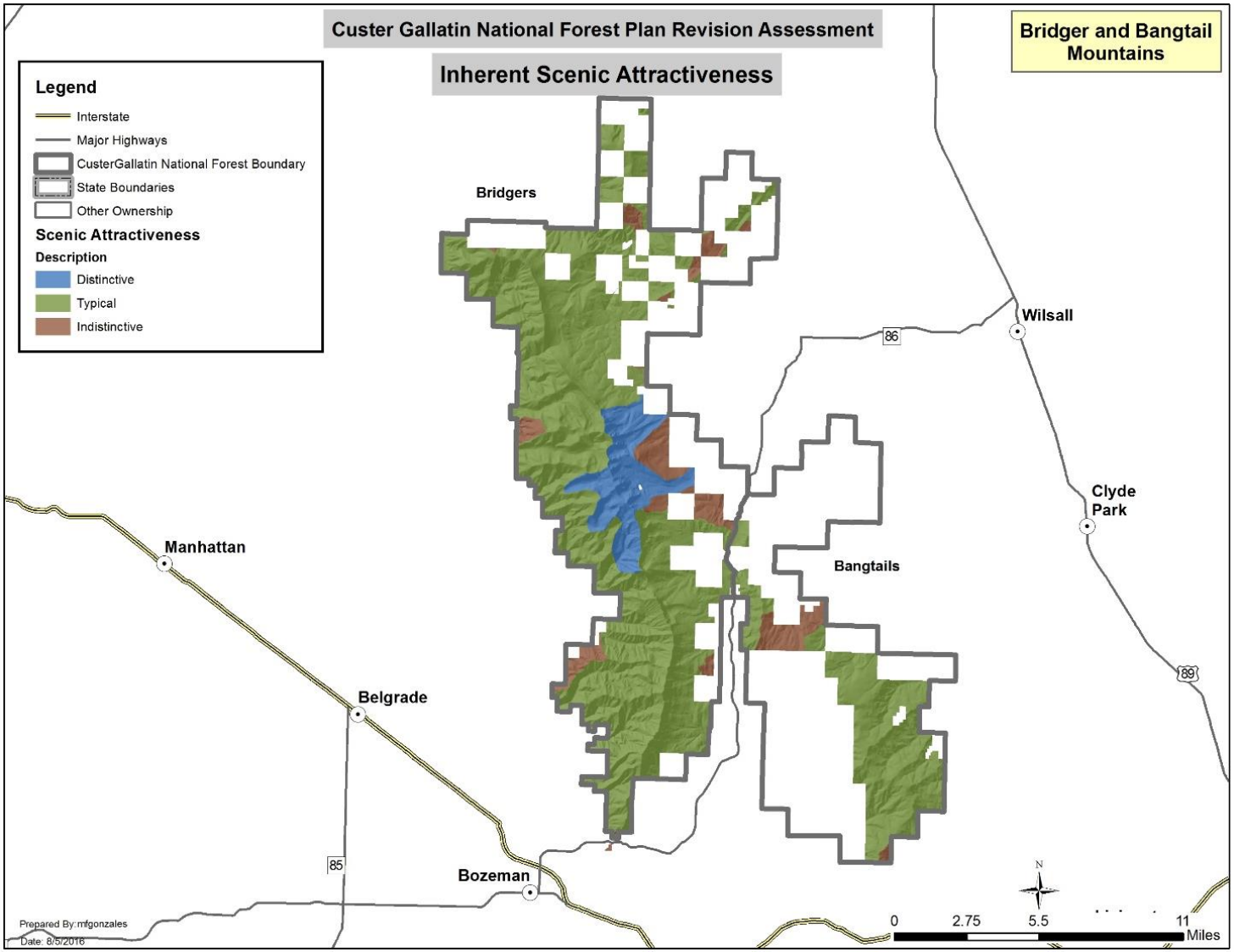

Figure 9. Inherent scenic attractiveness: Map for the Bridger and Bangtail Mountains

Crazy Mountains

The Crazy Mountains are a visually striking isolated mountain range rising abruptly more than 6,000 feet above the surrounding flatter open ranch lands and rolling forested ground. They are visible from the I-90 corridor near Big Timber, Montana, as it parallels the Yellowstone River, and also visible from the Highway 89 corridor on the west as it passes through the Shields River Valley, and Highway 191 on the east. The highest peaks, including Crazy Peak at 11,214 feet and Big Timber Peak at 10,795 feet are sometimes hooded by clouds generated by the range itself. The harder igneous rocks of this range, left after all surrounding softer sediments were eroded away, were then scoured by glaciers, leaving knife-edge ridges, sharp peaks, and steep sweeping talus and scree slopes with a series of glacial cirque valleys that contain beautiful alpine lakes, below which glacier-shaped valleys are still being slowly sculpted by their steep and often incised creeks and rivers. Even from a distance, these dramatic forms are apparent. Covering the middle elevation slopes are thick forest that grade into sloping grasslands lower down. The land within the Custer Gallatin National Forest in the southern two-thirds of the mountain range is interspersed with many private sections of land, most of which are ranching land or have little to no development. Due to the steepness of the slopes, many of the streams and valleys they tumble down are also steep, creating exciting turbulence and waterfalls. Just the name of this mountain range implies an interesting history though there are a few different stories. While not visually apparent to the casual visitor, these mountains hold great spiritual significance to the Crow Tribe. There are a few visible remnants from early Forest Service presence including the historic Porcupine and Ibex Cabins.

Figure 10. View of the east side of the Crazy Mountains

Table 6. Inherent scenic attractiveness: Acres for the Crazy Mountains

Inherent Scenic Attractiveness Level	Acres of National Forest Land [1]	Percent of National Forest Land
Distinctive	34,873	30
Typical/Common	58,816	51
Indistinctive	22,163	19
Totals	**115,853**	**100**

[1] Acres are based upon hand digitized 0.5 inch = 1 mile 1980s hand-drawn maps. Acres for land lost or acquired since then are not included.

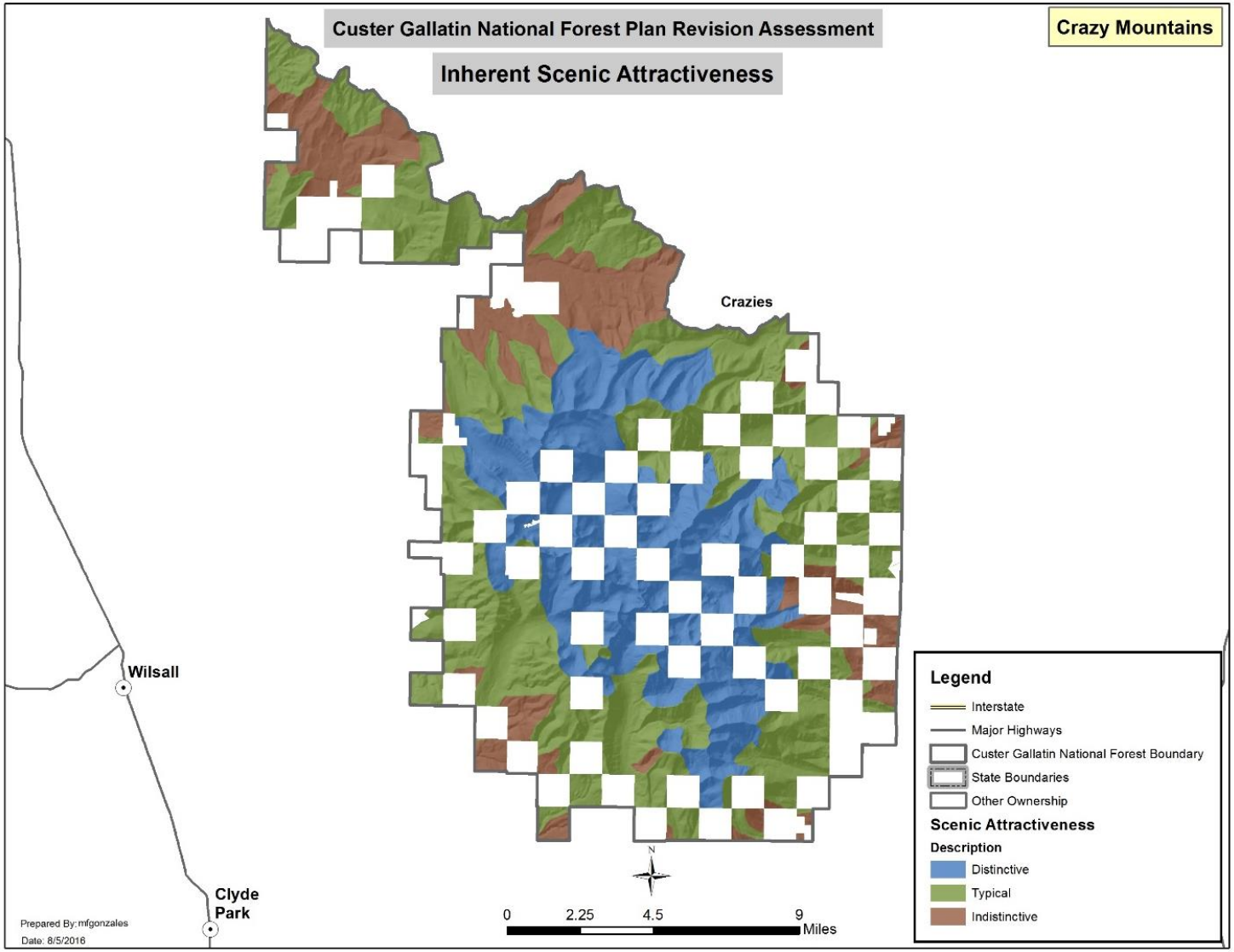

Figure 11. Inherent scenic attractiveness: Map for the Crazy Mountains

Bighorn Mountains Ecological Section

- Pryor Mountains Landscape Area

  This section has high mountains with sharp crests, rolling uplands, and dissected hills; narrow valleys cut the uplands. Soils formed in gneiss, carbonate, and shale rocks. Soils are shallow to moderately deep and of coarse texture. Vegetation is a combination of fir-spruce, lodgepole pine, sagebrush, and small areas of alpine tundra cover types at the highest elevations (USDA Forest Service 2007).

Inherent scenic attractiveness ratings for the Bighorn Mountains Ecological Section, which include the Pryor Mountains, are based upon combinations and distinctiveness of visible criteria that include: [3]

Land Forms

- Well defined and frequent avalanche chutes
- Serrated ridgetops and narrow, deep valleys; high flat, narrow plateaus with dramatic drop-offs
- Narrow canyons defined by sharp cliff edges
- Uplifted land that ends or is edged with sharp, dramatic cliffs

Rock Forms

- Prominent rock cliffs, outcrops, spires and convoluted erosion patterns
- Steep talus slopes; dominant vertical rock cliffs or exposed strata layers
- Unusual rock formations; sharply contrasting adjacent soil or rock colors

Vegetation

- Dominant patterns and juxtapositions created by the strong interplay of coniferous, deciduous and grass vegetation; strong year-long or seasonal variation in color
- Dominant north-south slope variation
- Sharply patterned contrasts between more densely vegetated areas and adjacent barer areas

Water Forms

- Fast flowing streams with turbulence due to rock rubble, lined with a variety of vegetation
- Waterfalls and cascades

Cultural Features

- Historic cabins and remnants of ranching

Pryor Mountains

Unlike many parts of the west side of the Forest, views of the Pryor Mountains are not dominated or defined by visible development on private land in the foreground. Instead, the foreground along the western and southern approaches is expansive, undeveloped dry grasslands, and bare mineral soil,

[3] Criteria are partly based upon USDA Forest Service, Visual Character Types and Variety Class Descriptions, R1-80-11.

intermittently grass-covered and spotted with sagebrush. The Forest Service section of the Pryor Mountains contains most of the higher elevation subalpine land in the area, bordered by the Crow Indian Reservation to the north, and on the west, south, and east by BLM land, part of which is the Pryor Mountain Wild Horse Range that crosses the Big Horn National Recreation Area managed by the National Park Service. Located 60 miles east of Red Lodge and about 60 miles south of Billings, the Pryors are not within the viewsheds of any communities or heavily settled areas other than Lovell, Wyoming, about 13 miles to the south. Visitors may be drawn to the Pryors for a variety of reasons, including their sense of isolation, to access highlands that overlook expansive vistas or to search out a greater understanding of its plants, animals, geology, human history and culture.

The geology of the Pryor Mountains is on display. Its thick layer of limestone has been uplifted towards the north and northeast, where it meets some gentler slopes before dropping down more sharply on the north and northeast sides. The limestone, more exposed near the bottom, is incised with deep, vegetated, steep-walled ravines that contrast starkly with the exposed light-colored limestone and soil on the adjacent slopes.

Up higher, the uplifted limestone culminates in the Douglas-fir and grass-covered gentler slopes of Big Pryor Mountain, the highest point in the Pryors at 8,780 feet, almost equaled by East Pryor Mountain at 8,776 feet. A strong visual difference between the north-facing and south-facing slopes is evident throughout the Pryors.

South and southwest-facing slopes are arid, covered mostly with sagebrush down lower, and sparse Utah juniper and some limber pine up a bit higher. Slopes that are north-facing or not angled directly to the sun and wind from the southwest are more lush, hosting Douglas-fir, lodgepole pine, and subalpine grassy meadows up higher with a variety of flowering perennials, and aspen in places with more moisture. Where there are slope breaks or sharp topographic changes, the limestone has eroded to form cliff breaks, canyons, and caves in the cliffs. Other formations that add to the visual variety include sandstone layers and disintegrating walls or domes of exposed bright rust-colored Chugwater and Amsden formations.

Because there are only two developed recreation sites (Sage Creek Campground and Big Ice Cave) within the Forest Service portion of the Pryors and no all-weather through-roads, the area has a sense of remoteness. However, there are lots of visible reminders associated with the history of the area, from old, unmaintained homesteader or cattle runner cabins, remnants of abandoned mines. While not obvious to the average visitor, the Pryor Mountains have a deep history for are considered sacred by the Crow Indians. There are still visible signs of their traditional use of the area, such as pictographs and caves. Early Forest Service presence is evidenced by the historic Sage Creek Ranger Station. A small research natural area has been designated in Lost Water Canyon and a portion of Lost Water Canyon was designated as recommended wilderness in the current Custer Forest Plan. Portions of Crooked Creek and Lost Water Canyon Creek were found eligible for potential classification in the Wild and Scenic River System in the current Custer Forest Plan.

Several small bands of wild horses, visible in the designated territory on East Pryor Mountain, add a popular element for visitors who have come to associate wild horses with the Pryors. The horses add to the wild character of the Pryors and increase enjoyment for people viewing the scenery.

Figure 12. (Left) Bear Canyon on Big Pryor Mountain; (right) Commissary Ridge and Dryhead Overlook of East Pryor Mountain

Table 7. Inherent scenic attractiveness: Acres for the Pryor Mountains

Inherent Scenic Attractiveness Level	Acres of National Forest Land [1]	Percent of National Forest Land
Distinctive	51,665	69%
Typical/Common	19,548	26%
Indistinctive	3,853	5%
Totals	**75,067**	**100%**

[1] Acres for land lost or acquired since then are not included.

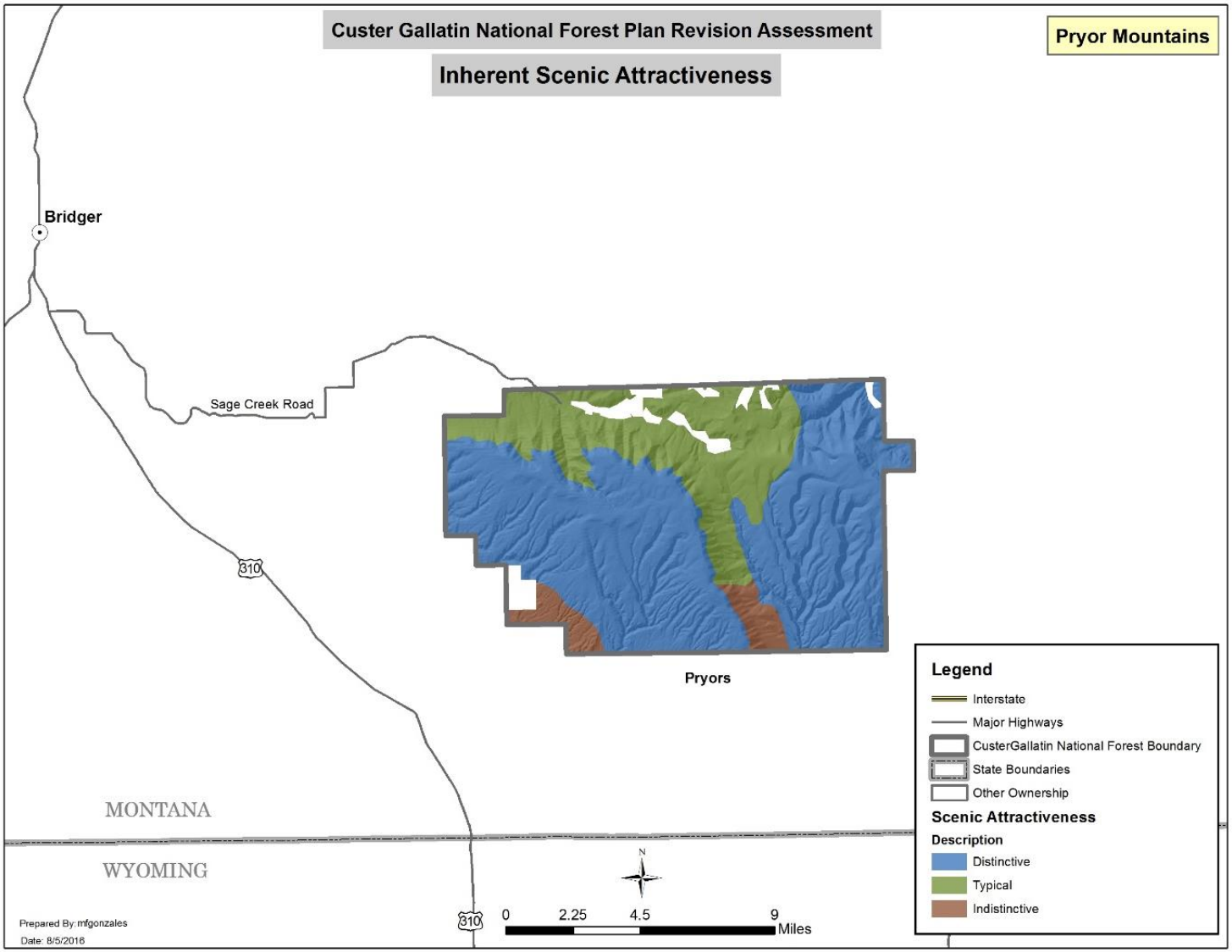

Figure 13. Inherent scenic attractiveness: Map for the Pryor Mountains Landscape Area

Powder River Basin Ecological Section

- Ashland Landscape Area

  This section includes a variety of landforms: gently rolling to steep dissected plains; flat-topped, steep-sided buttes; and steeply sloping badlands along some large river valleys. Soils formed from nonmarine sedimentary rocks. Vegetation includes Great Plains grasslands, ponderosa pine, and sagebrush cover types (USDA Forest Service 2007).

Rocklands are not abundant, usually occurring as broken, rocky soil. Parklands contain ponderosa pine and aspen in clusters separated by large openings. Creeks are generally small, meander very little and often dry up in the hot summer months. Stock water ponds and small creek impoundments are numerous and are part of the characteristic landscape. Endless grazed prairie, separated by hills and plateaus, is characteristic of this Section. Inherent Scenic Attractiveness ratings for the Powder River Basin Section, which includes the Ashland District, are based upon combinations and distinctiveness of visible criteria that include: [4]

Land Forms

- Highly dissected, steep slopes in breaks, sharp topographic variety, narrow ridges with abrupt drop-offs
- Broad basins with moderate relief at drainage heads
- Bare ridges
- Flood plains

Rock Forms

- Limestone canyons, bare rock cliffs
- Talus slopes associated with rock outcrops
- Caves, sinkholes
- Highly colored shale outcrops (reds, grays, purples), soft shale formations
- Eroded uplands, plateaus and butts

Vegetation

- Highly contrasting forest and grassland colors
- Grasslands, parks on south slopes and aspen intermixed, in strong patterns, with coniferous cover
- Ponderosa pine and aspen in draws of foothills

Water Forms

- Small creeks with gravel or cobble bottoms, some pools and riffles
- Dried lakebeds with associated marsh vegetation
- Natural lakes with clear water, gravel bottoms, irregular shorelines lined with riparian vegetation

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[4] Criteria are partly based upon USDA Forest Service, Visual Character Types and Variety Class Descriptions, R1-80-11.

Cultural Features

- Historic cabins, stone culverts and walls, visually subordinate ranching elements, such as fence lines

Ashland District

The Ashland District Landscape Area is slightly elevated, dissected land between the Tongue River on its west and the Powder River on its east, with Otter Creek cutting through it from south to north. One primary road, from which travelers view land in the Ashland District is Highway 212, an east-west road between Ashland and Broadus. Secondary roads, such as Ashland Birney Road and the Otter Creek Road, provide limited views up to side slopes and low ridgetops, and numerous other primitive roads follow shallow valleys and rolling grasslands around low mountain breaks, providing views across open grasslands up to occasional steep rock outcrops and exposed light gray soil and rock on drier and barer south-facing slopes, backed by Ponderosa pines and grass on the upper flatter or north-facing slopes. Elevational differences between the low points and high points are generally only about 600 to 800 feet. However, the low development Cook Mountain Hiking and Riding Area, in the north, tops out at 4,369 feet, and two of the other high points in the south of the District, Poker Jim Butte (4,348 feet) and Diamond Butte (4,301 feet) both host fire lookouts. The King Mountain and Tongue River Breaks Hiking and Riding Areas are also low development and provide views of the surrounding national forest land and down more than 1,000 feet into the Tongue River Valley below. In 2012, the Ash Creek and Taylor Fires changed the scenic character when they burned across approximately two-thirds of the District in a mosaic fashion, torching and killing ponderosa pines and other vegetation. The Ashland District has seen about 63 percent of the District affected by wildfire since 1994.

Visible cultural features that contribute to the scenic character are the two fire lookouts and the historic Whitetail Cabin built by the Civilian Conservation Corps in the 1930s. Other still-visible elements constructed by the Corps camp located in Ashland include the Red Shale Campground and numerous dry-laid stone culverts throughout the area and other rock walls, like the one at the District Office in Ashland. Grazing, as a common theme throughout this area, is visible in the form of fences, stock ponds, and other supporting elements. Even some of the place names relate to the early ranching days, such as Poker Jim, a ranch hand whose name is found on a number of landmarks and locations in eastern Montana, North and South Dakota, and beyond. Every year Shakespeare in the Parks does a presentation on the grassy plateau area and picnic area next to the Poker Jim Lookout, with commanding westerly views over the Tongue River drainage and the Northern Cheyenne Indian Reservation.

Figure 14. Whitetail Cabin, Ashland District

Table 8. Inherent scenic attractiveness: Acres for the Ashland District

Inherent Scenic Attractiveness Level	Acres of National Forest Land [1]	Percent of National Forest Land
Distinctive	236,453	54%
Typical/Common	164,415	38%
Indistinctive	35,265	8%
Totals	**436,133**	**100%**

[1] Acres for land lost or acquired since then are not included. Field verification pending.

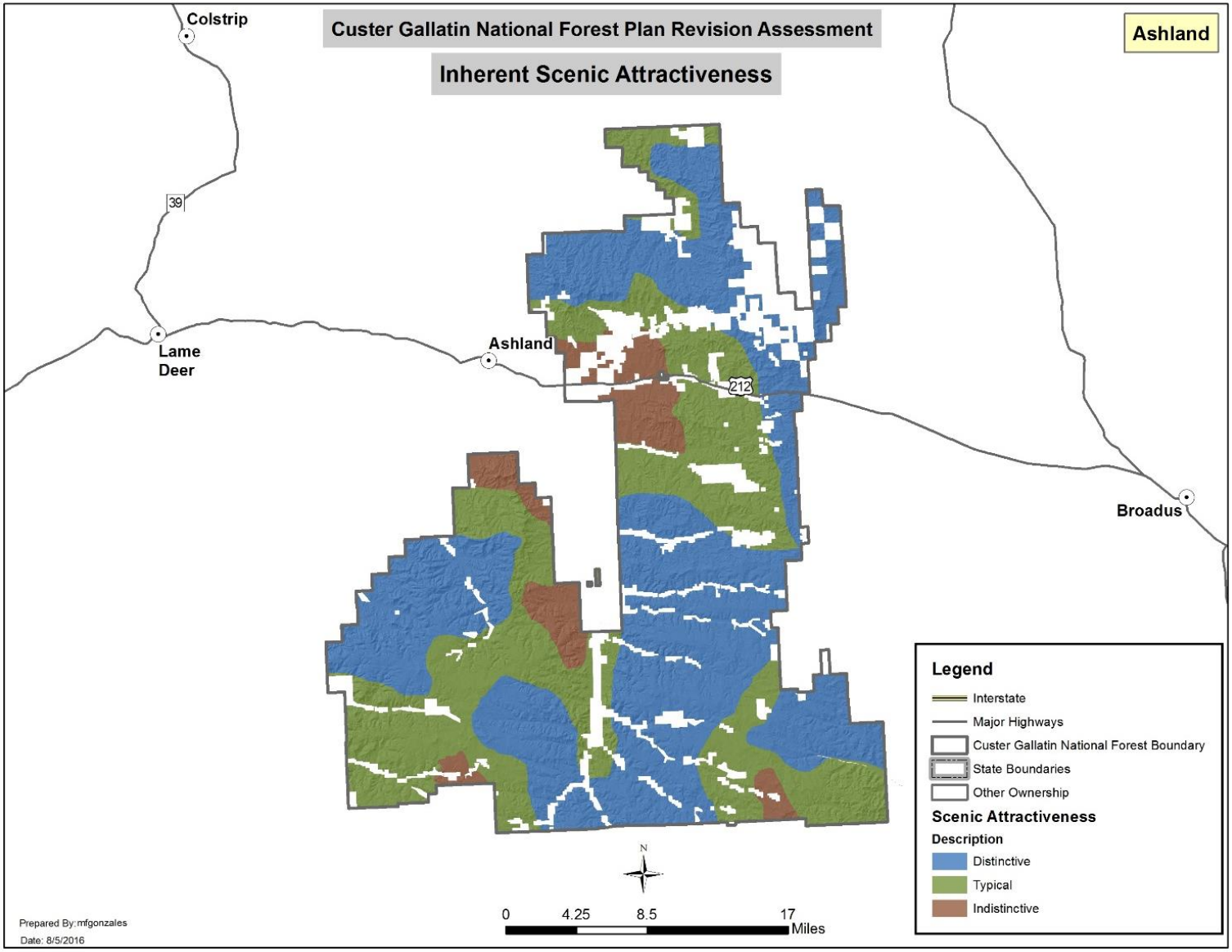

Figure 15. Inherent scenic attractiveness: Map for the Ashland District

Sioux District

The Sioux District consists of eight separate land units that fall into the two ecological sections. All eight units are discussed together.

North Central Highlands Ecological Section

- Chalk Buttes
- Ekalaka Hills

This section is an unglaciated plain with many small intermittent streams; also present are areas of scattered hills and plains with eroded buttes. Geologic formations are sedimentary shales that weather to form soils having high clay content. Vegetation consists of Great Plains grasslands and [isolated] ponderosa pine cover types (USDA Forest Service 2007).

Missouri Plateau Ecological Section

- Long Pines
- North and South Cave Hills
- East and West Short Pines
- Slim Buttes

This section has mostly moderately dissected, unglaciated flat to slightly rolling plains with areas of badlands. Sandstones with some small areas of shales and coal form the geologic substrate. Vegetation includes Great Plains grasslands and ponderosa pine cover types (USDA Forest Service 2007).

Inherent Scenic Attractiveness ratings for the North Central Highlands Section and the Missouri Plateau Section, including all units of the Sioux Ranger District, are based upon combinations and distinctiveness of visible criteria that include: [5]

Land Forms

- Dissected, distinctive flat-topped buttes and plateaus
- Mesas with sharp edges and cliff drop-offs
- Sharp promontories
- Exposed, visually dominant cliffs, outcrops, or breaks
- Varied erosional patterns, badlands

Rock Forms

- Exposed, visually dominant cliffs, outcrops, or breaks
- Varied erosional patterns, badlands

[5] Criteria are partly based upon USDA Forest Service, Visual Character Types and Variety Class Descriptions, R1-80-11.

Vegetation

- Woodlands or ponderosa pine parklands
- Seasonal deciduous color
- Cottonwoods, willows lining streams or rivers
- Contrasting colors between types of vegetation

Water Forms

- Large reservoirs
- Free-flowing streams in rocky beds
- Wild segments of the Missouri and Little Missouri Rivers

Cultural Features

- Historic cabins, visually subordinate ranching elements, such as fence lines

The eight Sioux District units spread across Montana and South Dakota are often romantically described as "islands of green in a sea of rolling prairie." All of the units are discrete areas of mesas and hills that are partially covered by ponderosa pines rising 300 to 500 feet above the surrounding wheat and hay fields, rolling prairie, and pasture land. The Castles and Capitol Rock are two classified national natural landmarks on the District. The Castles, located in the Slim Buttes unit, are a massive sandstone uplift resembling a medieval castle. Capitol Rock, located in the Long Pines unit, is a massive white siltstone, sandstone, and volcanic ash uplift resembling the Nation's capitol building in Washington, D.C., and is surrounded by rolling open grassland with only small, intermittent pockets of trees to the east and more on north-facing sides of ridges to the west. While not nationally designated, other dramatic limestone cliffs and breakovers exist in almost all of the units. Chalk Buttes and Ekalaka Hills are more forested than Long Pines, and much more so that the North and South Cave Hills units which are mostly open grassland stepped plateaus where stringers or groups of trees are found mostly in ravines or other areas somewhat sheltered from the wind. Even in the Slim Buttes unit with its spectacular walls and continuous escarpments of wildly eroded sandstone, shale, and ash, there are larger areas of ponderosa pines, but they still appear to be limited to ravines, northerly sides of ridges, or sheltered among rock outcrops on topographically convoluted land, like the area north of Reva Gap along Highway 20. Those who venture into the interior of some of the units find numerous natural springs and a few rare natural ponds encouraging deciduous vegetation and shrubs that provide contrasting fall colors. Over the years fires have played a role in shaping the vegetation in different parts of these units, in places burning through large sections of ponderosa pine, especially in the Ekalaka Hills and the Long Pines units locally affecting the scenic character, but not their overall inherent scenic attractiveness.

Highway 20, as it passes through Reva Gap and by Reva Gap Campground, offers impressive views of the evocatively-shaped eroded limestone outcrops called the Castles and Battleship Rock. There are a number of very small communities and infrequently-travelled roads, from which these raised islands of the Sioux District are viewed. Highway 323 passes southeast of Ekalaka through the Ekalaka Hills unit and provides views of some sloping grassy meadows back by ponderosa pines in the immediate foreground. From Highway 85, where it passes through Ludlow, the North and South Cave Hills units are barely discernible.

Figure 16. Capitol Rock National Natural Landmark in the south part of the Long Pines Unit, Sioux District

Throughout these units there are some visible reminders of their history. In the Ekalaka Hills unit, Camp Needmore is a historic camp constructed by the Civilian Conservation Corps in the 1930s to house men working in the logging industry. The Jesse Elliot Cabin in the south part of the Slim Buttes unit is a historic Forest Service ranger station.

Table 9. Inherent scenic attractiveness: Acres for the Sioux District

Inherent Scenic Attractiveness Level	Acres of National Forest Land [1]	Percent of National Forest Land
Distinctive	137,286	83
Typical/Common	27,173	17%
Indistinctive	0	0%
Totals	**164,460**	**100%**

[1] Acres for land lost or acquired since then are not included. Field verification pending.

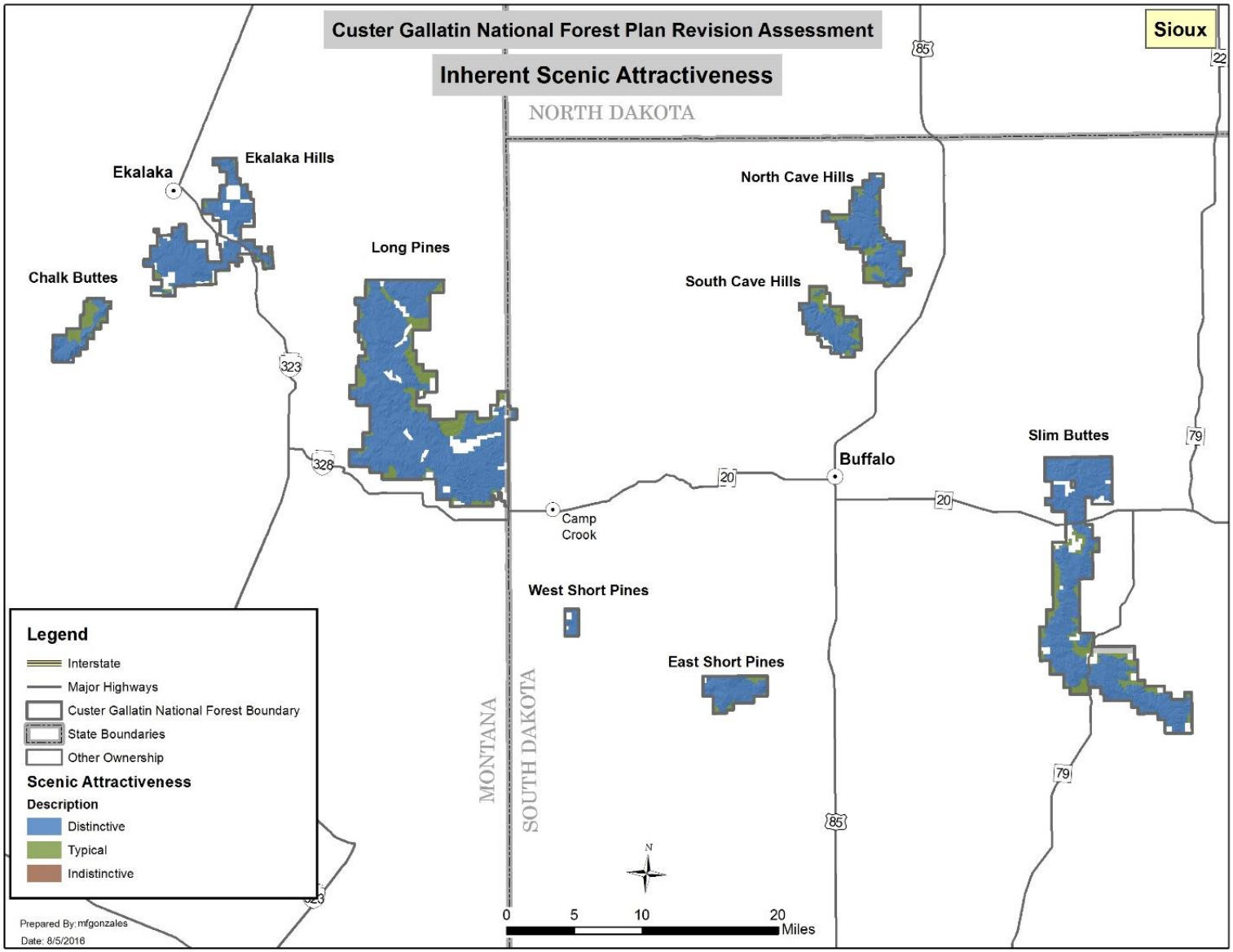

Figure 17. Inherent scenic attractiveness: Map for the Sioux District

Existing Scenic Integrity

The assumptions and protocols that were used for the 2008 GIS Forest Service Northern Regionwide processes to generate existing scenic integrity maps, which created the most recent consistent ESI product for both Forests, were:

- Past vegetation treatments, like timber harvests or fuel reduction work and any associated areas of concentrated road construction, from the "FACTS" database were categorized into "no impacts", "some impacts" and "significant impacts"
- Oil and gas developments and associated concentrated roads (400-meter buffers were mapped)
- Ski areas (400-meter buffers were mapped)
- Active mines (800-meter buffers were mapped)
- Inactive mines (400-meter buffers were mapped)
- Utility corridors (70-meter buffers were mapped)
- Recreation opportunity spectrum maps for the national forest available at the time (primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural)
- **Note:** For this GIS mapping process, wildland fire was considered a natural disturbance and as such, does not lower the existing scenic integrity, even though unnaturally large stand-replacing wildfires across entire viewsheds do change the scenic character, especially in the short term, as has occurred on the Ashland, Sioux, Beartooth, Yellowstone, and Bozeman Districts over the last 25 years or so.

It is very important to note that these GIS map results are very coarse, generalized, and based entirely upon databases and aerial photos available in 2008. Before this information is used for the development of forest plan revision alternatives, it must be verified and correlated with the actual, current, on-the-ground situation, visibility, and conditions.

Table 10. Existing scenic integrity: For the national forest land in the Henry's Lake, Madison, Gallatin, Absaroka, and Beartooth Mountains

Scenic Integrity Level	Acres of National Forest Land in 2010 [1]	Percent of National Forest Land (2016 acreage)
Very High	1,035,675	48
High	956,580	44
Moderate	38,902	2
Low	127,256	6
Unacceptably Low	0	0
Totals	**2,158,413**	**100**

[1] Acres were based upon very coarse 2010 Regional-level parameters. Levels were not verified from viewpoints on the ground. Acres do not include lands lost or acquired since that time.

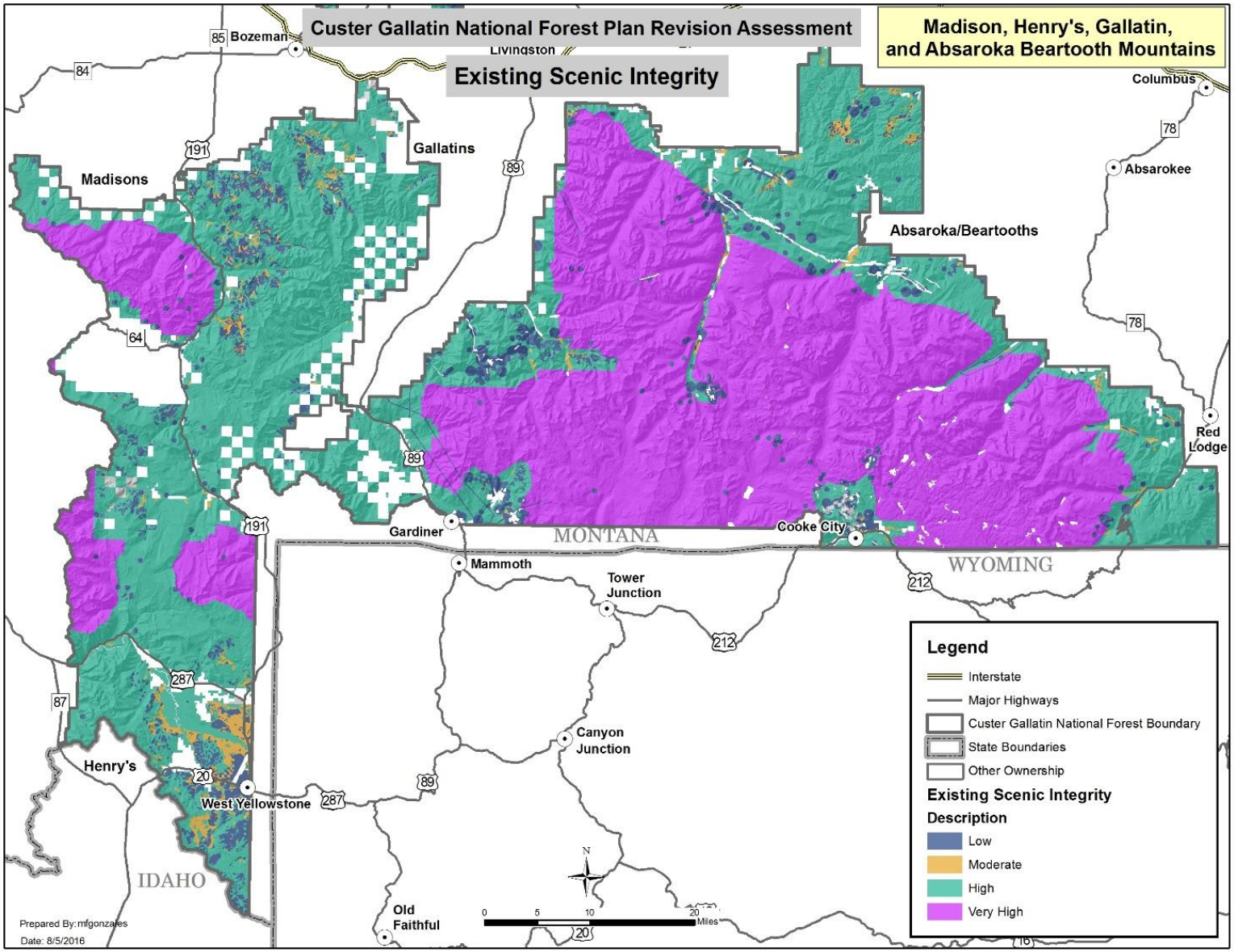

Figure 18. Existing scenic integrity: For the national forest land in the Henry's Lake, Madison, Gallatin, Absaroka, and Beartooth Mountains

Table 11. Existing scenic integrity: For the national forest land in the Bridger, Bangtail, and Crazy Mountains

Scenic Integrity Level	Acres of National Forest Land in 2010 [1]	Percent of National Forest Land (2016 acreage)
Very High	0	0
High	181,373	89
Moderate	2,949	1
Low	20,188	10
Unacceptably Low	0	0
Totals	**204,510**	**100**

[1] Acres were based upon very coarse 2010 Regional-level parameters. Levels were not verified from viewpoints on the ground. Acres do not include lands lost or acquired since that time.

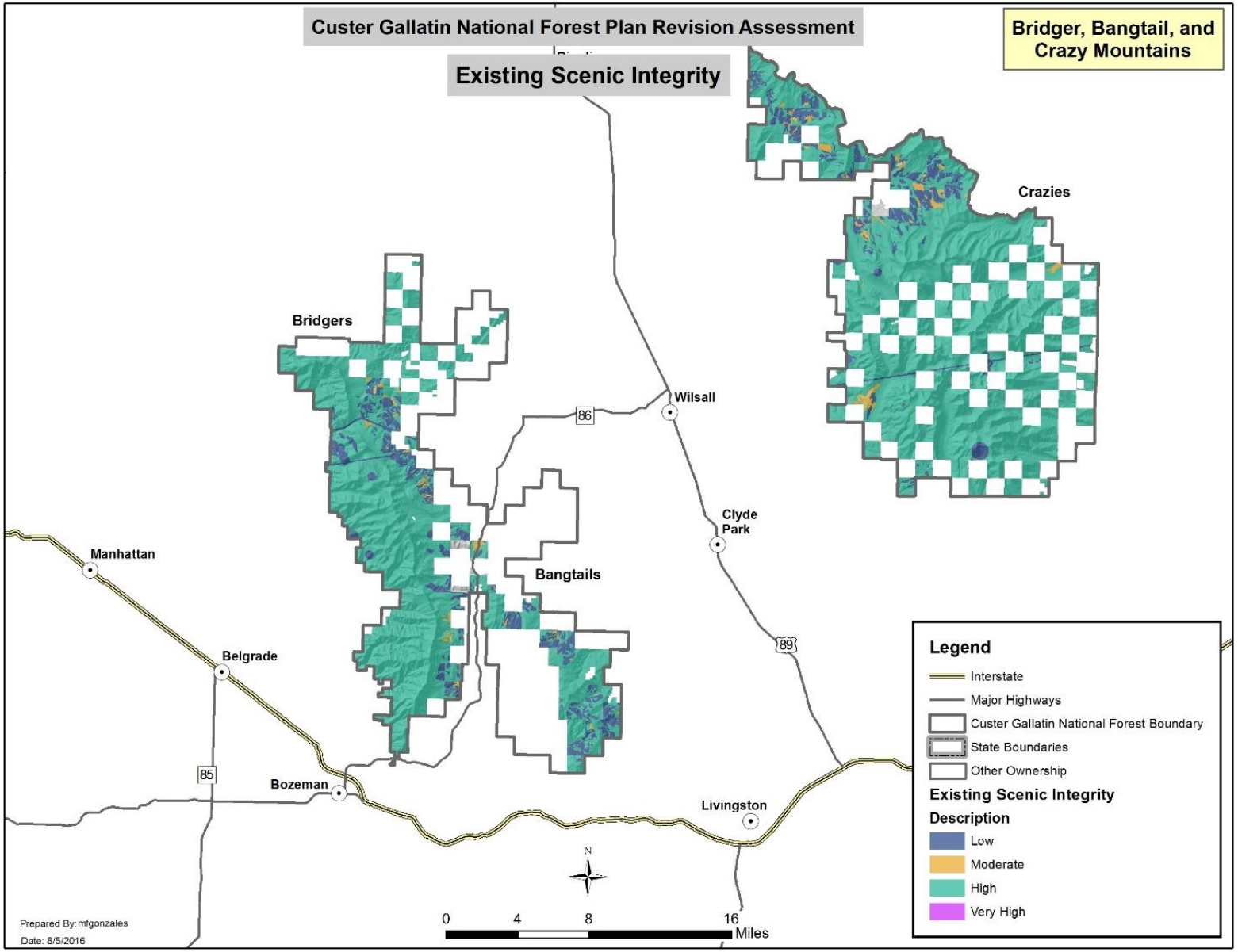

Figure 19. Existing scenic integrity: For the national forest land in the Bridger, Bangtail, and Crazy Mountains

Table 12. Existing scenic integrity: For the national forest land in the Pryor Mountains

Scenic Integrity Level	Acres of National Forest Land in 2010 [1]	Percent of National Forest Land (2016 acreage)
Very High	0	0
High	69,774	93
Moderate	1,626	2
Low	3,618	9
Unacceptably Low	0	0
Totals	**75,019**	**100**

[1] Acres were based upon very coarse 2010 Regional-level parameters. Levels were not verified from viewpoints on the ground. Acres do not include lands lost or acquired since that time.

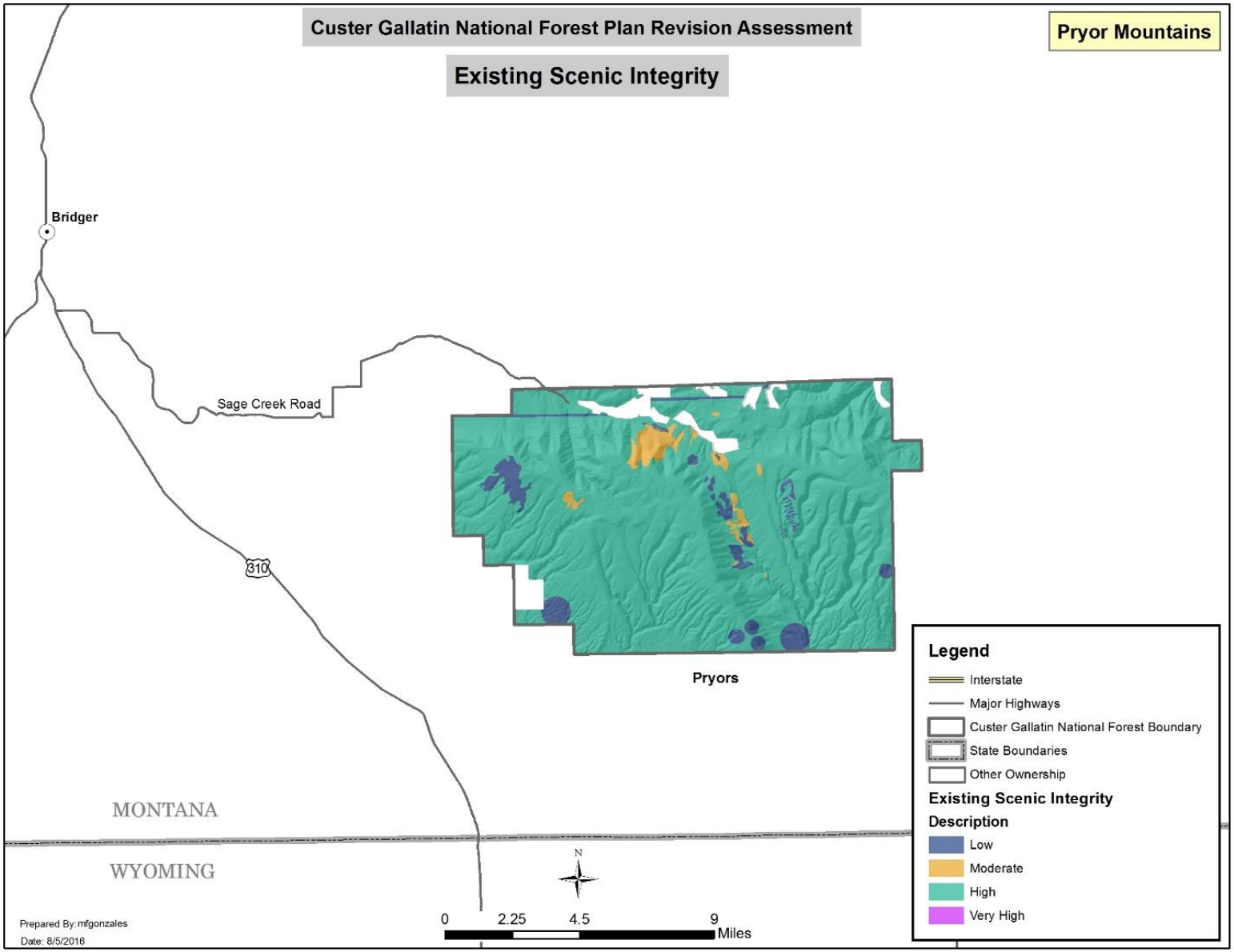

Figure 20. Existing scenic integrity: For the national forest land in the Pryor Mountains

Table 13. Existing scenic integrity: For the national forest land in the Ashland District

Scenic Integrity Level	Acres of National Forest Land in 2010 [1]	Percent of National Forest Land (2016 acreage)
Very High	0	0
High	415,838	95
Moderate	7,346	2
Low	12,504	3
Unacceptably Low	0	0
Totals	**435,689**	**100**

[1] Acres were based upon very coarse 2010 Regional-level parameters. Levels were not verified from viewpoints on the ground. Acres do not include lands lost or acquired since that time.

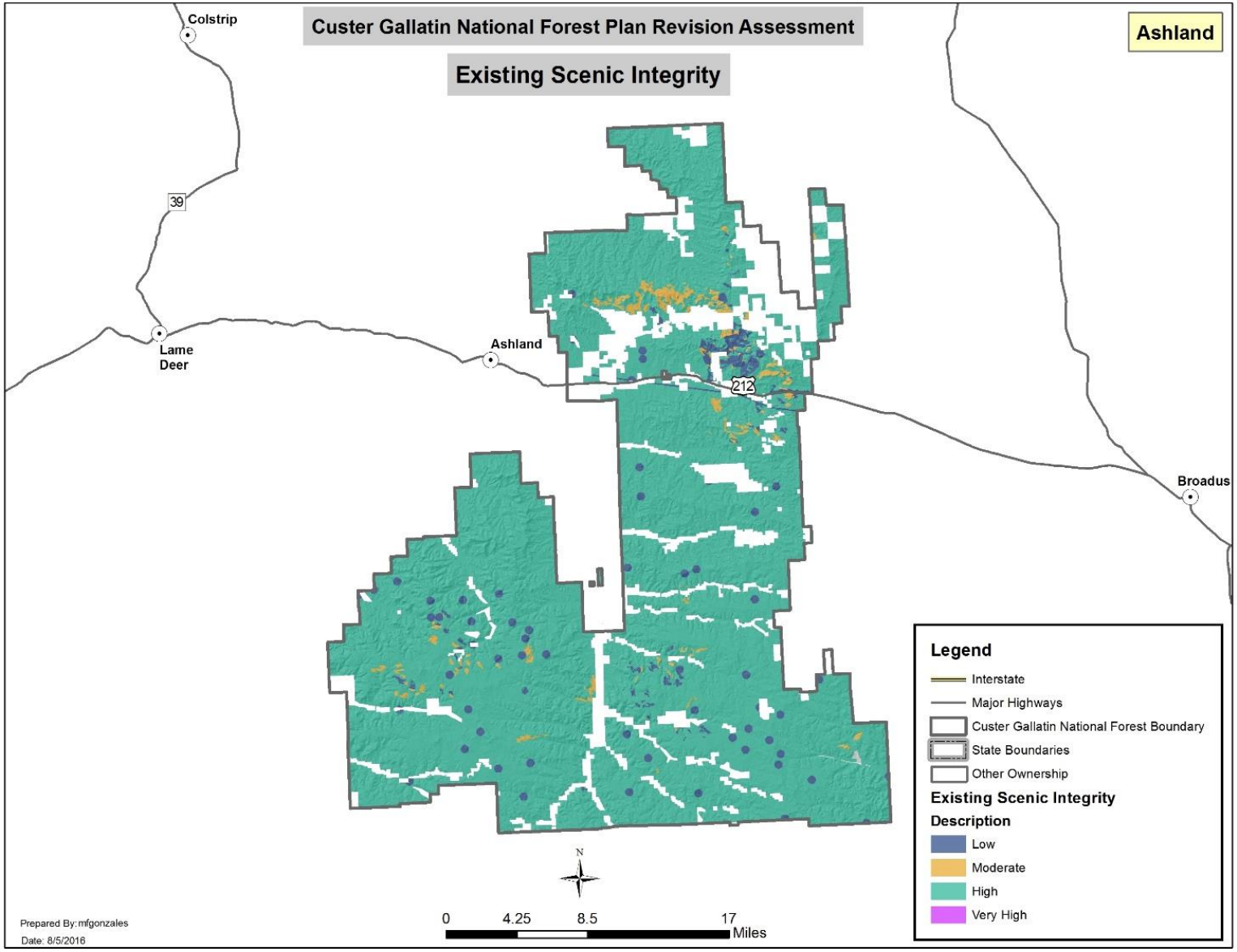

Figure 21. Existing scenic integrity: For the national forest land in the Ashland District

Table 14. Existing scenic integrity: For the national forest land in the Sioux District

Scenic Integrity Level	Acres of National Forest Land in 2010 [1]	Percent of National Forest Land (2016 acreage)
Very High	0	0
High	139,049	89
Moderate	7,743	5
Low	17,231	11
Unacceptably Low	0	0
Totals	**164,021**	**100**

[1] Acres were based upon very coarse 2010 Regional-level parameters. Levels were not verified from viewpoints on the ground. Acres do not include lands lost or acquired since that time.

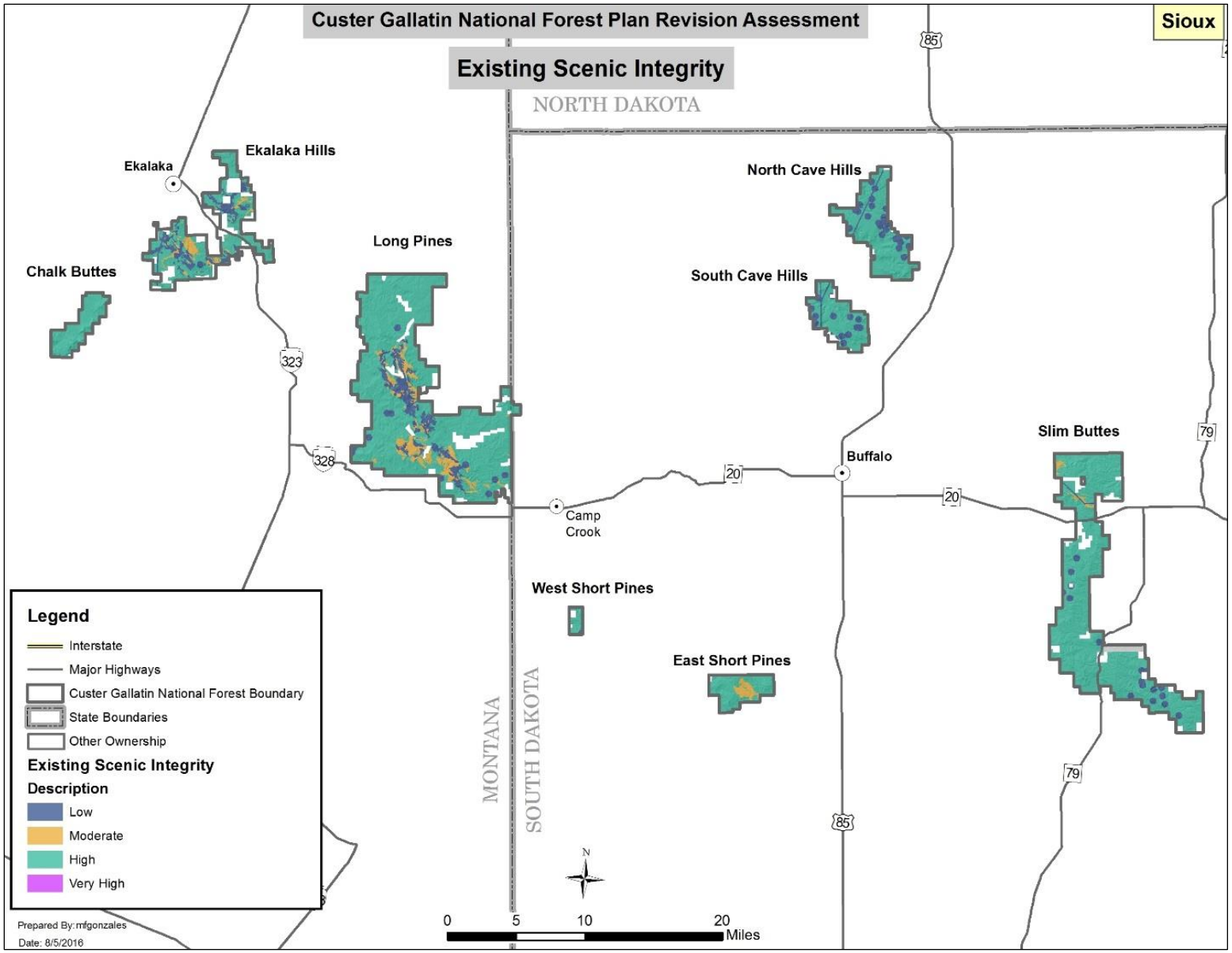

Figure 22. Existing scenic integrity: For the national forest land in the Sioux

Key Benefits to People

The scenery provided by national forest land is one of the primary ways that people relate to it. The scenery is accessible and enjoyable by everyone, with or without any specialized degree, education, or equipment. According to USDA Forest Service (2012), the most popular outdoor activity for people age 16 and older participating in nature-based outdoor activities is viewing natural scenery and nature. The benefits of and values derived from viewing scenery may be tangible and quantifiable, as well as more personal and less easily defined.

Intangible benefits include:

- High quality scenery, especially scenery with predominantly natural-appearing landscapes, enhances people's lives and benefits society. (USDA Agricultural Handbook 701, Landscape Aesthetics: A Handbook for Scenery Management, 1995)
- The national forest scenery can evoke a sense of identity, spirituality, stability, strength, calming; or an invitation for physical and mental challenge, adventure, and excitement; or even encourage a return or an escape to a slower pace with less dependence upon technology.
- Whether viewers are driving on a Forest Service road, relaxing next to their RV in a Forest Service campground, commuting to work, or looking out their living room window, the character of the scenery helps establish their sense of place, depending upon each individual viewer as well as the character of the scenery. This is true for the expanses of ruggedly steep alpine zone in the Madison, Absaroka, or Beartooth Mountains; the open rolling rangelands of the Ashland and Sioux areas that are punctuated by uniquely eroded rock formations; as well as the sharp limestone cliffs, canyons, caves and small bands of horses of the Pryor Mountains.

In addition to the more common intangible benefits of the scenery, there are very real quantifiable economic benefits that contribute to communities.

- Film companies are often able to find the settings they are looking for on national forest land or with national forest land as a backdrop. A few well-known examples of movies partly filmed on the Gallatin National Forest, with national forest land as a backdrop, are "Horse Whisperer" and "A River Runs Through It", which then produced what the Montana State Film Office referred to as "a stunning love affair with the state" (Myers 2003). Another newspaper article entitled "Reflecting on the film "A River Runs Through It" and how it changed Montana" states that "The film boosted the local fly-fishing and real estate industries, attracted tourists to Montana, and drew attention to the state's beauty and beloved rivers." (Flandro 2012). Filming production work, such as those two films, brings economic benefit to local communities where the filming activities are staged, as well as a long-term increase in people vacationing, moving, or establishing businesses with jobs to communities surrounding the national forest.
- According to Lawson (2016), "Federal lands provide a scenic backdrop to many rural places, creating a community-defining attractive landscape that can attract new residents such as entrepreneurs and retirees who start or bring new businesses, create jobs and spend their nest egg. This in turn stimulates the construction, real estate, retail and health care sectors."
- Businesses that are looking for employees with specialized skills are able to attract highly-qualified employees because they can advertise the excellent quality of life, into which the scenery, provided by the national forest land as a backdrop to the communities, contributes.

- Values for real estate in surrounding areas with views of hilly or mountainous national forest land, whether for homes, vacation properties, or even sometimes businesses, increase. Real estate agents often sweeten their advertisements with language like "magnificent mountain views" and "Buy this view!" or "Do you dream of views to the distant peaks." The presence of and type of view is a factor that is considered when appraisers determine the value of real estate. These real estate-related tangible economic benefits of the scenery are especially true for the communities and land neighboring the western parts of the Custer Gallatin National Forest, from Red Lodge across to the west, where the national forest land is higher than surrounding residential land and roads, forming a defining and desirable element of the viewsheds.

Trends, Drivers, Risks and Stressors

The 2012 Planning Rule defines social sustainability as the "capability of society to support the network of relationships, traditions, culture, and activities that connect people to the land and to one another, and support vibrant communities." Scenery connects people to the land. There are some trends that are driving stressors and creating risks to the sustainability of valued scenery, some local and some more widespread.

- Insects, diseases, and reduced or uncertain precipitation is changing the vegetation character and susceptibility in places. For example, on many of the north-facing slopes in the Bridgers and north Gallatin Range, spruce bud worm has repeatedly attacked Douglas-fir, causing the trees across entire slopes to die and eventually fall. This may cause some trails and recreation areas that had been in darker, shady forest to become more open and less desirable for mid-summer activities, and feel less secluded, especially those close to a metropolitan area, like Bozeman.
- With uncertain precipitation and higher temperatures, fires size seems to be increasing, causing less of a mosaic pattern and crowning entire viewsheds. As these sizes expand beyond what is predictable, especially in viewsheds where the trees had been a key visual component, the quality of the scenery may be lowered. However, sometimes the other elements (landforms, rockforms, waterforms and new vistas) may overpower the burned trees.
- Over time, efforts to suppress fires in high risk locations near communities and interspersed settled areas in the wildland-urban interface may have subtle effects on visible natural patterns. An example of this is where the desirable natural-appearing pattern is open south-facing slopes and forested north-facing slopes. Over time, fire suppression may result in conifers and other trees pioneering into these openings.
- Some recreation site settings, like shady campgrounds with vegetative buffering and privacy between campsites or between the site and travel routes, are becoming unsustainable as the overstory is affected by a variety of insects and diseases. Many Forest Service recreation sites have desirable characteristics that include large diameter older trees that are susceptible to insects, disease, and wildfire. As old trees die, the vegetative buffering and setting is changing, thinning, and becoming more open at some Forest Service developed recreation or administrative sites, such as the Shenango Helibase in Gallatin Canyon, that has become more visible from Highway 191.
- Previously undeveloped private land adjacent to the national forest and in the same critical viewsheds as national forest land is being developed as the economy improves, more people retire and seek a location with "quality of life," and more people desire first or second homes in

locations where they can enjoy the benefits of nearby national forest land. This trend can threaten views of national forest scenery in a few ways.

  - In places, large homes are being built on private land in visually prominent locations where they visually dominate entire viewsheds either from national forest land or from major travel routes and other viewing locations outside of the national forest. Examples of this are some of the houses in Big Sky that have been constructed in the subalpine zone very close to the Lee Metcalf Wilderness, where they are visually dominant due to their size, colors, and forms, or even due to sun reflecting off of large picture windows.
  - As currently undeveloped wildland-urban interface is developed for housing, owners expect protection from fires that spread from the national forest to the adjacent private land. Likewise, this has also increased the risk of fire starts on private land spreading to the adjacent national forest land. Where the wildland-urban interface is expanding, so has the need to address this increased risk by reducing fuels on national forest land. These efforts may result in changes to the character of the scenery not only to the adjacent neighbors but to the general public as well. Depending upon the viewpoint and viewshed, this may cause the access roads or the structures on private land to become more visible especially if they were previously visually buffered by forested national forest land. While it is the homeowners in the wildland-urban interface who may benefit most from the fuel reduction work, the changed views may end up affecting more of the public viewers beyond just the immediate wildland-urban interface homeowners.

- As the population in neighboring communities continues to rise, such as in Gallatin County, demand for services such as water supply, communication towers, energy transmission lines (similar to the upgrade project that recently occurred in Gallatin Canyon to Big Sky), and alternative energy sources may increase. These types of developments could urbanize or change the character or condition of the scenery in areas of the national forest.
- A positive trend for the quality of the scenery is that locations where more intensive logging practices, such as jammer roads and fanned-out cable logging, were used roughly 50 years or so ago have been restored and/or are filling back where those cuts are much less discernible and visually dominant. However, when fires burn through areas that have existing jammer roads, those roads may become visually dominant once again.
- A similarly positive trend is where intensively mined areas have been expertly restored, such as in the New World Area near Cooke City. Some of the old mining activities and roads are no longer recognizable.

Information Needs

- **Clarify and Verify the Existing Scenic Integrity.** The ratings from the coarse-scale 2008 GIS Regional maps need to be correlated with how viewers on the ground experience impacts to the scenery in their context.
- **Determine Where the Critical Viewsheds Are.** The process of determining the landscape visibility involves understanding which are the most critical travel routes and corridors and what are the corresponding distance zones from those.
- **Correlate Existing Scenic Integrity with Critical Viewsheds.** Determine if there are areas within critical viewsheds where the existing scenic integrity is low but can be improved. Once field-

verified, existing disturbances that have lowered the scenic integrity in important viewsheds as viewed from critical viewpoints and travelways should be included in the forest plan proposals for proactive mitigation and rehabilitation.

- **Determine Scenic Classes.** The product of this process that involves correlating landscape visibility with the inherent scenic attractiveness is a range of scenic classes that rate the relative importance of the entire national forest based upon the scenery. Scenic classes are then used in the interdisciplinary discussions and development of alternatives by knowing where a compromise of scenery values might be acceptable to be able to accomplish other multiple resource goals, or conversely, where the compromise of scenery values might not be acceptable.
- **Develop Scenic Integrity Objectives.** These objectives will be used in the forest plan revision alternatives to describe desired levels of scenic integrity as well as minimum allowable levels/thresholds of scenic integrity, or conversely, maximum amount of allowable disturbance to the landscape character.

Key Findings

- The character of the scenery in the Custer Gallatin National Forest is so incredibly diverse that it spans three ecological provinces, and within those, six different ecological units. Those are the units most appropriately used to classify the inherent scenic attractiveness of the national forest.
- The national forest lands within the Custer Gallatin National Forest represent very unique, distinctive, and thus valuable scenery. Roughly 48 percent of the national forest is “class A distinctive” scenery, where the landforms, vegetation patterns, water characteristics, and cultural features combine to provide unusual, outstanding scenic qualities.
- A variety of trends, drivers, risks and stressors, both positive and negative, affect national forest management of the scenery. Over the last 20 to 30 years, natural revegetation has been occurring across the Custer Gallatin National Forest softening the visual impacts of areas previously logged by more intensive methods. However, where fire has burned through vegetation that hid old jammer roads or cable access roads, the roads become visible once again. Similarly, the scenic integrity of mining areas restored over the last 15 years or so that have been restored has dramatically improved.

  Forest insects and diseases such as spruce bud worm and pine beetles have been affecting portions of the Custer Gallatin National Forest. In some areas, entire slopes now appear as grey dead trees, having lost their dead, reddish-colored needles. In other places, the dead trees appear more scattered.

  Another trend affecting scenery is the increase of people moving to the private lands surrounding and surrounded by the western side of the national forest who are building first homes, retirement homes, or second houses for recreational purposes. As more houses, powerlines, roads, and other developments are being built in forested land adjacent to the national forest (or on national forest land in the case of powerlines), with some houses even pushing into the subalpine zone such as in Big Sky, the wildland-urban interface expands correspondingly. Along with the expansion of the wildland-urban interface comes an increased risk of fire starts on private land spreading into the Custer Gallatin National Forest and also increased expectation on the part of homeowners for protection from fires that may start on

the national forest and spread to private land. In response, as this drives the need to implement more fuel reduction work to slow down fires in the wildland-urban interface on both private and national forest land, roads and houses become more visible to surrounding viewers. If or when fires do occur, those roads and structures are left much more visible. Since it is often impossible for viewers to know where private/Forest Service boundaries are, overall viewsheds may be impacted.

- Even though the existing scenic integrity inventory used for this assessment was a gross-scale 2008 GIS product that still needs to be refined and ground-verified, the results are useful. It shows that the condition of the scenery across the national forest is roughly 92 percent "Very high" or "high" scenic integrity; 2 percent is "moderate;" and the remaining 6 percent is "low". The 8 percent of "moderate" and "low" accounts for specific areas and points on the ground where there are dense numbers of roads or switchbacks, old timber harvests, transmission lines, or mining areas, such as Riley Pass in the North Cave Hills of the Sioux Ranger District or on the east side of the Beartooth Mountains. It also ranked as "low" areas such as the old Independence Mining area at the head of the Main Boulder drainage that has become a fairly popular destination for ATV and UTV enthusiasts. Riley Pass is currently being restored and already the condition of the scenery in parts of that area has improved. A very small portion of that 8 percent may be errors since a number of "low" points showed up inside the Lee Metcalf and Absaroka Beartooth Wildernesses and appear to correspond to no perceptible development on the ground.
- When applied as intended, the forest plan visual quality objectives on the Gallatin National Forest have worked well to produce the desired condition of the scenery. In the early years of the forest plan, a few logging projects that are very visible from the Gallatin Valley did not apply or meet the visual quality objectives and still today are cited as examples of unpopular actions of Forest Service management.
- There have also been deviations from the desired visual condition where it was determined that a project-specific exemption from Forest Plan visual quality objectives was appropriate to meet higher priorities or public needs.
- In a very few cases, as travel routes, land ownership, or settlement patterns have changed through the years, the current Gallatin National Forest visual quality objectives have not been appropriate and thus need to be updated to recognize those changes. This is the case especially where homes have been built immediately adjacent to the national forest in more recent years.
- A very few times since 1987 the terminology of the visual quality objectives has caused minor confusion in that the word "objectives" denotes a goal towards which the national forest should strive. Usually, however, visual quality objectives have served as the lowest acceptable threshold of the condition of the scenery that a Custer Gallatin National Forest-initiated action would cause. Thus the use of the visual quality objectives has been in a reactive sense. In a few cases where the existing condition of the scenery has been below the forest plan visual quality objectives, the visual quality objective has been used in a proactive sense to improve the condition of the scenery.
- The Custer National Forest Plan requires a visual management system process to be applied to each project to determine which of the visual quality objectives listed in the range of forest plan management area visual quality objectives applies and where. To help address this problem and to prepare for the eventual revision of the forest plan, the Custer National Forest did an informal, incomplete, and internal scenery review in 2007–2008 based upon the Scenery

management system process. Some of those findings are being incorporated into this Custer Gallatin National Forest plan revision effort.

- For management areas where mining activities were either anticipated or already on-going, the forest plan incorporated a stipulation that the scenery objectives were "subject to valid existing rights" which has caused some confusion in terms of application.

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