2004
Casper Mountain
Land Use Plan

An Amendment to the 1998
Natrona County Development Plan

For The Natrona County
Development Department

Final - June 1, 2004

Project Participants and Acknowledgements

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The Natrona County Development Department extends its warmest gratitude to the following individuals who made this project a success. Additionally, we wish to thank the many individuals who provided comments and attended public houses and hearings. Any plan "worth its salt" should be flexible and responsive to changing conditions, culture, and traditions. We invite you to provide us with your comments, criticisms and suggestions.

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CHAPTER 1

INTRODUCTION

- BACKGROUND
- WHY DO A PLAN?
- PLANNING PROCESS

CHAPTER 1—INTRODUCTION

BACKGROUND

Located in the southeast portion of Natrona County, Casper Mountain marks the northern extension of the Laramie Mountain Range and is one of the County's most important natural resources. Rising above Casper, Bar Nunn, Evansville, and Mills, Casper Mountain stretches 15 miles along the south side of these communities, providing a scenic backdrop for the entire urban area. The headwaters of many streams that run through these communities and the rest of the county originate on the Mountain.

As the years have passed, Casper Mountain has increasingly served as a nearby recreational resource for area residents and as a 'home away from home' for others. People living throughout Natrona County frequently use the wide variety of recreational opportunities the Mountain offers. In the summer, picnickers, campers, hikers, and group camps use the Mountain extensively. In the winter, downhill and cross-country skiers and snowmobilers recreate on the Mountain.

Besides its importance as a recreational site, Casper Mountain is also a significant wildlife resource area. Portions of the Mountain support elk, deer, and a wide variety of bird species. Jackson and Little Red Creek Canyons are nationally recognized as critical areas for wintering bald eagles.

In addition to seasonal cabins, a number of people now live on the Mountain year-around. Critical issues pertaining to fire safety, slope protection, natural resource impacts, and water availability continue to impact development trends and must be addressed for quality development to occur.

WHY DO A PLAN?

The increasing demands being placed on Casper Mountain for further residential development, continued and expanded recreational opportunities and wildlife protection, coupled with the fragile and frequently limiting natural conditions existing on the Mountain, present Natrona County with difficult choices. Expansion of recreational and residential development can, in some cases, disturb existing wildlife habitat. The various kinds of recreational purposes for which the Mountain is used are sometimes incompatible with each other. In some areas of the Mountain, more residential development can create a threat to existing water supplies and other resources as well as constitute a strain on County facilities and services such as road maintenance, law enforcement, and fire protection. Sections of the Mountain, because of natural conditions such as steep slopes, pose even more difficult development and use problems. Given this situation, every existing and proposed activity inevitably affects one or more other current or potential uses of the Mountain, and is affected by the Mountain's natural limitations.

In Spring 2003, the Board of County Commissioners of Natrona County placed a moratorium on Mountain zone changes, conditional use permits, and subdivisions. The purpose of the moratorium was to enable the County to revisit and update as necessary the 1984 Casper Mountain Plan, to provide a more comprehensive approach to the study area and a sound basis upon which to make future decisions.

The Board then appointed a citizens' steering committee to study and analyze existing conditions on the Mountain and to work with County staff and consultants to prepare an updated Plan. Steering Committee members represent a wide range of interests including landownership, recreation, ranching, development, fire safety, and natural resources. Members of the Steering Committee are:

- Jerry Galles, Chairman
- Sid Baldwin
- Barbara Dobos
- Rocky Eades
- Steve Johnson
- Bruce Lamberson
- Megan Simons
- Sam Weaver
- Tom Zimmerman

After careful discussion, the Steering Committee agreed upon the following mission statement to direct the plan's preparation:

> ***"It is the mission of the Casper Mountain Steering Committee to provide a comprehensive and manageable land use plan to guide the development of Casper Mountain and its surrounding areas. Our intent is to develop wisely and responsibly to protect and nurture the integrity of this special landscape."***

PLANNING PROCESS

The Steering Committee made tremendous use of outside resources to learn key facts about the study area. Representatives of governmental agencies such as State Game and Fish, State Forestry, the Bureau of Land Management, and Natrona County attended committee meetings to share their knowledge about the Mountain. Private citizens also attended meetings to express views and opinions regarding different aspects, such as development and land trusts. After receiving input from a wide variety of sources for several months, the committee went to work reviewing the 1984 plan and updating its content with

CHAPTER 1

INTRODUCTION

- PLAN COMPONENTS
  - Inventory Analysis
  - Goals and Policies
  - Land Use Plan
  - Facilities, Services, and Resource Management Plan
  - Land Use Plan Implementation

the new information. The Natrona County Planning Staff and the consulting firm of Worthington, Lenhart and Carpenter, Inc. assisted in the effort.

In January 2004, the Steering Committee held three open houses to share the progress to date and obtain feedback about the plan's recommendations and strategies for implementation. Following that input, a draft plan was prepared and distributed for comment to the Steering Committee.

A final draft of the Casper Mountain Land Use Plan was completed in March 2004. Copies were made available to the public through the Natrona County Library and the County Planning Office. An informational workshop on the draft and public hearings were held before the County Planning Commission and the Natrona County Commissioners prior to taking final action on the plan.

Throughout the process, Steering Committee members used newspaper announcements, the Natrona County Web site, and television stations to explain the plan, the planning process, and opportunities for public involvement. The Committee frequently announced when their meetings were occurring and that the public was invited. They made special announcements about the open houses, including a mailing to all property owners within the study area.

PLAN COMPONENTS

This document is the result of this nearly year-long process. The Steering Committee believes it provides a balanced and comprehensive approach to the Casper Mountain study area.

The Casper Mountain Land Use Plan contains five components which follow this Introduction. Plan components and a brief summary of their content are described as follows:

Inventory Analysis

The Inventory Analysis chapter reviews the existing natural and social factors affecting the use of Casper Mountain. It also identifies potential problems to be addressed by the Plan and their planning implications. Subjects that were reviewed include geology/hydrology, topography, vegetation, wildlife, population, land use/zoning, land ownership, roads, power/communications, water supply, sewage disposal, solid waste, law enforcement, fire protection, and recreation.

Goals and Policies

The Goals and Policies chapter articulates the goals for the use and protection of Casper Mountain. The chapter also identifies policies for residential development, commercial development, recreation, resource preservation, and facilities and services. These policies form the basic direction for use of the study area.

Land Use Plan

The chapter for the Land Use Plan describes general land use designations for the study area. The land uses are residential, ranching, open space, commercial, communication towers, critical resource protection, and slope protection. Special consideration was also given to mountain/wildfire safety. The chapter recommends suitable uses and development density within the study area.

Facilities, Services, and Resource Management Plan

This chapter presents needed improvements to public facilities and services, discussing responsibility and potential funding sources for roads, solid waste, fire and sheriff, electric and telephone, communication towers, water resources and supply, sewage disposal, vegetation and forest management, wildlife resources, recreation, and land donation. It also covers resource problems that need to be addressed by County, City, State, and Federal agencies, as well as private citizens.

Land Use Plan Implementation

Finally, the Land Use Plan Implementation chapter describes how the plan's land use recommendations can be implemented. It recommends specific changes to the zoning, subdivision, and design review processes to implement the Casper Mountain Land Use Plan.

CHAPTER 2

INVENTORY ANALYSIS

- GEOLOGY/HYDROLOGY

CHAPTER 2—INVENTORY ANALYSIS

This section of the plan describes the existing environmental context of the Casper Mountain study area, and identifies the resource implications of developing a land use plan to guide future uses of the study area. Portions are drawn from the 1984 Plan, with new information given as warranted. Discussed in this section are: geology, hydrology, topography, vegetation, wildlife, population, land use, land ownership, roads, power, communications, water supply, sewage disposal, solid waste, law enforcement, fire protection, and recreation.

GEOLOGY/HYDROLOGY

Inventory

Geologic Structure

Casper Mountain is a convex-upward fold known as an anticline. This fold has been broken along its north side by a fault which has raised rock units south of the fault by as much as 4,500 feet with respect to the equivalent rocks on the north side of the fault. The main fault trends almost due east-west and is located approximately along the lower edge of the forested areas on the steep north slope of the Mountain.

Considerable minor faulting and fracturing is associated with the main folding and faulting, and these conditions may contribute to the potential for landslides on the "front" (north) face of the Mountain. In addition, they have implications relating to ground water and sewage disposal. Rocks on the "back" side of the Mountain dip toward the south at angles of about 10° below horizontal (roughly equivalent to 1,000 feet per mile), so that progressively younger rocks are exposed at the surface as one moves southward from the top of Casper Mountain toward the top of Muddy Mountain.

Stratigraphy

Erosion over a period of perhaps fifty million years has removed much of the material uplifted by the folding and faulting of Casper Mountain. Thus, while there may be as much as 4,500 feet of structural displacement along the mountain front, there is presently only approximately 2,000 feet of topographic relief between the Mountain top and Garden Creek Road. In the central portion of the Mountain and extending both eastward and westward along the steep front, this erosion has removed most of the younger, layered, sedimentary rocks and exposed the older Pre-Cambrian crystalline igneous and metamorphic rocks which form the "core" of the uplift.

Overlaying the Pre-Cambrian crystalline are the layered sedimentary sandstones and limestones of the Flathead, Madison, and Casper, formations which form the upper, light-colored cliffs at the top of the mountain-front scarp. They outcrop around the central crystalline core, form the surface over most of the south slope of Casper Mountain proper, and are particularly well exposed in the canyon walls of the various forks of Muddy Creek, Little Red Creek and Jackson Canyon. Due to certain rock characteristics, there are no permanent streams flowing from the south slope of the Mountain, whereas nearly all of the streams on the north side flow over the impervious crystalline rocks and therefore have some permanent flow. The topographically lowest surface exposure of the Casper-Madison-Flathead sequence of rocks is in the Speas Spring near the State Fish Hatchery.

Mineral Occurrences

Most of the reported mineral occurrences on Casper Mountain are associated with the Pre-Cambrian crystalline rocks. The distribution of the more significant early discoveries is well indicated by the old patented mining claims on the land-ownership maps. Gold and copper are mentioned in the Eadsville and "Copperopolis" areas. Asbestos was produced from serpentine rocks near the head of the east fork of Garden Creek.

The only mineral operations on the Mountain in the recent past are the feldspar mine near Camp Sacajawea and the County rock crushing facilities above Beartrap Meadow and adjacent to the feldspar mine. Also, several bentonite mines were located on the south side of Coal Mountain located southwest of Casper Mountain.

Oil and gas resources have been researched throughout the region. However, there has not been any significant drilling activity in the study area.

Watershed

The study area's landscape is primarily dry, although there are seven spring-fed streams that flow off the mountain year around (Claude, Elkhorn, Sage, Garden, Wolf, Squaw, and Cabin creeks) and many more seasonal streams, drainages, and springs. Many small riparian areas also exist. Some of the streams are isolated and undisturbed, while others have been negatively impacted by development.

Planning Implications

The planning implications of the unique geologic structure and hydrology of Casper Mountain involve four factors:

- Landslide and slope failure
- A thin soil mantle and soil erosion
- Availability and quality of groundwater
- Streambed protection

CHAPTER 2

INVENTORY ANALYSIS

- TOPOGRAPHY

Landslide And Slope Failure

Landslide occurrences are found in areas where a combination of unstable soils or rock formations together with steep slopes or the presence of ground water weaken the stability of a naturally occurring slope. Landslides may also be triggered by the intrusion of man by a number of means:

- Undermining of an inherently unstable slope by excavation for foundations or for mineral extraction.
- Saturation of unstable areas with water from irrigation or by removing vegetation which holds water.
- Placing roads or other structures on slopes which cannot sustain the additional weight over a long period of time.

On Casper Mountain the possible occurrences of landslides are related to the steep slopes where unconsolidated sedimentary rocks occur. A prime example of this potential is on the fault scarp above and east of Garden Creek. This area is cut by faults and fractures and has been further weakened by highway road cuts. Conditions similar to this may occur on other parts of the Mountain, especially near roadcuts adjacent to the base of the Mountain, steep slopes near edges of canyon walls, or other steep slopes on the more central parts of the Mountain. Specific geotechnical investigations should be undertaken to determine the specific location of any potential landslide areas.

Soil Erosion

In the past, soil erosion occurred on several areas of the Mountain leading to sedimentation problems in certain streams and difficulty in establishing new vegetation around new development or areas previously used for mining activities. In addition, problems with erosion occurred at the Hogadon Ski Area and other City and County parks. The basic reason these problems occurred was the combination of thin soil mantle composed of erodible soils over subsoil strata of limited infiltration capability.

The County zoning regulations require erosion control and land reclamation in order to prevent wind and water erosion. A model erosion control plan has been developed and is available through the Natrona County Development Department. Suggested erosion control methods include staging projects to minimize erosion control potential, locating potential nonpoint pollutant sources away from steep slopes, waterbodies, and critical areas, protecting the natural vegetation, and methods to prevent wind and water erosion.

Occurrence And Quality of Groundwater

Determining the availability of groundwater within the study area is really dependent upon a site specific investigation which samples the various types of soils that occur on the Mountain. Short of conducting that study, one must rely on a review of the existing data concerning the wells drilled in the study area. Data from the County Health Department indicates that the wells on the Mountain are of a good quality and pose no serious health hazard for inhabitants or users. A review of well completion records for the 1984 Plan found that there were a significant number of shallow wells (less than 15 feet deep) and a very large number of wells that were not sealed from possible near-surface contamination. Due to the thin soils and fractured bedrock on Casper Mountain, septic effluent could move rapidly without proper filtration. The total effluent burden in the developed and developing portions of the study area could lead to severe groundwater pollution. Density limitations, such as large lot sizes, cluster developments, or planned unit developments with community sewer systems, would address this total effluent burden problem in a more comprehensive way. A 'cluster development' places dwelling units in closer proximity than usual, in order to retain open space. Development density is not affected. A 'planned unit development (PUD)' is a typically a large, integrated development done in compliance with regulations (in this case, Natrona County Zoning Resolution) that lay out the process for approval, location, and phasing of all proposed uses and improvements. The PUD may or may not include clustering housing units.

Groundwater continues to be found at varying depths at most locations. However, it can also be difficult to locate or unavailable. This typically means that deep wells must be drilled at considerable cost. As determined by a review of State Engineer well permits in 2003, the north face of the mountain tends to have shallow groundwater at depths of 25 feet or less. The middle area can have groundwater any where from 25 feet to 100 feet, while groundwater at the east end of the mountain is found much deeper, at depths of over 100 feet. Water quality varies considerably throughout the study area.

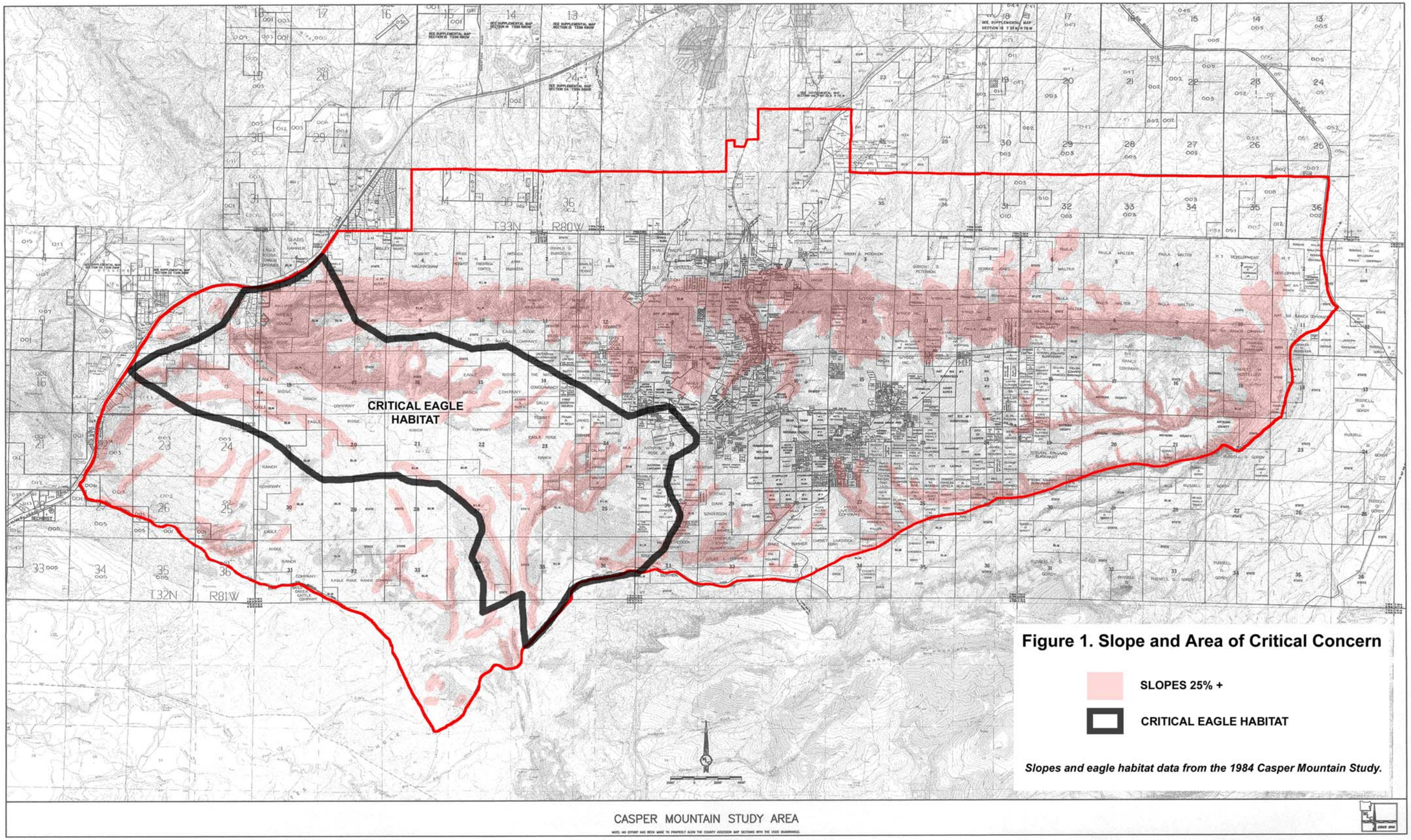
Streambed Protection

Natrona County is currently doing a watershed study that should help identify streambeds that are undergoing degradation due to their misuse or because of development impacts. Strategies for streambed protection are important for the enhancement of wildlife, erosion control, aesthetics, fire protection, and pollution control.

TOPOGRAPHY

Inventory

Casper Mountain rises from an elevation at its base of about 6,000 feet above sea level, to a maximum elevation of about 8,200 feet. Much of the study area is steep and inaccessible. Figure 1 illustrates areas that are in excess of 25% slope. These areas are located primarily around the base of the Mountain itself and in the steep canyons extending up from the base of the Mountain. This is due to the basic geologic structure of the Mountain. Other isolated occurrences of steep slopes are found on the periphery of the study area as well as in the central area of the Mountain adjacent to streambeds flowing east and west.


CRITICAL EAGLE HABITAT
T33N
R80W
T32N
R81W
CASPER MOUNTAIN STUDY AREA
Figure 1. Slope and Area of Critical Concern
SLOPES 25% +
CRITICAL EAGLE HABITAT
Slopes and eagle habitat data from the 1984 Casper Mountain Study.

CHAPTER 2

INVENTORY ANALYSIS

- TOPOGRAPHY CONTINUED
- VEGETATION

Areas of more moderate slope are found at the base of the Mountain where the upslope begins and on the top of the Mountain itself. These more gentle slopes follow the major ridges that run east and west. The topographic structure of the study area is similar to an uplifted table mountain that has been eroded away creating steep rock faces and cliffs primarily on the north face, but also in canyons on the east and west ends.

Planning Implications

Topographic features, especially steep slopes, play a very important role in the future use of the study area. The previous inventory indicates the topographic complexity of the study area. This section will review the effects of this complex structure on the following factors:

- Vehicular and Pedestrian Access
- Development Potential
- Recreation Use
- Resource Protection

In general, the steep and varied slopes, canyons, rock faces, stream sides and hillsides have placed severe limitations on human use of the study area. Development has been confined to those areas that are accessible and flat enough for easily constructed dwellings reached by roads that can be maintained in the winter months. With the increased pressure for development on the study area and considering the diverse ownership patterns, topographic features will become much more important than in the past.

Vehicular and Pedestrian Access

The primary access to the top of Casper Mountain is presently limited to one road from Casper. The extremely steep face of Casper Mountain prevents the construction of easily maintained roads. The steep sided canyons running east and west have prevented the building of roads to serve other portions of the study area. These topographic constraints will limit access in the future.

Development Potential

With feasible access limited to one point, topography takes on an even more limiting factor for development. Economically practical development in a rural community with mountainous terrain does not normally take place in areas with slopes exceeding 25%. Some residential development does take place on slopes over 25%, but in general it is limited to single family structures or other expensive structures. Rare examples of these developments can be found in the study area. Limiting development on slopes of greater than 25% can be supported by safety, soil, water protection, and aesthetic considerations.

Recreation Use

Recreational uses are not as restricted by steep or impassable slopes as are other types of development. The relationship of recreational uses to degree of slope is one of intensity of use. For instance, lightly used hiking and walking trails can be placed on slopes up to 40%, while play areas and group meeting areas require a maximum slope of 4-6%. New facilities should be limited to those areas where topographic constraints are minimal or where low use intensity hiking trails and open space are the primary uses. This criterion will not severely limit the capability of expanding the boundaries or uses of the existing parks. Placement of structures to serve recreation developments should follow the same guidelines as apply to the placement of residential structures on sloping ground.

Resource Protection

The steep and uneven topography of Casper Mountain offers excellent opportunities for protection and preservation of natural resources. This is evidenced by the valuable vegetative and animal resources that have been protected in the more remote sections of the study area. The rugged terrain should be seen as a natural advantage for the protection of resources that otherwise might be more open to intrusion by humans. The areas best suited to resource protection are those that have slopes in excess of 25% or areas where access is restricted by intervening steep slopes.

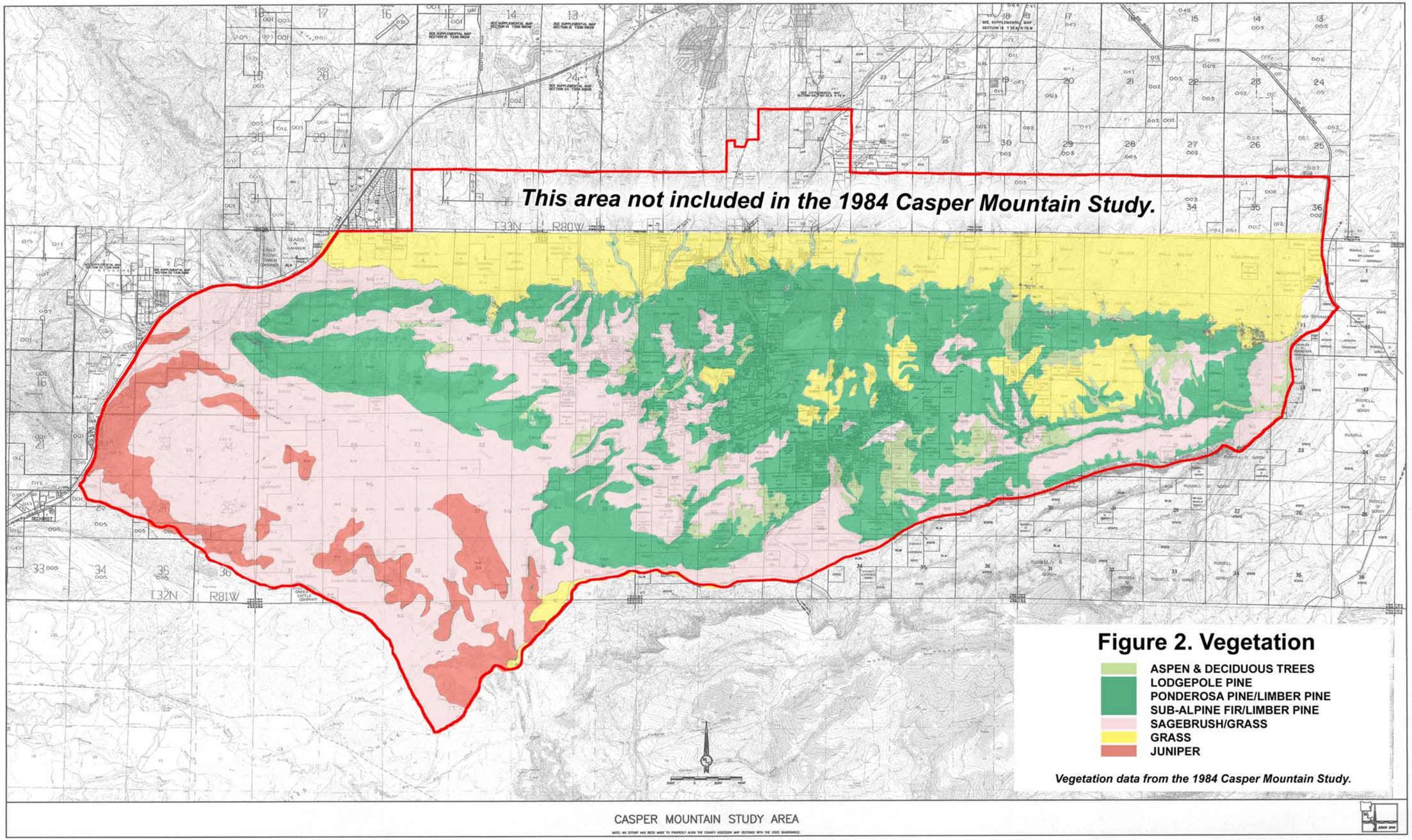
VEGETATION

Inventory

The study area is located in the Wyoming basin physiographic region as defined by the Bureau of Land Management. It is also located nearly adjacent to the southern Rocky Mountain physiographic region.

The 1984 Plan described three distinct vegetation types that interface in the Casper area. They include the Pine-Douglas Fir Forest, a finger-like extension of the southern Rocky Mountain's physiographic region. To the west, in the Wyoming Basin, is an extensive area of sagebrush steppe. To the north and east in the Wyoming Basin, occupying roughly one-third of that physiographic region, is the Grama-Needlegrass-Wheatgrass vegetation type. This interface results in interesting plant community combinations occurring on and adjacent to the study area and also results in a diversity of wildlife habitat and wildlife species inhabiting the area.

Seven generalized plant communities were identified. These include Lodgepole Pine, Ponderosa Pine-Limber Pine, Aspen and Deciduous Trees, Sagebrush-Grass, Juniper, Sub-Alpine Fire-Lodgepole Pine and grass. These plant communities are shown on Figure 2.


This area not included in the 1984 Casper Mountain Study.
T33N
R80W
T32N
R81W
Figure 2. Vegetation
ASPEN & DECIDUOUS TREES
LODGEPOLE PINE
PONDEROSA PINE/LIMBER PINE
SUB-ALPINE FIR/LIMBER PINE
SAGEBRUSH/GRASS
GRASS
JUNIPER
Vegetation data from the 1984 Casper Mountain Study.
CASPER MOUNTAIN STUDY AREA

CHAPTER 2

INVENTORY ANALYSIS

- VEGETATION CONTINUED
- WILDLIFE

Planning Implications

The primary value of the timber resource on Casper Mountain lies in its visual and aesthetic qualities, the fuel wood resource, and the diversity of wildlife habitat it provides. The values of recreation, aesthetics, wildlife habitat and watershed can be enhanced through use of proper forestry practices to obtain and maintain forest health. Since these uses receive great public support and appear to have the highest value to the general public, forest management practices should be designed to enhance these values.

Casper Mountain's forest health is not unusual for the West. Efforts are under way to enhance forest health by promoting management of the stands in order to reduce fuel for wildfire and gain a measure of insect control.

WILDLIFE

Inventory

Numerous species of wildlife live in the study area and the surrounding area throughout the year, including 21 species of mammals and an estimated 123 species of birds that are summer, winter, or permanent residents.

Elk are more commonly found on Muddy Mountain than on Casper Mountain. However, elk do use Casper Mountain during early winter and those winters having light snow cover and may also be found on Casper Mountain during the summer months in areas where timber stands extend fingerlike into open grassy areas. They primarily are found on the west and east ends of the study area.

The Casper Mountain elk range is not considered critical by the Wyoming Game and Fish Department. However, elk are generally intolerant of human disturbance and choose to avoid areas of human habitation. The intrusion of skiers or snowmobilers into winter range can result in disturbance to animals and cause an expenditure of energy that during particularly hard winters can be detrimental to the animal's health.

A very important species in the study area is the mule deer. Mule deer are common on Casper Mountain, typically spending their summers at higher elevations and then moving to low elevations where snow depths are less for the winter months. Habitat requirements of the mule deer include a combination of open grassy areas with scattered patches of low shrubs and taller trees. The preferred browse species in the Casper Mountain area are Big Sage Brush, Mountain Mahogany, Bitter Brush, Chokeberry, and Skunk Bush Sumac.

Critical winter range and year-round range for mule deer wraps around the entire face of the mountain, Bates Creek, and Garden Creek. Characteristics of winter range are:

- Adjacent to summer range.
- Shrubs are greater in height than the snow depth.
- Low snow accumulations.

If developed at low densities, this critical habitat should not be greatly affected by new development. However, attention must be paid to not impede deer migration corridors that follow drainages and routes with mountain mahogany and sagebrush. Wyoming Game and Fish Department staff noted that critical winter habitat exists south of Wyoming Boulevard, where as many as 250 deer have congregated. Again, maintaining winter range is a very important factor to keep the mule deer herd viable.

Pronghorn, black bear, mountain lion, goshawk, and wild turkey are also present in the study area. Pronghorn also have critical winter range and year-round range in the study area. To assure their continued existence, attention should be paid to protect the integrity of the habitat for all species.

One threatened species is found in the study area. The bald eagle is present during the winter months and uses areas of Casper Mountain for roosting in Little Red Creek and Jackson Canyon. These eagle roosts are located in an area that has been designated as an Area of Critical Environmental Concern by the Bureau of Land Management and have also received additional protection by a conservation easement granted by a private landowner to the Nature Conservancy (see Figure 1).

Other birds using these roosting areas include merlin, falcon, and hawks. While not in the study area, Wyoming Game and Fish has found five established sage grouse leks within a one-mile radius of the mountain. Hens will nest within three miles of the radius during breeding season. The lek that is most experiencing a decline in population is the Hat Six lek. The decline is likely due to habitat loss by development or sagebrush removal. Leks found on the west side of the mountain (identified as Two-Bar and Eagle Ridge areas) are less at risk.

Planning Implications

The bald eagle wintering habitat is the most important wildlife factor affecting future use of the study area. While other species can coexist with human use or can utilize nearby habitat areas, the bald eagle habitat is very unique in its characteristics. The Plan will need to respect this unique habitat, and also to allow for new development while maintaining habitat for other species.

Sage grouse leks are not in the study area itself but are located within a one-mile radius of the mountain. Habitat loss in those areas can affect the viability of leks.

CHAPTER 2

INVENTORY ANALYSIS

- POPULATION
- LAND USE/ZONING

Wildlife movement, particularly big game, can be significantly affected by fences, density of development, and development encroaching upon waterways. In order to keep wildlife moving freely throughout the study area, it will be important to consider wildlife corridors along streams and fencing strategies that let wildlife get through fences while also allowing property owners to fence their land. In addition, on-site garbage storage must be controlled in order to keep black bear and mountain lions away from developed areas.

POPULATION

Inventory

The 2000 US Bureau of the Census report included the Casper Mountain Census Designated Place (CDP). Although the CDP does not match the study area boundaries, it is at least an indication of the area's population and housing stock in 2000.

Total housing units	**303**
Occupied housing units	**126**
Total population	298
Median age	45
Median housing value	$189,600
Vacant housing units	**177**
Seasonal use	170

One Census table looked at the condition of 254 housing units in the Casper Mountain CDP. The following conditions were reported.

Percent lacking complete plumbing	35%
Percent lacking complete kitchen	28%
Percent built between 1990 and 2000	20.5%

Most of the dwellings are located in the central portion of the Mountain, with some additional areas along the East End Road. Few homes are located on the west end of the Mountain. A major residential area is located at the base of the Mountain in the Garden Creek area, although it seems to relate more to fringe Casper growth than to mountain development and use.

The number of building permits and zoning certificates issued in the study area from 1994 through 2003 is 102. The yearly breakdown is:

Year	No. of Permits	Year	No. of Permits
1994	6	1999	7
1995	16	2000	12
1996	9	2001	14
1997	9	2002	9
1998	11	2003	9

Another aspect of the study area population is the large seasonal population influx that occurs during winter and summer. On a peak summer day, several thousand people can be concentrated in the central part of the study area around Casper Mountain Park. Many have second homes on the mountain, kept for occasional use.

The most recent structure count was conducted by Firewise Committee members. The term 'structure' includes all buildings regardless of use: houses, cabins, trailers, and outbuildings. A total of 736 structures were counted within the study area.

Planning Implications

While the numerical growth occurring on Casper Mountain is not great, the area in which the growth is taking place is limited in size. The growth of residential uses is complicated by the concentration of recreational use in the central study area.

LAND USE/ZONING

Inventory

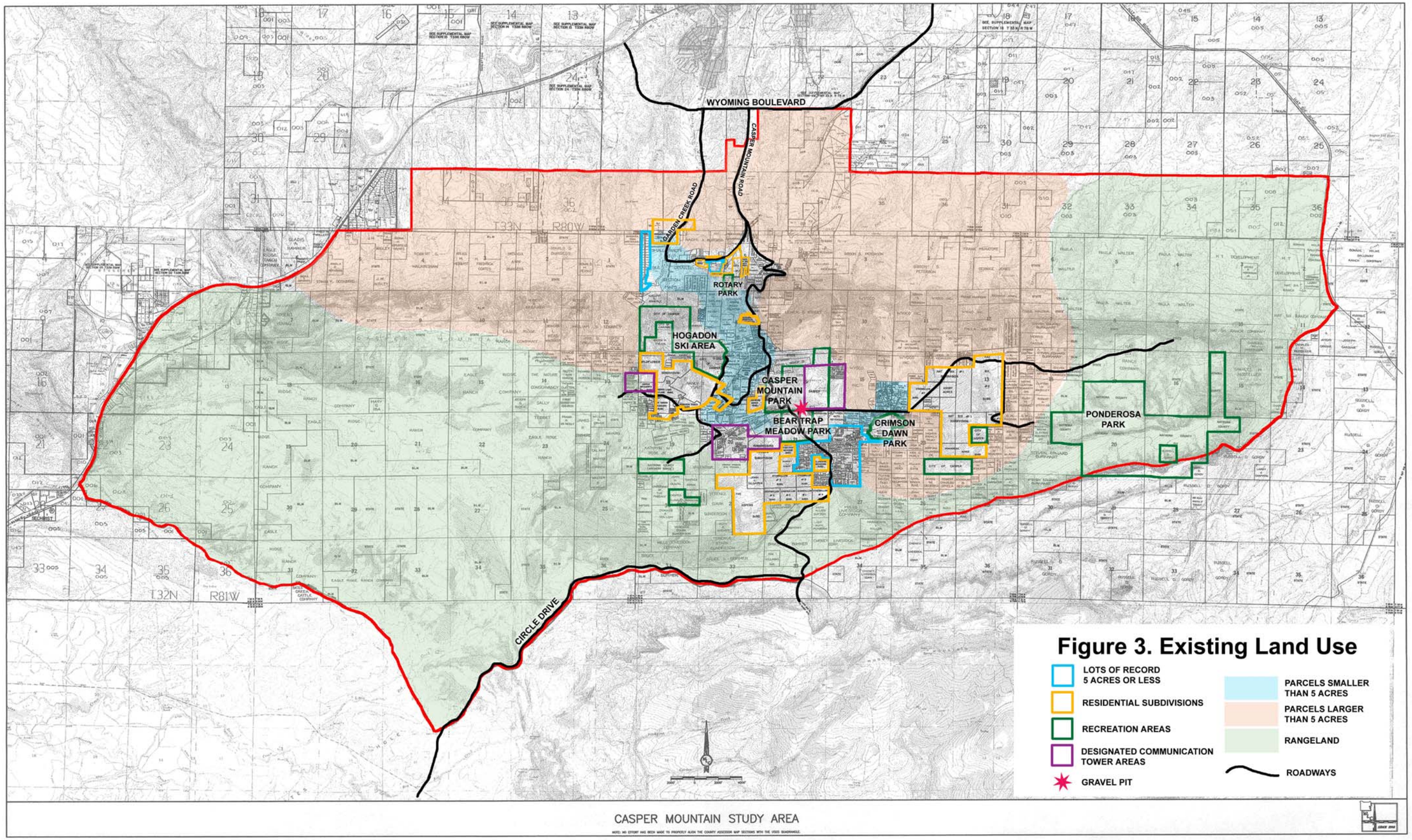
The major study area land uses include: residential, recreational, communications and ranching. Residential and ranching uses are discussed below. Recreation and communications are discussed in subsequent sections. Figure 3 illustrates existing land use.

There are minor commercial uses in the study area. The Hogadon Ski Area is annexed to the City of Casper and zoned under the City Ordinance. A small site near the Hogadon turn-off is also zoned commercial.

Based on ownership records, the study area has approximately 1,700 parcels, with about 1,200 owners. Not all of these parcels are intended for residential use, although many are likely to be used for an existing or future second home, or a year-around house.

Residential

Table 1 lists the major residential subdivisions and the number of lots in each. Lot sizes range from about 8,000 square feet to 10 acres.


WYOMING BOULEVARD
CASPER MOUNTAIN ROAD
GARDEN CREEK ROAD
ROTARY PARK
HOGADON SKI AREA
CASPER MOUNTAIN PARK
BEAR TRAP MEADOW PARK
CRIMSON DAWN PARK
PONDEROSA PARK
CIRCLE DRIVE
T33N R80W
T32N R81W
Figure 3. Existing Land Use
LOTS OF RECORD 5 ACRES OR LESS
RESIDENTIAL SUBDIVISIONS
RECREATION AREAS
DESIGNATED COMMUNICATION TOWER AREAS
GRAVEL PIT
PARCELS SMALLER THAN 5 ACRES
PARCELS LARGER THAN 5 ACRES
RANGELAND
ROADWAYS
CASPER MOUNTAIN STUDY AREA

CHAPTER 2

INVENTORY ANALYSIS

- TABLE 1—Study Area Definitions
- LAND OWNERSHIP

TABLE 1 - STUDY AREA SUBDIVISIONS

Subdivision Name	Number of Lots
Ashby Acres	8
Ashby Acres Addition	7
Aspen Meadows	13
Brookside Mountain Homesites	33
Columbine Meadows	18
Deerhaven 1	12
Deerhaven 2	12
Garden Creek Park	104
Hat Six Addition No. 1	44
Hat Six Addition No. 1	36
Hidden Lake Village	26
Hillcrest Acres	13
Hogadon Estates	51
Hogadon Estates #2	3
Hogadon Pines	25
Hogadon Pines II	3
Hollywood Gardens	7
Hummingbird Hollow	44
Lemmers Acres	12
Loretta Heights	5
Mineralized Mountain Homesites	37
Morning Dew	10
Mountain Park	29
Mountain Park No. 2	5
Mountain Vista One	44
Peace of the Mountain	8
Ponderosa Acres	24
Red Creek Meadows	15
Rolling Hills Estates	--
Six Bar C Ranch	--
South Bear Trap Meadow	20
Starwallow 1	16
Starwallow 2	16
Starwallow 3	19
Starwallow 4	11
Starwallow 5	20
Starwallow 6	31
Starwallow 7	44
The Aspens	55
Wa-Wa Subdivision No. 1	20
West of Falls	12
Wildflower Vista	42
Wildwood Suburban Lots	12
TOTAL	**966**

The Lower Circle Drive area is zoned Urban Residential (UR), which allows single family homes on two-acre lots where there is no public water or sewer, one-half acre with either public water or public sewer, or 9,000 square feet with public water and public sewer. Mobile homes and commercial uses are not permitted. The central area of the Mountain is zoned Suburban Residential (SR-1), which requires a minimum two-acre lot size and allows single family frame and mobile homes, horses, and light urban agriculture. There are three square miles of UR and 17 square miles of SR zoning within the study area.

Most of the rest of the Mountain is zoned Urban Agriculture, with a small amount zoned Ranching, Agriculture, and Mining. Both districts are used for ranching, grazing, and residences. Approximately one-half of the study area is range land and is in large holdings. Figure 4 shows the current zoning of the study area.

Planning Implications

Several planning implications are created by the existing pattern of land use. Recreation and residential conflicts occur from the mix of these two uses in the central Mountain. Boundaries between public and private lands will have to be more clearly delineated to minimize conflicts between uses.

Another important aspect of land use will be residential density. Density must be based on the ability of the study area's resources to sustain residential uses without damage to the Mountain environment.

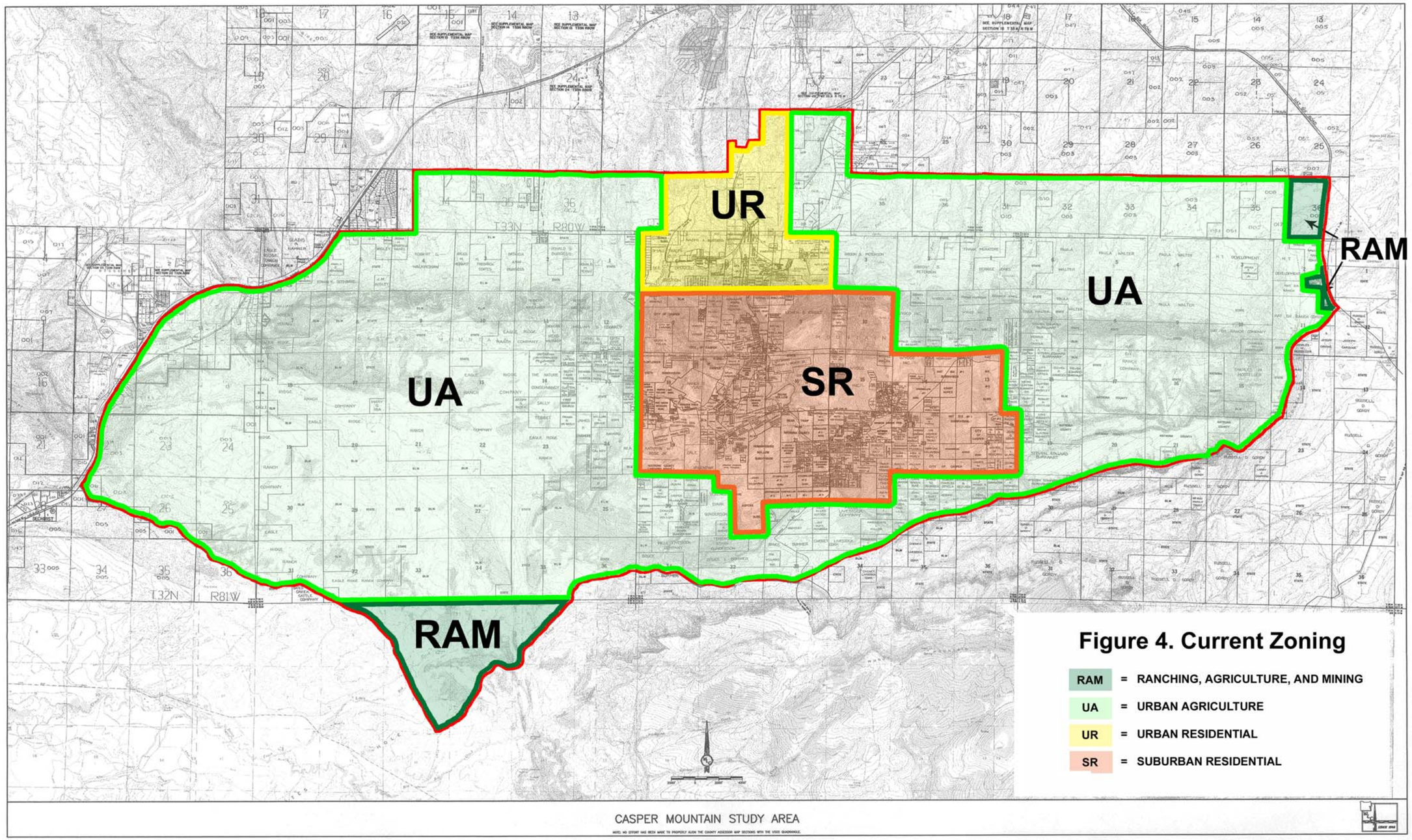
LAND OWNERSHIP

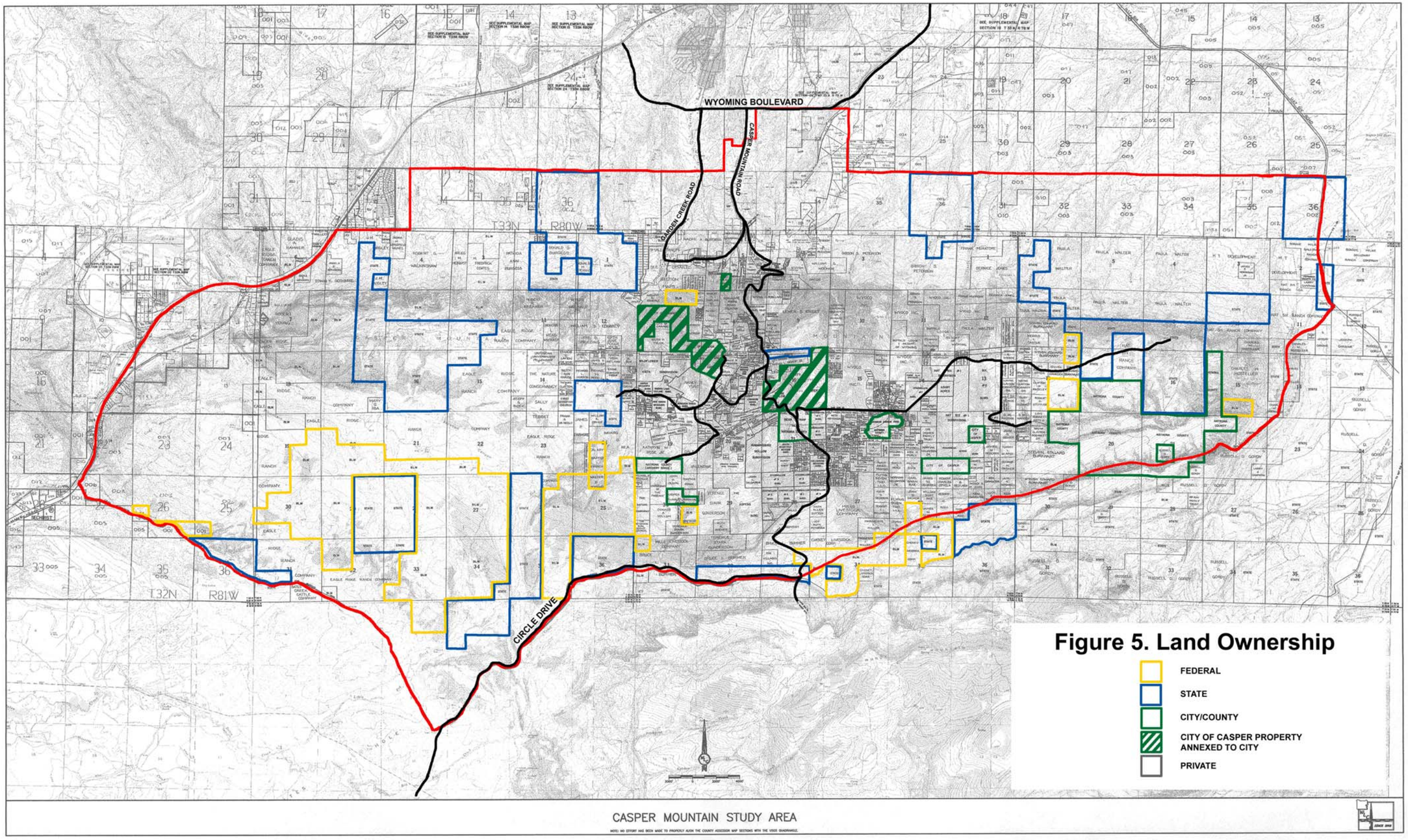
Inventory

Land ownership for the study area is shown on Figure 5. The ownership for the area is broken down as follows:

	Acres	%
Federal (BLM)	7,210	11
State	9,310	14
County	2,150	3
City	860	1
Private	46,780	71
	66,310	**100**

Casper Mountain Park and Rotary Park are owned by the City of Casper, but are leased by the County from the City.


UR
UA
SR
RAM
UA
RAM
Figure 4. Current Zoning
RAM = RANCHING, AGRICULTURE, AND MINING
UA = URBAN AGRICULTURE
UR = URBAN RESIDENTIAL
SR = SUBURBAN RESIDENTIAL
CASPER MOUNTAIN STUDY AREA


WYOMING BOULEVARD
CASPER MOUNTAIN ROAD
GARDEN CREEK ROAD
CIRCLE DRIVE
T33N
R80W
T32N
R81W
Figure 5. Land Ownership
FEDERAL
STATE
CITY/COUNTY
CITY OF CASPER PROPERTY ANNEXED TO CITY
PRIVATE
CASPER MOUNTAIN STUDY AREA

CHAPTER 2

INVENTORY ANALYSIS

- ROADS

Planning Implications

The diversity of ownership makes it difficult to implement policy and manage natural resources in the study area due to differing policies and goals among public agencies and given the high level of private land ownership. In addition, many of the property owners are seasonal and/or absentee land owners. Yet to be effective, management policies encompassing the study area will need to include private landowners.

ROADS

Inventory

State and County roads serving the Casper Mountain study area are identified on Figure 3, Existing Land Use. A summary describing the main roads follows below.

Casper Mountain Road provides the only year-around access to the top of the Mountain, making it essential to the homeowners on the Mountain and to Hogadon Ski Area.

Because of its route up the north face of Casper Mountain, this road can pose winter maintenance difficulties to the Wyoming State Highway Department which is responsible for its maintenance. Steep slopes and drifting snow in some locations require a considerable allocation of personnel time and funds to keep it in good winter driving condition. Casper Mountain Road is paved and, winter driving conditions aside, provides a unique and pleasant driving experience close to Casper.

Traffic volumes on Casper Mountain Road are not a significant problem. Ski traffic generated by Hogadon may cause some congestion on occasion because of the slower speeds required. Certainly any increased use of the study area will likely result in increased traffic; however, additional access to the Mountain may not be warranted even if more frequent delays are encountered. Improvements relative to widening the road are almost impossible in most locations due to the topography. Further, due to several switchbacks, road widening would not substantially increase traffic-carrying capacity.

Hogadon Road (County Road 504) branches off from Casper Mountain Road and provides access to Hogadon Ski Area and several private homes and subdivisions. This road is paved and is maintained and plowed by the County. Hogadon Road is the link to Micro Road and the K-2 Road from Casper Mountain Road.

Micro Road, along with Hogadon Road, provides the primary access on the Mountain west of Casper Mountain Road. Numerous subdivisions are accessed from Micro Road. It is not paved but is plowed in winter.

Jackson Canyon Road branches off from Micro Road in the southeastern corner of Section 18 and provides seasonal access to property on the west.

Archery Range Road branches off from Micro Road in the southeastern corner of Section 17 to provide access to private land and the County archery range. Access is seasonal, as it is not plowed during the winter.

Circle Drive (County Road 505) is a southern extension of Casper Mountain Road down the south face of the Mountain. Casper Mountain Road becomes Circle Drive at the Hogadon Road intersection. The first four miles of this road are paved. Circle Drive is maintained by the County; snow plowing is done for some areas. Although Circle Drive provides some non-winter access to the Mountain, the driving distance from Casper is so much greater than via Casper Mountain Road that its use is limited. Circle Drive connects to Coal Mountain Road (County Road 401) which in turn ties into State Highway 220 west of the Mountain and to State Highway 487.

Old Goose Egg Highway (County Road 310) forms a loop off of Highway 220 at the west end of Jackson Canyon. This road would seem to be of limited access value as far as Casper Mountain is concerned due to the large lot ownership in Jackson Canyon and the presence of critical bald eagle habitat.

Rotary Park Road provides access to Rotary Park and Peace of the Mountain Subdivision. This road is about one-half mile in length and is a County Road.

East End Road (County Road 506) basically runs east-west from Casper Mountain Road to the eastern end of the Mountain. It provides access to Crimson Dawn Park, Ponderosa Park and a great deal of private property, some of which is subdivided.

Ponderosa Road (County Road 507) runs south from East End Road a short distance west of the western boundary of Ponderosa Park. It provides access to Ponderosa Park and to private property.

KTWO Tower Road is a short spur road extending south from Hogadon Road approximately 1/2 mile. This road provides access to several towers and to private property. The road is maintained by the County and is plowed during the winter months.

Fire roads are becoming more frequently discussed. Proposed emergency access loop roads should be designated throughout the study area, which will increase safety for both residents and firefighters.

CHAPTER 2

INVENTORY ANALYSIS

- POWER/COMMUNICATIONS

In addition to the roads mentioned above, a number of other roads and trails provide access to areas not directly served by State or County roads. For the most part, these other roads are subdivision roads and easements, formal or informal, and are privately maintained and plowed.

Several additional roads help form the boundaries of the study area or are located in the study area's fringes. They include:

Hat Six (County Road 606) is on the eastern edge of the study area.

Coates Road (County Road 503) is on the west side. It is a gravel road that runs south from CY Avenue to the foothills and serves a number of residential parcels.

Wolf Creek Road (County Road 501) is a paved road serving residential parcels south of CY Avenue. It is on the west end of the study area.

Squaw Creek Road (County Road 502) parallels Wolf Creek Road and provides access to residences.

Scenic Route (County Road 509) is south of Wyoming Boulevard toward the east side of the study area. It is approximately two miles in length.

Coal Mountain Road (County Road 401) is the southwest boundary of the study area. It is a gravel road.

Wyoming Boulevard (State Highway 258) is on the north end of the study area. It also serves as an outer beltway for Casper.

Planning Implications

Access plays a critical role in property development, not only to the user of the land, but to the provision of fire and law enforcement protection as well. The type and density of future development must consider ease of access before the development project moves forward.

Access to areas during non-winter months is not normally a problem. However, during winter the ability to access property is directly related to snow removal. WYDOT and Natrona County plow County roads and the ski area road. Some subdivided areas of the study area are accessible only if roads are plowed by individual property owners or associations. This means that some properties are used only during the spring, summer and fall periods of the year. Since the current policy is not to construct any new County roads, plowing to get to some sites will remain up to the private property owners.

Periodically, additional gravel needs to be applied to the gravel roads within the study area. Whether the roads are publicly or privately maintained, gravel trucks must be able to safely get to the sites and drop their loads. The County has an active gravel pit in the study area, and that at least allows for greater ease in acquiring the road gravel needed for maintenance.
Road maintenance policies, therefore, can influence the type and extent of land uses in more "remote" areas of the study area, or in areas of the Mountain not yet developed. For example, a home owners' association/improvement and service district may choose to contract for subdivision road upkeep and plowing, levying a fee to all property owners. The more improvements are made, the more likely that the development will function on a year-round basis.

In a practical sense, large-scale residential developments or commercial uses should be located near major all-season roads, in part to avoid drawing traffic through lower density areas and roads that may then feel the pressure to have more year-round maintenance.

POWER/COMMUNICATIONS

Inventory

Included in this category are: electrical service, telephone service and communication towers.

Electrical Service is provided to all developed areas of the study area by Pacific Power and Light Company. There appears to be no reason that newly developed areas cannot be adequately serviced in the future. In fact, electrical service must be provided by PP&L if the owner/developer is willing to pay the cost of extending service. Existing service lines are above ground.

Telephone Service is provided to the existing development on Casper Mountain via buried and overhead lines. Additional development can be provided with adequate phone service. In many cases, telephone and electrical lines are mounted on the same poles.

Communication Towers of several types are currently located on the Mountain; these towers vary in type of use and height. Most are located within T32N, R79W, Sections 16 (Casper Mountain Park), 20 and 18. In August 1976, the Board of County Commissioners of Natrona County adopted Resolution No. 38-11-76, designating three areas on Casper Mountain as acceptable locations for transmitting and receiving towers. Towers over 45 feet require a conditional use permit from the County. The existing towers are in quite visible areas for the most part and in some cases are in close proximity to subdivisions or park areas. A new resolution pertaining to communication towers is pending. Its language states in part that the existing mountain sites can continue to be used for communication towers but no new sites will be designated on the mountain. The designated tower areas are shown on Figure 3.

CHAPTER 2

INVENTORY ANALYSIS

- WATER SUPPLY
- SEWAGE DISPOSAL

Planning Implications

The public planning implications related to electrical and telephone service are quite minor. Coordination with the respective companies should continue, with thought given to installing service lines underground to minimize potential disruption due to storm damage, help fire fighting, and to minimize visual impact.

Planning implications relative to communication towers are those dealing with visual image and public safety. Future towers should be located only in existing designated sites, and their visibility should be minimized as much as possible. While Federal Aviation Administration requirements for lighting allow some flexibility, the least obtrusive options should be encouraged. This would typically mean the use of red lighting as a preference to white strobe lights.

WATER SUPPLY

Inventory

Information related to the quantity and quality of groundwater supply in the study area is limited. Depths vary greatly; ranges in depth any where from 40 feet to 500 feet can be found. Most residential units that have water in the study area have individual water supplies, although there are several water districts that have organized to provide local water.

Significant drops in the groundwater level can be experienced from spring to fall. This is because the primary source of groundwater from the Mountain is rain or snowmelt. Groundwater supply is therefore subject to change caused by climatic conditions.

Planning Implications

The ability to gain access to an adequate supply of water meeting standards for domestic use affects the developability and desirability of property on Casper Mountain. If individual wells are to be the water source, lower development densities are in order. Alternatively, water systems serving several units may allow for higher densities of development. These wells would likely be deeper and larger. The use of water storage tanks for development may also be advantageous in order to increase the dependability of supply.

The potential effect of additional wells on the dependability of existing wells is unknown. However, it is reasonable to assume that an increased number of closely spaced wells can have a draw-down effect on shallow wells in particular. This makes it all the more important to consider the maintenance of open space areas to protect water resources.

The issue of fire protection is also tied directly to the ability to access sufficient water supplies. Water supply, therefore, is both a public and private safety concern as well as a development requirement.

SEWAGE DISPOSAL

Inventory

A number of sewage disposal methods are now being used on Casper Mountain. They are the following:

- Leach Field and Septic Tank Systems
- Vaulted Toilets
- Self-Contained Treatment Systems Generating Treated Effluent
- Incinerator Toilets
- Compost Toilets

The vast majority of the techniques used in the study area rely upon soil disposal of effluent waste, therefore the leach field system has been the most popular. The system required by the City/County Health Department must be designed to have a minimum of 500 square feet of effective surface for the dispersement of effluent.

Due to geologic variability, varying soil types are unavoidable. The Department maintains parameters that dictate type of systems that can be installed and, if the soils are too restrictive, the reasons why a particular system is impractical. The minimum lot size for a septic system is 260’ X 250’ (1.5 acres).

With regard to system failures in the study area, the City/County Health Department has a fairly successful track record. However, drainfields do eventually malfunction with age and some systems have been replaced. It is also possible system failures have occurred without the Department’s knowledge.

The problem areas connected with sewage disposal in the study area can be classified into the following categories:

- Areas with high ground water or high cap rock which prevents adequate infiltration rates for sewage effluent; so far development in the study area has identified only two areas that exhibit this problem, Red Creek Meadow Subdivision and the First Hogadon Subdivision (located in fairly close proximity and accessed by Micro Road).

- Existing self-contained sewage treatment systems that have sewage loads that exceed their capacity or that do not have sufficient hydraulic flow to operate efficiently for effective treatment of sewage. This

CHAPTER 2

INVENTORY ANALYSIS

- SOLID WASTE
- LAW ENFORCEMENT
  - Graph 1—Incidents in the Study Area

problem occurs primarily with the church camps during the summer. Another problem is the small area for the installation of holding or finishing ponds for effluent. Holding tanks also cannot be used for long term sewage disposal.

Planning Implications

With the exception of the foothills, the remoteness of much of the study area and its topographical and access constraints seem to indicate that few viable options for the disposal of sewage in the study area are available. Sewage disposal is clearly tied to the size of the lots proposed, absorption capability of soils, and the proximity of the water table to be protected from the infiltration of sewage effluent.

When lots are less than two acres in size, centralized treatment plants may be feasible. With larger lots, treatment plants become less cost effective. With the concentration of density in smaller lots or clustered structures, centralized plants are preferred because maintenance and inspection of operation are more assured and more reliable over a longer period of time. Centralized treatment plants also offer the flexibility of aiding in the preservation of open space by allowing the concentration of desired density to protect valuable open space and wildlife resources.

Uniform approaches to lot size are often found in land use plans and regulations. However, flexibility in the application of lot sizes would create site development more sensitive to natural resources. By clustering units on a density, rather than a lot size basis, unique areas may be preserved and visual buffers created.

SOLID WASTE

Inventory

There is no public collection of solid waste on Casper Mountain. Residents of the study area are responsible for the disposal of their own trash by transporting trash from the study area to the City landfill site. The County Parks Department maintains trash receptacles for the Mountain parks, and some residents apparently use these to dispose of their trash rather than carry it off the Mountain. The Hogadon Ski Area receptacles are also utilized as a place to dispose of private trash.

Planning Implications

As development of the study area continues, the need and desirability of a solid waste collection system will increase. Not only is it inconvenient for residents to transport their trash, but also health conditions may be impacted as more and more residents accumulate trash before disposing of it properly. As the study area population increases, it is possible that littering and illegal dumping will correspondingly increase.

LAW ENFORCEMENT

Inventory

The County provides one deputy who is assigned to the Mountain. Problems with vandalism, property damage, and burglaries are always a concern, given that most of the study area's dwellings are used on a seasonal basis and some are in isolated places.

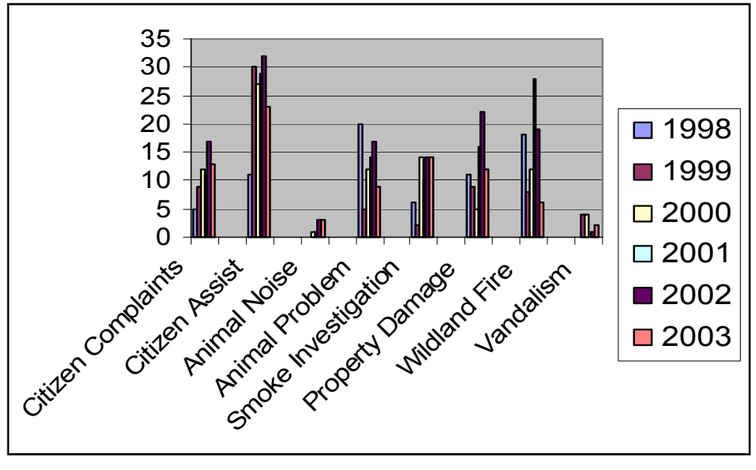
The graphs that follow present law enforcement incident statistics for 1998 through 2003. Accidents and citizen assists were the most common reasons for getting assistance.

Planning Implications

As growth of development occurs, increased protection will undoubtedly be necessary. The need should be monitored and increased manpower provided when justified.

"Neighborhood Crime Watch" or crime prevention programs could be beneficial to property owners. Seasonal cabins are likely to be more attractive targets than year-round residences.

Graph 1 - Incidents in Study Area



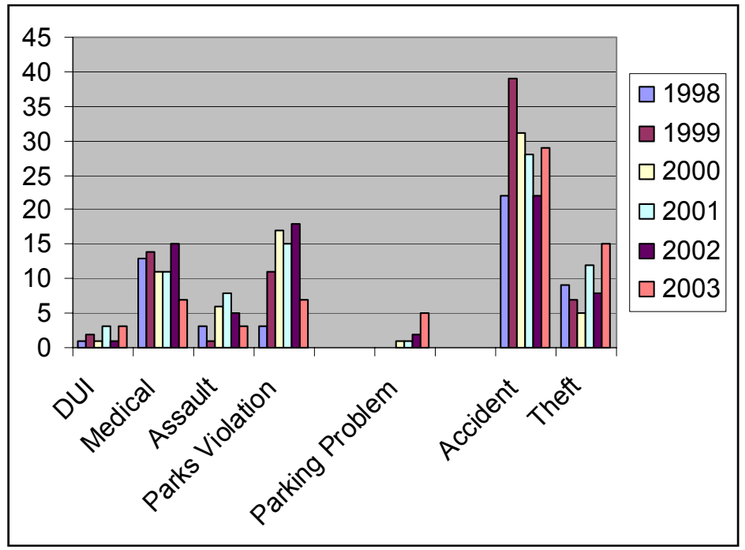
Source: Natrona County Sheriff's Department.

CHAPTER 2

INVENTORY ANALYSIS

- LAW ENFORCEMENT
  - Graph 2—Officer Assistance in the Study Area
- FIRE PROTECTION
- RECREATION

Graph 2 - Officer Assistance in Study Area



Source: Natrona County Sheriff's Department.

FIRE PROTECTION

Inventory

The Casper Mountain Fire District is responsible for fire protection in all areas of Township 32 North, Range 79 West. Its fire station is located west of Circle Drive near Casper Mountain Park, and the District maintains a capital improvements plan for rolling stock replacement. When requested, Natrona County assists the Fire District in this area as part of a mutual aid agreement. The Natrona County Fire District provides fire protection for the rest of the study area. Cooperative fire fighting agreements have been entered into by the County, Cities, State, and BLM for the entire study area.

Structure fires are most prevalent during winter months when wood burning stoves and other heating devices are in use. This is also the time of year when access to structures is most difficult due to the fact that many roads may not be adequately plowed to allow passage of fire equipment.

Wildfires present another danger, particularly during periods of drought. Aging forest land and fuel build-up adds to a potentially dangerous fire situation. Not all property owners are sensitive to the need for action on their part to create fire breaks and defensible space around their buildings, which could help protect their homes from wildfire damage. Along with structure damage, wildfires have significant impact on animal habitat. The point is to make sure the fires do not get out of control, which they can quickly do when timber is dry and the wind is blowing.

Another major problem is the lack of adequate water supply in most areas to fight fires. Subdivisions and places where many people congregate need reliable sources of water to combat fires if one should occur. On-site water storage is becoming increasingly important to protect people, structures, natural vegetation, and wildlife

Planning Implications

Fire protection is a major concern to many residents of the Mountain. The ability to provide fire protection is directly related to accessibility, water supply and sufficient funds for equipment and maintenance, and wildfire mitigation.

The mutual aid agreements for providing fire protection should be continued. The agreements work well and the cooperating agencies provide crucial back-up as the situations warrant.

Thus far, the Casper Mountain Fire District has successfully improved water storage at the fire station and worked with home owner associations in subdivisions to locate substantial water storage tanks. Future water storage facilities will be located in the study area through the National Wildfire Grant Program.

Development in the study area must be properly located and designed if satisfactory fire protection and maximum firefighter safety is to be assured. One tool for achieving greater safety is the establishment of a mountain/ wildfire safety overlay district. Such a district would require that wildfire mitigation zone improvements are completed prior to the issuance of zoning certificates and building permits for all principal structures in areas within the Casper Mountain study area.

RECREATION

Inventory

Casper Mountain has an extensive system of public and semi-public recreation facilities. The primary recreation agency is Natrona County, although the City of Casper operates Hogadon Ski Area, and is the owner of Casper Mountain Park and Rotary Park. Casper Mountain is heavily used both winter and summer for a wide variety of recreational activities. In the summer, much of the use originates from the summer camps operated by various non-profit agencies. The park areas are described below and shown on Figure 3.

CHAPTER 2

INVENTORY ANALYSIS

- RECREATION CONTINUED

Casper Mountain Park is a 460 acre park leased from the City of Casper and operated by Natrona County. It is a fee area. The park has been steadily improved since 1961, and currently provides the following facilities:

- Park Service Building
- Picnic Areas
- Play Equipment and Playfields
- Sanitary Facilities
- Overnight Camping
- Braille Nature Trails (constructed and maintained by the Lions Club)
- Cross Country Skiing (including night lighting)
- Mountain Biking
- Nordic lodge

The northern and western sections of Casper Mountain Park are state-owned. These areas include in holdings of residential uses and cross country trails. Since the state lands are trust lands, it may be appropriate for the County to pursue their acquisition.

Beartrap Meadow Park is a 160 acre, County owned and operated park area south of Casper Mountain Park. The park is heavily used in all seasons. In winter, it is a major trailhead area for snowmobile use. In summer, music festivals and similar events occur in the park. Facilities include:

- Shelters
- Sanitary Facilities
- Picnic Areas
- Play Equipment and Playfields
- Camping

Archery Range is a 112 acre County park used for archery rounds and camping. Facilities include:

- Archery Facilities
- Portable Sanitary Facilities
- Picnic Shelter and Table
- Camping Sites

Crimson Dawn Park is a 94 acre park which was donated to Natrona County. The park is a conservation area for walking and touring the mid-summer eve celebration shrines. The park also includes a three room cabin which has been converted to a museum. Facilities include:

- Trails
- Guest Cabin
- Museum
- Caretaker Building
- Water Storage and Septic System

Ponderosa Park, acquired from the BLM, includes 2,460 acres of park area on the east end of Casper Mountain. The park has some basic improvements, but is predominantly in its natural state with streams, timber, sagebrush flats, and cliffs. Facilities include:

- Shelter
- Sanitary Facilities
- Picnic Area
- Winter recreation trails

Rotary Park is a small, 40 acre park at the base of Casper Mountain which contains Garden Creek Falls. The park is leased to Natrona County from the City of Casper. The park contains:

- Trails
- Picnic Sites
- Bridle Trail (Connected with six miles of trails on private land in Garden Creek area)

Hogadon Ski Area is a 180-acre, full service Alpine ski area annexed into Casper and city-owned. The ski area accommodates about 20,000 ski visits per year. Facilities at Hogadon include:

- Ski Lodge/Cafeteria
- Maintenance Building
- Ski Rental Shop
- Ticket Sales and Meeting Building
- Ski Lifts/Trails
- Water and Sanitary System

Snowmobile Trails are maintained by the State of Wyoming. Trail locations are somewhat flexible, as they are obtained through granted easements and corridors.

CHAPTER 2

INVENTORY ANALYSIS

- RECREATION CONTINUED

Private Group Camps are located in several locations in the central Mountain area. The camps include:

- Camp Sacajawea (Girl Scouts)
- Camp WYOBA (Wyoming Baptist Assembly)
- Baptist Camp
- Seventh Day Adventist Camp
- Lions Camp (in Casper Mountain Park)
- Southern Baptist Camp
- Lutheran Camp

In addition to the above established uses, east and west parts of the mountain are included in State Game and Fish hunting areas for elk, pronghorn, deer, black bear, and mountain lion.

Planning Implications

The broad variety of recreation facilities located in a centralized portion of the study area has led to a variety of issues:

- Private property trespass
- Emerging recreation trends, such as off-road vehicles
- Concern for fire protection and emergency services
- Recognition that Casper Mountain is an amenity for the entire County

The challenge for providing a quality recreation experience on Casper Mountain is to distribute users to other portions of the Mountain, such as Ponderosa Park, to intensify the level of management in the central Mountain, and to provide additional facilities for specialized activities.

CHAPTER 3

GOALS AND POLICIES

- RESIDENTIAL
- COMMERCIAL
- RECREATION

CHAPTER 3—GOALS AND POLICIES

The goals and policies for the Casper Mountain Study Area were originally developed by the 1984 Casper Mountain Steering Committee to guide the development of the overall plan. The 2003 Steering Committee reviewed the goals and policies and found that for the most part, they are still relevant. Amendments and additions were made as necessary. In addition, the opinions voiced at public citizen open houses also played an important role in determining the study area's goals and policies.

The goals and policies are divided into five groups: residential, commercial, recreation, resource preservation, and facilities and services.

RESIDENTIAL

Goal:

High quality future residential development, designed to meet human needs and limit the impact on natural resources

Policies:

1. The density of future residential development in the study area will be one unit per ten acres in the foothills and one unit per five acres on the mountain.
2. Legal nonconforming (pre-existing) lots can be developed, provided they conform to all other site development and health standards.
3. Apply development standards to maintain high quality development, and protect water resources, topographic features, wildlife habitat and historic areas.
4. Encourage use of planned unit development (PUD) zoning and clustering to provide visual buffers, maintain feeling of solitude, and preserve open space.
5. Enforce health standards for sewage and water quality.
6. Wildfire mitigation will be provided through education and by best management practices.
7. Require legal and physical access to each new lot prior to issuance of building permits.
8. New subdivision roads will be dedicated for public access.

COMMERCIAL

Goal:

High quality commercial development consistent with the character of the study area, with limited impact on natural resources.

Policies:

1. Limit commercial development to uses such as a restaurant, a grocery store, and uses supporting recreational activities in the Study area.
2. Limit commercial development to the vicinity of Hogadon ski area and those portions of Section 16, T32N, R79W adjacent to County Road 505 and State Hwy 271, which are currently in commercial use.
3. Design commercial and governmental buildings to blend with the natural setting of the study area.
4. Develop signing and lighting standards to the study area that harmonize with the natural setting.
5. Mineral development that occurs shall be done pursuant to State and Federal regulations and in a way that reduces impact on natural resources and avoids disturbance to surrounding properties.
6. Gravel extraction and other mineral operations should be in visually screened areas and shall be limited in length of operation, controlled to ensure that reclamation takes place, managed to control dust and noise, and properly permitted by the State and County. Such activities shall conform with the County's special aggregate regulations and extraction overlay map.

RECREATION

Goal:

Continued development and promotion of recreational opportunities on Casper Mountain, respectful of private property rights.

Policies:

1. Provide additional recreation opportunities in the Ponderosa Park Area to disperse activities.
2. Improve park facilities and trails through better signing, marking, and education where needed to reduce trespass, disperse uses, and to let the public know what is available.
3. Continue to improve and expand parking, picnic facilities, restrooms and multiple-use trails.

CHAPTER 3

GOALS AND POLICES

- RESOURCE PRESERVATION
- FACILITIES AND SERVICES

4. Improve regulation enforcement in parks.

5. Keep motorized vehicles (particularly ATVs) on established roadways when snow cover is not present.

6. Develop a trail system for ATVs at a location with the least potential for impact on surrounding land uses and wildlife. Educate the public about trail etiquette and safety.

7. Keep snow machine trails on public and private land under the jurisdiction of the Wyoming Parks and Recreation Department.

8. Establish a County Parks Board in order to monitor existing recreational facilities, determine if additional facilities are warranted, follow trends in recreational use, and generally be actively involved in promoting park and recreation activities.

9. Monitor emerging recreational trends and adjust recreation plans accordingly.

10. Use funds from the Natrona County Recreation Joint Powers Board, a special recreation district, to construct and maintain recreational infrastructure and facilities.

RESOURCE PRESERVATION

Goal:

Protect natural resources for sustained public use and enjoyment

Policies:

1. Zoning controls, land purchases and trades should be used to protect unique natural resources.

2. Development and health controls should be used to protect water quality from degradation.

3. Forest health and wildfire mitigation should be cooperatively managed by property owners and fire districts, through public education, and in cooperation with local, state, and federal governments.

4. The bald eagle habitat in Jackson Canyon and Little Red Creek Canyon should continue to be protected.

5. Open space should be encouraged on the north face of the study area to protect the watershed and viewshed.

6. Public lands should be maintained and expanded as open space for recreation, grazing, watershed, and wildlife habitat.

7. Protect wildlife corridors by encouraging the use of wildlife-friendly fencing and limiting development along waterways and drainages.

8. Establish a Casper Mountain Land Trust that focuses on the acquisition of conservation easements in the study area to protect natural resources and preserve wildlife habitat and viewsheds.

9. Research and propose County resolution adoption to establish development setbacks and standards for waterways and streambanks.

10. Support ranching and agriculture as viable land uses that contribute open space, views, and wildlife habitat within the study area.

11. Cooperate with BLM in the update of their resource management plan for Casper Mountain.

FACILITIES AND SERVICES

Goal:

Provision of public facilities and services consistent with the rural nature of the study area and the level of recreational use

Policies:

1. Water supply and sewage disposal should be the financial responsibility of individual developers or lot owners.

2. Existing fire fighting facilities and equipment should be maintained and updated. County and city government should continue to provide financial assistance for fire protection.

3. Firewise strategies should be implemented in the study area to provide fire protection by creating an emergency access system, using roads as fire breaks, creating fire breaks, planting aspens and managing their existing stands (which not only provide excellent fire breaks but also offer wildlife habitat and forage), and other strategies that will increase safety.

4. The County and State will continue to maintain their respective roadways. All other roads and access shall be built and maintained by the property owners, developers, property owners' associations, and local improvement and service districts.

5. Communication towers should be limited to existing designated areas.

6. Underground utilities are encouraged.

CHAPTER 4

LAND USE PLAN

- Primary Themes
- Other Factors
- RESIDENTIAL

CHAPTER 4—LAND USE PLAN

Chapter 3 lists the goals and policies of the Casper Mountain Land Use Plan. They cover five topic areas: residential, commercial, recreation, resource preservation, and facilities and services. The primary theme of each topic area includes:

1. New residential development should occur at a low density and be sensitive to the natural resources potentially impacted by the development. Quality land development is of great importance, including the enforcement of septic standards, assurance of water quality, and wildfire mitigation practices.

2. Commercial development should be limited in intensity and area and designed to blend in with the natural setting. Mineral and gravel extraction shall be done pursuant to County, State and Federal regulations.

3. Recreational facilities and activities should be upgraded at existing sites with new sites being developed as needed. Activities and trails should be further dispersed in a manner that has the least potential for impact on surrounding land uses and wildlife.

4. Unique natural resources, water quality, and forest health warrant protection through voluntary and regulatory methods. Open space should be encouraged to protect the north face watershed and viewshed and to maintain areas for recreation, grazing, and wildlife habitat.

5. Individual property owners and local improvement and service districts will be responsible for their water supply, sewage disposal, private roads, and access. Fire fighting should continue to be handled through mutual aid agreement, and Firewise strategies should be implemented throughout the study area. Communication towers should be limited to established areas in the study area.

Other factors that are relevant to the formation of the land use plan are:

1. Existing use, ownership, and natural resource patterns suggest that future development and recreation activities should take place in the central and eastern portions of the study area. The western portion, due to larger ownership tracts, lack of access, and sensitive eagle habitat, should remain relatively undeveloped.

2. Water availability and sewage disposal are major constraints to development. Shallow wells, leach fields, and shallow bedrock may cause long term water quality problems. Future residential densities should be carefully controlled, and community water and sewage treatment systems encouraged when appropriate.

3. Much of the study area has 25 percent or greater slope. These areas must be carefully analyzed before development takes place to protect public safety, aesthetics, and environmental values.

4. The values of the study area are its scenic beauty and proximity to the Casper urban center.

Based on these factors, Figure 6 illustrates the study area land use plan. The land use categories are described as follows.

RESIDENTIAL

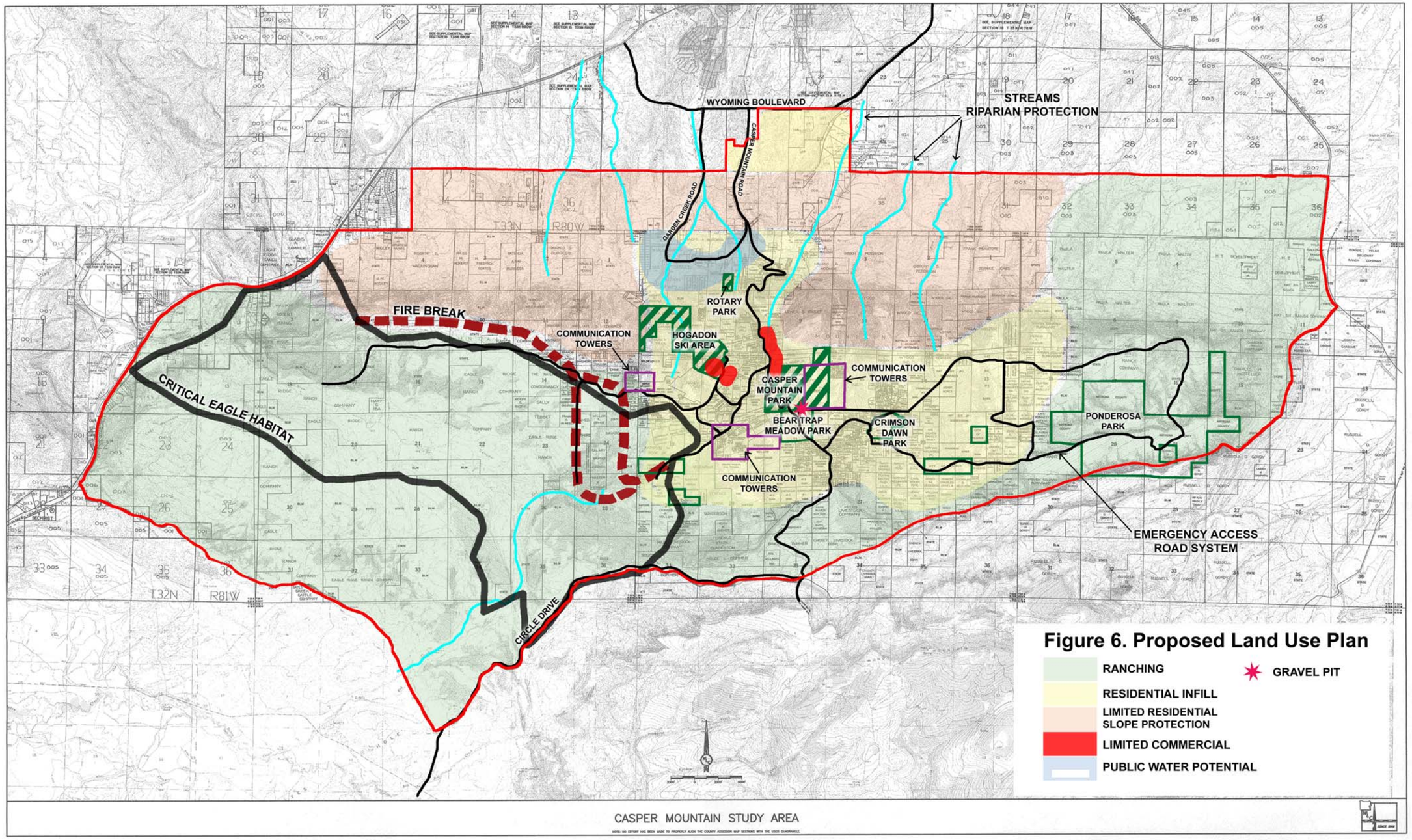
Residential land uses are reflected on the land use plan as areas that are already used for housing, land available for in-fill, and sites where additional development may occur. Two new zoning districts are proposed to encourage low density growth and, where feasible, the use of clustering or planned unit developments to consolidate structures and infrastructure.

The northern portion of the study area is proposed to be zoned Mountain Residential (MR-1). It includes land on the face of the study area where residential development has been occurring. The recommended density is one unit per 10 acres, utilizing individual wells and septic systems. The zoning district would primarily be intended to allow single family dwellings on ten acre parcels.

The forested region in the central portion of the study area is proposed to be the MR-2 zoning district. Much of this area is already developed in residential lots ranging in size from 8,000 square feet to 10 acres. The MR-2 district would accommodate existing and new single family dwellings at a density of one dwelling unit per five acres, with on-site water and sewer systems.

These densities were selected to protect groundwater quality, reduce impact on the vegetation and wildlife, promote the notion of solitude, protect visual qualities, and reduce the demand on tax supported services. To further protect environmental quality, community water systems, community sewage treatment, and clustered lots should be encouraged in new subdivisions when feasible. Clustering of lots (for example, within specified building envelopes) allows for the design of subdivisions in harmony with vegetation, topography, and visual quality. Areas of unique resources can be preserved, while residential development is concentrated in less sensitive portions of a site.

Other appropriate uses in the Mountain Residential categories may include accessory structures, home occupations, light agriculture, and open space recreation facilities. MR-2 uses may also include recreational vehicles for seasonal use. Very limited commercial development (i.e., bed and breakfast facilities, churches, day care center, recreational arenas) may be allowed as a conditional use in both Mountain Residential zoning districts. The MR-2 zone


WYOMING BOULEVARD
STREAMS
RIPARIAN PROTECTION
CASPER MOUNTAIN ROAD
GARDEN CREEK ROAD
ROTARY PARK
FIRE BREAK
COMMUNICATION TOWERS
HOGADON SKI AREA
CASPER MOUNTAIN PARK
COMMUNICATION TOWERS
CRITICAL EAGLE HABITAT
BEAR TRAP MEADOW PARK
CRIMSON DAWN PARK
PONDEROSA PARK
COMMUNICATION TOWERS
EMERGENCY ACCESS ROAD SYSTEM
CIRCLE DRIVE
T33N
R80W
T32N
R81W
Figure 6. Proposed Land Use Plan
RANCHING
RESIDENTIAL INFILL
LIMITED RESIDENTIAL SLOPE PROTECTION
LIMITED COMMERCIAL
PUBLIC WATER POTENTIAL
GRAVEL PIT
CASPER MOUNTAIN STUDY AREA

CHAPTER 4

LAND USE PLAN

- RANCHING
- OPEN SPACE
- COMMERCIAL
- COMMUNICATION TOWERS
- CRITICAL RESOURCE PROTECTION
- SLOPE PROTECTION

should also allow eating and drinking establishments, general stores, and campgrounds as a conditional use.

Site development that preserves natural resources and creates strong visual quality will be pursued through development and design standards, including a slope protection overlay zone. Fire safety will be promoted through recommended building and landscaping standards found in a proposed mountain/ wildfire overlay. See Figure 7 for an illustration of the proposed zoning for the study area.

RANCHING

The primary purpose of the Ranching category is to protect grazing lands and to allow for ranch buildings. Buildings and uses in support of ranching should be allowed. The corresponding zoning districts would be Urban Agriculture, which allows minimum 10 acre lots, and Ranching, Agriculture, and Mining, having a minimum lot size of 35 acres.

OPEN SPACE

The purpose of the Open Space category is to identify existing and future public lands which should be used for recreation, forest management, wildlife protection, water resource protection, and grazing. No residential or commercial development should occur within the Open Space area. To implement this Open Space category, the most appropriate zoning is Ranching, Agriculture, and Mining.

COMMERCIAL

Commercial uses should be limited to the vicinities of the Hogadon Ski Area and the existing State lease area near the Hogadon Road/Casper Mountain Road intersection. Uses should be limited to a restaurant, grocery store, and recreational support uses at Hogadon. Building design should be strictly controlled through a design review process.

State Statutes preclude the County from prohibiting mineral development, although they can be required to meet design standards. Mineral development, if it occurs, should take place in a way which preserves natural resources and avoids disturbance to surrounding properties.

Some gravel extraction may be necessary to support new residential roadway development. Gravel and other mineral operations should be in visually screened areas, limited in length of operation, controlled to ensure that reclamation takes place, and managed to control dust and noise.

COMMUNICATION TOWERS

The land use map indicates the existing sites for communication towers. It is recommended that these sites continue to be used in the future and that no new tower locations be permitted in the study area.

CRITICAL RESOURCE PROTECTION

The purpose of the Critical Resource Protection category is to protect the wintering areas of the bald eagles in Jackson and Little Red Creek Canyons. As designated by BLM, the Critical Resource Protection area includes the canyon walls and bottoms, as well as areas within one and one-half miles of identified roosting sites (which may change over time). These areas should have minimal human disturbance between November 1 and April 15 to maintain the viability of the eagle roosting area. Development density would be controlled by the underlying zoning, either Urban Agriculture or Ranching.

SLOPE PROTECTION

An overlay district is proposed to protect slopes from haphazard, unsafe development that could destroy vegetation and wildlife habitat, as well as impact surrounding property owners. It should be adopted as part of the County Zoning Resolution and applied to specific areas that are mapped in the Casper Mountain Land Use Plan and and/or in the County Zoning Resolution.

The overlay district would apply to lands within any zoning district with 25 percent or more slopes. Site plans would be subject to approval by the County Planning Commission. Submittal materials are to include the following:

1. Design documents and site plans that illustrate that building and access road construction will not create visual scars, cause erosion problems, or obstruct desirable views.
2. Before and after contour mapping.
3. Foundation designs.
4. Plans and profiles for roads and access drives.
5. A written analysis of the overall effect of the proposed development as well as the existing and potential development of lands which affect or may be affected by the proposed development.

Determination of specific 25 percent slope areas will be made at the time of subdivision or development application. Planned Unit Developments (PUD) rezonings and clustering of development are encouraged in order to preserve steep slopes.

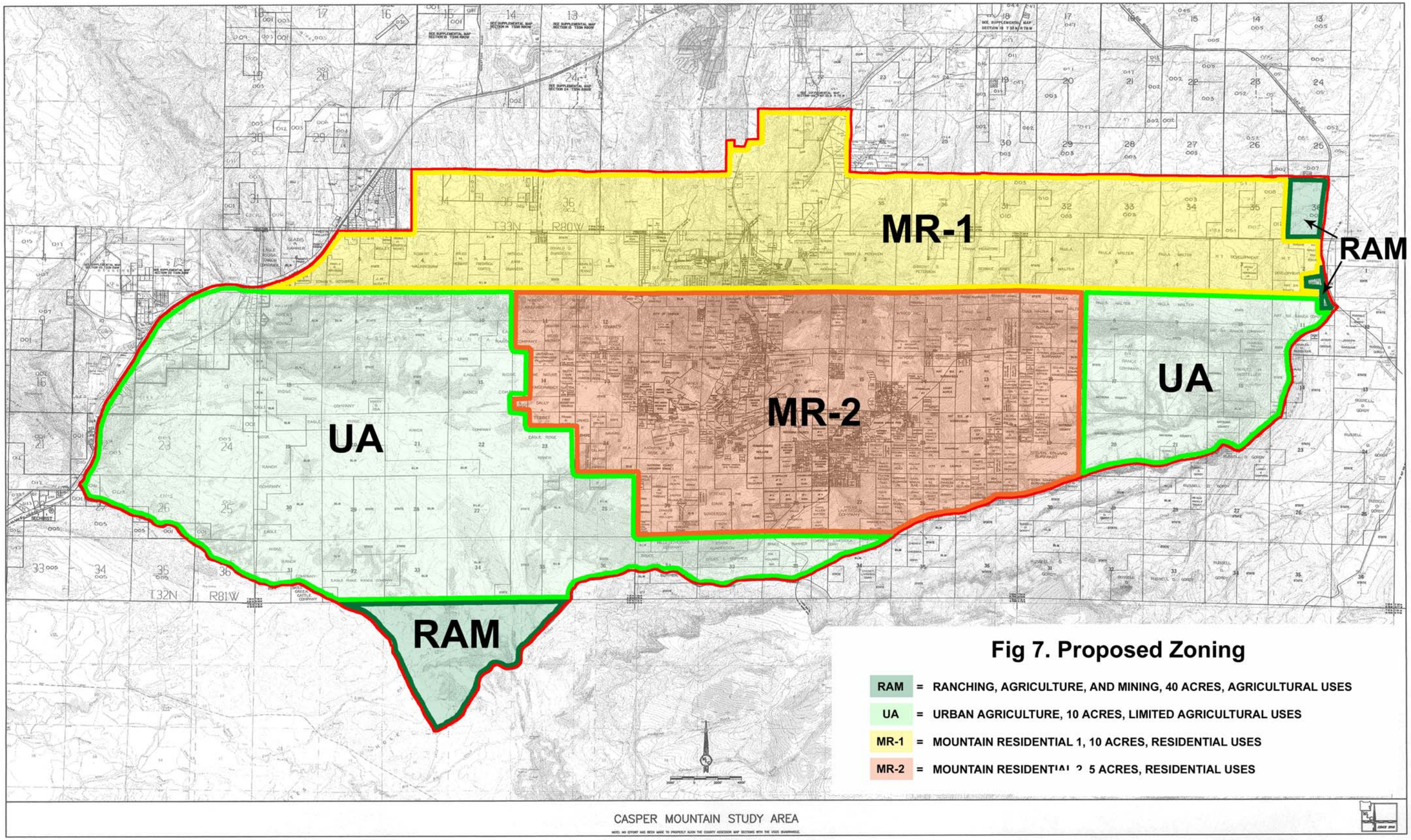


Fig 7. Proposed Zoning

CHAPTER 4

LAND USE PLAN

- MOUNTAIN/FOREST FIRE SAFETY

MOUNTAIN/WILDFIRE SAFETY

While not specifically identified on the land use map, another overlay district is proposed for the study area that pertains to study area and wildfire safety. The purpose of the overlay is to require that wildfire mitigation zone improvements are completed prior to the issuance of zoning certificates and building permits for all principal buildings. Implementation of wildfire mitigation zone improvements will reduce wildfire hazards to landowners and their property, and improve safety for firefighters to conduct fire suppression activities.

Three basic areas of improvements need to be addressed: 1) Road Access, 2) Vegetative Management and Defensible Space, and 3) Building Design and Materials. The overlay district will provide requirements and recommended standards that are nationally recognized to reduce wildfire hazards in forested subdivisions and developed areas.

It is recommended that the entire Casper Mountain Study Area be included in the Mountain/Wildfire Safety overlay district. Site plans in overlay areas would be subject to approval by the County Planning Commission.

CHAPTER 5

FACILITIES, SERVICES, AND RESOURCE MANAGEMENT PLAN

- ROADS
- ROAD ACCESS

CHAPTER 5—FACILITIES, SERVICES, AND RESOURCE MANAGEMENT PLAN

Future development of Casper Mountain will depend in part upon the ability of both the public and private sectors to provide certain facilities and services required to support development, and to successfully manage the resources found in the study area.

This portion of the plan discusses the major facilities and services required and outlines methods by which they can be provided and (as applicable) managed. It also addresses major resources that need management in order to be available in the future. The elements addressed in this section are:

- Roads
- Solid Waste
- Fire and Sheriff
- Electrical and Telephone
- Communication Towers
- Water Resources and Supply
- Sewage Disposal
- Vegetation and Forest Management
- Wildlife Resources
- Recreation
- Land Donation
- Financing

ROADS

Natrona County will continue to maintain those roads under its jurisdiction. No new county roads or road upgrades are currently planned.

All subdivision roads will be publicly-dedicated and privately maintained. It is the responsibility of the developer and property owners to provide for adequate construction and maintenance, including snow removal, on roads within subdivisions. Plats are required to include a statement that the roads within the subdivision will not be maintained by the public.

This approach is consistent with current subdivision regulations of Natrona County and does not constitute a change of policy. As in the past, the County determines the extent of snow removal appropriate and necessary on county roads.

Funding of road construction and maintenance of county roads is through the County general fund. Funds for road maintenance are budgeted through the County Road and Bridge Department. Given the large level of public recreational use in the study area, a level of maintenance greater than that provided in other areas of the County is justifiable. It is also reasonable to expect the City of Casper to participate in funding some portion of road maintenance costs for access to the Hogadon Ski Area.

Maintenance of subdivision roads by the private sector can be funded in other ways. Maintenance for individual areas of the study area can be done on a private contract basis with owners paying their share. This is currently done in some locations in the study area, although there can be problems associated with arrangements like this. The most obvious problem is that not all owners receiving the benefit are necessarily paying for their fair share. An alternative would be to form an improvement and service district which would assess property owners for services received.

Throughout this plan, references are made to the importance of wildfire mitigation zone improvements that will reduce wildfire hazards to landowners, their property and homes, and for firefighters. A mountain/wildfire safety overlay district is proposed as one of the recommendations to implement the Casper Mountain Land Use Plan. The overlay clearly addresses road access, listing requirements and standards that are nationally recognized to reduce wildfire hazards in forested subdivisions and developed areas. The overlay standards for road access are as follows.

1) ROAD ACCESS: *(unless otherwise specified in the subdivision regulations)*

- Road Width: Minimum unobstructed width of 20 feet. Turnouts must be provided if the road is over 150 feet in length.
- Road Height: Minimum unobstructed height clearance of 14 feet.
- Road Design: Loop roads will be implemented as much as possible. In all other instances, including dead-end roads, turnarounds need to be developed when the road is over 150 feet in length.
- Secondary Access: To the extent possible, properties shall have an alternate access road (fire-trail or two-track) in addition to their primary access road/driveway.
- Turnarounds: Inside turning radius of not less than 30 feet and an outside turning radius of not less than 45 feet.
- Turnouts: Minimum 10 feet wide and 30 feet long.
- Driveways: Minimum width and vertical clearance of 14 feet. Driveways over 150 feet in length shall be provided with turnouts.
- Marking of Roads: All roads shall be marked with signs made of noncombustible materials. Signs shall have a minimum 4-inch-high reflective letters with ½ inch stroke. Road identification signs shall be mounted at a height of 7 feet from the road surface to bottom of the sign.

CHAPTER 5

FACILITIES, SERVICES, AND RESOURCE MANAGEMENT PLAN

- SOLID WASTE
- FIRE AND SHERIFF
- ELECTRIC AND TELEPHONE
- COMMUNIATION TOWERS
- WATER RESOURCES AND SUPPLY

- Address Markers: All buildings shall have a permanently posted address on the building and placed at each driveway entrance, visible from both directions of travel along the road. In all cases, the address shall be posted at the beginning of construction and shall be maintained thereafter by the property owner.

The proposed land use map in Chapter 4 identified a number of sites for emergency access roads, including loops systems. These access roads are intended to allow firefighters and citizens to more safely and easily leave the study area in the event of a wildfire or other natural disaster. All emergency access roads that are created should be done in cooperation with Natrona County, the Natrona County Fire Protection District, the Casper Mountain Fire District, the Firewise Committee, land owners, and developers.

The long range plan should include identification of general access corridors. These would be important alternates to the Mountain road, which actually is similar to a long cul de sac much of the year. The mountain road is the only winter access to the top of the mountain. Access corridors should be identified from Ponderosa Park to Hat Six Road, from the top of the mountain south along the Red Creek, and from the West End Road to Coal Mountain Road and/or Wyoming 220.

Acquisition of rights-of-way will be a difficult task because of slopes, private property crossings, the critical eagle habitat, and other constraints, but the planning should be done now or there will never be chance to obtain these accesses at any time. Creating adequate emergency access roads at these locations would require upgrading the roadways they would connect. Many of these roads now are not adequate for emergency access.

SOLID WASTE

Currently, individual property owners are responsible for removing their solid waste. No change is anticipated in this practice. As long as it continues to work as well as it has to date, each property owner will remain in charge of their solid waste removal.

FIRE AND SHERIFF

Law enforcement will continue to be provided by the County through the Sheriff's Department. Manpower requirements will be determined by the County as development and use of the study area increases.

Fire protection is primarily provided by the Natrona County Fire Protection District, the Casper Mountain Fire District, and the City of Casper, and there is a mutual aid agreement among the firefighting agencies at all levels of government in the County that provides backup and support for fighting fires in the study area. The Casper Mountain Fire District area is Township 32 North, Range 79 West. The remaining area is under the jurisdiction of the Natrona County Fire Protection District. Again, firefighters also respond to calls outside this area.

The Firewise Committee, a voluntary group, is comprised of representatives of local, state, and federal firefighting agencies in Natrona County. Their role is to promote wildfire mitigation by educating property owners about methods to better protect their homes and structures from fire damage. Firewise standards pertaining to road access, vegetative management and defensible space, and building design and materials are listed in the proposed Mountain/Wildfire Safety Overlay. Abatement strategies and financial incentives are currently part of the Firewise effort.

ELECTRIC AND TELEPHONE

Pacific Power and Light and Qwest provide electrical and telephone service respectively. The Casper Mountain Land Use Plan encourages underground distribution lines as much as possible. From both a public safety and fire safety standpoint, underground utilities are preferred.

COMMUNICATION TOWERS

The demand for acceptable tower locations in the study area is increasing. In 1976, the County approved Resolution 38-11-76 that allowed towers in identified areas, including sites on Casper Mountain. The County is currently working on an updated resolution that will continue to make use of existing tower sites on the mountain: Tower Hill, K2 Tower, and Micro Road sites. The use of these existing sites, rather than the creation of new sites across the study area, is preferred.

WATER RESOURCES AND SUPPLY

Casper Mountain has a fragile system of surface and groundwater resources. Chapter Two (Inventory Analysis) identified potential problems such as groundwater pollution, groundwater depletion, and surface water sedimentation. Due to its steep slopes, shallow soils and fractured bedrock, Casper Mountain presents a challenge for water resource protection.

Limits on overall development density will help control impacts to water resources. Chapter Four, Land Use, establishes density limits for the study area, including two new zoning categories having five-acre and ten-acre densities. These limits on development density will help reduce competition for groundwater resources and control the total sewage effluent burden on soil resources.

The Land Use chapter also encourages the clustering of individual residences. Clustering is a technique which uses density, rather than minimum lot size, to guide development. This results in less roadway development and reduces the area exposed to grading and erosion. Clustering can reduce site runoff and minimize erosion and help protect sensitive areas by grouping houses together and leaving the sensitive areas in open space.

Water resource protection is further offered through specific site design reviews. Development design review is a technique used by public agencies

CHAPTER 5

FACILITIES, SERVICES, AND RESOURCE MANAGEMENT PLAN

- SEWAGE DISPOSAL
- VEGETATION AND FOREST MANAGEMENT

to protect environmental values, including water resources and wildfire mitigation.

In terms of supply, wells for private and public uses will continue to be permitted by the State of Wyoming. Water availability is sporadic and varies considerably throughout the study area.

It may be possible in limited cases for the County to require that community water systems be installed in new subdivisions that have an effective net density of one unit per five acres or more. The intent of the requirement is to prevent the proliferation of closely spaced individual wells that could have an adverse effect on ground water supply conditions. However, the current and recommended densities for the study area do not lend themselves to community water systems due to economics. One development option that could effectively employ a community system is the planned unit development, which can concentrate development on small building envelopes while leaving the rest of the property as open space.

There are current discussions about establishing public water systems in existing subdivisions in the Lower Circle Drive area. The proposed ten-acre lot size in the MR-1 district may make these systems cost prohibitive. Property owners should work with the City and Regional Water System to determine the feasibility of public water.

Additionally, the County should require future subdivisions to provide water supply facilities for fire protection at the time of development. The facilities may include such items as increased well and pump capacities and water storage tanks at appropriate locations in the study area. The cost of these facilities should be considered part of the development cost.

SEWAGE DISPOSAL

Individual septic systems remain the predominant form of sewage disposal. There is always the potential for pollution of groundwater and domestic wells from septic drain fields as the total number of septics and density of development increases. One possible solution is for the County to require that new major subdivisions (creating six or more lots) include a community sewer system that meets all standards established by the County and the State of Wyoming. Another option is to require all minor and major subdivisions to be reviewed by the State Department of Environmental Quality for groundwater and individual septic system suitability. This will require developers to have a detailed groundwater study completed, reviewed, and recommended favorably by DEQ prior to allowing subdivisions of land that include two or more lots. If public (serving 25 or more persons) water or septic systems are installed in new subdivisions, water and sewer districts or improvement and service districts must be established for the operation and maintenance of facilities installed by the developers. Alternatively, existing districts may be expanded to include new development. All costs of community water and sewer districts are the responsibility of the subdivider and the property owners.

VEGETATION AND FOREST MANAGEMENT

Managing the forest for wildfire mitigation, forest health, and protection from insects and diseases are a critical part of the study area plan. While management involves individual activities for land owners, there are jurisdictional issues across the study area.

One major fire could wipe out the entire timber stock and all man made improvements in the study area. Cooperation among all land owners, especially pertaining to Firewise practices, is critical to protecting the study area for future users. Efforts are underway by the Casper Mountain Forest Stewardship Association, State Forestry Division, BLM, and others to provide personnel, funding, and/or advice on best management practices. At the same time, it should be recognized that fire plays a critical role in the regeneration of certain forest stands and in maintaining grass-lands.

Another significant vegetation resource issue relates to insect infestations, such as bark beetle, Aspen tree disease, or fungal pine disease. When stands of Lodgepole pine or other species occur in great densities, natural agents such as insects or disease can attack the stand and reduce these densities. One example is the mountain pine beetle, which acts as a natural thinning agent.

Controlling the number of trees per acre by utilizing best management practices to maximize forest health in a given area is one important consideration in preventing epidemics. A less preferable option is to do nothing at all and allow nature to take its course.

Natural predators such as woodpeckers and other insects become more numerous when insect populations are high. However, they have little effect on insect production. During normal periods when epidemics are not a factor, woodpeckers and other predatory beetles may play an important role in controlling insect populations.

Forest health management crosses all boundaries: federal, state, and local governments, as well as private citizens. The best way to manage forest health issues are through private covenants that require wildfire mitigation activities; public education about forest health and Firewise; and a close working relationship among individual property owners, homeowners' associations, city and county fire departments, and all levels of government.

Casper Mountain also has a multi-jurisdictional Wildfire Mitigation Committee that emphasizes fuel load reduction and public education about forestland management. Representatives from the BLM, State Forestry, local fire departments, and other state, local, and federal agencies serve on the Committee.

CHAPTER 5

FACILITIES, SERVICES, AND RESOURCE MANAGEMENT PLAN

- WILDLIFE RESOURCES
- RECREATION

WILDLIFE RESOURCES

Elk winter range on Casper Mountain occurs on the east end in the Ponderosa Park area. This winter range is primarily used by bull elk and is not considered critical by the Wyoming Department of Game and Fish. Typical characteristics of elk winter range are park-like open areas kept snow-free by blowing winds. Elk are not particularly tolerant of human disturbance so another critical aspect of elk winter range is distance from human activity.

Mule deer also inhabit Casper Mountain, utilizing the higher elevations during the summer months and then spending the winters at the lower elevations where snow accumulations are less. Primary characteristics of the winter range are that it is adjacent to the summer range, the shrubs upon which the mule deer feed are taller than accumulated snow depths, and snow accumulations tend to be low. Mule deer are much more tolerant of humans.

The significant amount of public land within the study area provides much needed space for wildlife. As much as possible, these public lands should be maintained and kept as open space to continue wildlife protection. The BLM is currently working on an update of their resource management plan for the study area, which will include wildlife policies.

The vegetative diversity of Casper Mountain provides wildlife habitat for numerous game and non-game species. Additionally, the opportunity exists for private landowners to improve the vegetation on their property to be of greater value to, and be more attractive for, wildlife. Given the appropriate management guidance and information, these landowners could not only enhance their property for wildlife but also improve and increase the diversity of vegetation. This increased diversity will be attractive to songbirds and other wildlife species. Resources are available through the Casper Mountain Stewardship Program and cost-share and educational programs through the Wyoming Forestry Division.

State Game and Fish offers numerous publications pertaining to living in areas with wildlife, including suggestions for wildlife-compatible landscaping. Information about the available literature can be distributed through a Casper Mountain newsletter that reaches private property owners.

Another important consideration for wildlife is the protection of wildlife migration corridors by the use of wildlife-friendly fencing and through limited development along waterways and drainages. The passage of big game animals can be greatly hindered or helped by the type of fences that are erected. State Game and Fish provides guidelines and funding programs for wildlife-friendly strategies, such as fences that allow pronghorns to go under them and easier passage by other big game animals. With regard to waterways and drainages, Natrona County could adopt regulations to establish development setbacks and standards for waterways and streambanks which will assure ease of access is maintained for wildlife.

Two bald eagle winter roosting areas occur on the western half of Casper Mountain. One roosting area is located in Jackson Canyon and the other is located in Little Red Creek Canyon. The roost sites in these two areas are important because they are close to a ready food supply on the Platte River and the surrounding uplands. Roost sites must also be free from human disturbance and must be protected from adverse winter weather. The roosts are used from the first of November to the end of March. The BLM has designated the roost vicinity as an area of critical concern.

A substantial portion of the winter eagle roosting area has been protected by a conservation easement. However, the Little Red Creek roosting area is close to the edge of the property and additional buffering is needed to protect this area from disturbance by snowmobilers and skiers. The habitat should continue to be protected during prime roosting season from human encroachment.

The State Game and Fish Department found five established sage grouse leks within one mile of the study area. One lek identified as the Hat Six lek is declining in population. Other leks on the west side of the study area are less at risk. While these are outside of the study area, their protection is still warranted to ensure that viable numbers of sage grouse can continue to exist in the study area vicinity.

RECREATION

Wyoming State Statutes allow the formation of county park boards, and it may be beneficial for Natrona County to form such a board. They can be used to monitor needed park development, create a facilities improvement plan for existing parks, and to keep abreast of recreation trends to make sure local needs are met.

Existing recreational facilities in the study area should be utilized as much as possible. Onsite signage, site maps, and education about what is available on the mountain should be consistently available to the public. Future expansion potential exists for multiple use trails, specific use trails, or bridle trails, and steps need to be taken now to obtain and/or protect easements for recreational use. In addition, emerging sports may impact the study area in the future, much like mountain biking did fairly recently. It's critical that plans be in place to address these potential changes as opportunities present themselves for easement acquisition and site development.

The City of Casper maintains and operates Hogadon Ski Area. Any future development within the existing Hogadon area should be done in harmony with the area. Natrona County is responsible for all the parks, and the area's snowmobile trails are maintained by the state. User groups such as Nordic skiers, equestrians, snowmobilers, and the school district contribute a great

CHAPTER 5

FACILITIES, SERVICES, AND RESOURCE MANAGEMENT PLAN

- LAND DONATION
- FINANCING SUMMARY
  - County General Fund
  - Natrona County Recreation Joint Powers Board
  - Improvement and Service Districts

deal of time and money to maintain targeted facilities for recreational use.

LAND DONATION

Many states and localities have established very successful programs to receive donated private lands, typically through conservation easements. Several incentives are available to a landowner to make land donations for natural resource and recreation purposes:

- Federal tax deduction for the development value of the land if donated in fee; or a deduction for the difference between the development value and the preservation value, if an easement is donated.
- Property tax abatement.
- Social contribution/recognition.

To allow donation of land for public purposes, there must be an organization such as a land trust that can accept and manage the land to maintain natural values. Two options exist for implementing a land donation program. A private, non-profit land trust could be formed to accept and manage lands and easements. A second option would be for Natrona County to set up a program for accepting lands and easements, and providing ongoing management of the lands. Either way, the point is to have a means for allowing private property owners to donate easements in order to protect natural resources, preserve the study area's wildlife habitat and viewsheds, and/or provide additional recreational opportunities.

FINANCING SUMMARY

The previous sections outlined a number of items, some of which will require increased funding in order to be implemented. The first step in developing a financial plan for these improvements is for the County departments to develop a detailed capital improvement program and operating cost estimate for new facilities and services. The financial plan should be developed by the Road, Bridge and Parks, and Sheriff Departments, the Mountain and County Fire districts, WYDOT, the City of Casper, the Bureau of Land Management and others in coordination with the Board of County Commissioners.

The more difficult problem is the identification of new financing techniques to provide funds for these improvements. A mix of funding sources and sharing of financial responsibility will be needed to provide adequate monies for the many projects under discussion. Several funding sources have been identified for possible future application. This is not an all-inclusive list. Some of these sources were discussed in previous sections. The funding sources are summarized as follows.

County General Fund

The County General Fund already provides money for various facilities and services on Casper Mountain, including parks, road maintenance, and law enforcement. In addition, the County provides some funding to the Casper Mountain Fire District. The County General Fund obtains revenues from a variety of sources, including:

- 12 Mill Property Tax
- Sales Tax
- Severance Tax
- Federal Payments in Lieu of Taxes

The County is limited in its ability to raise additional funds. Additional allocation of general funds to Casper Mountain will divert money from other expenditures. Yet, some increased funding from the County should be made, especially in the areas of recreation, fire protection, and road maintenance. Casper Mountain is a resource used by all residents of Natrona County. In that sense, the General Fund is an appropriate source of money for facilities and services related to recreation access and use, wildfire protection, and enforcement of regulations.

Natrona County Recreation Joint Powers Board

Another potential source of funding is the Natrona County Recreation Joint Powers Board, a special recreation district comprised by representatives of the County Commissioners, City Council, and school district. Special districts are allowed to establish assessments to construct and maintain infrastructure and facilities. The one-mill levy generates nearly $600,000 annually and is allocated between the school district and the city/county governments. Partial funding for the Casper Mountain Trails Center was obtained from this tax.

Improvement and Service Districts

For services required by residents of the study area in excess of normal rural services in Natrona County, special districts can be formed to raise funds and provide services. The Wyoming Improvement and Service District statute allows the formation of a district by vote of the property owners, to provide a variety of improvements and services. The district can assess the property owner fees to fund these facilities and services. The residents of the district determine desired services and establish the amount they are willing to pay. The Improvement and Service District approach should be used for additional services beyond those supplied by the County, including water, sewer, road maintenance, electricity and a variety of other improvements.

CHAPTER 5

FACILITIES, SERVICES, AND RESOURCE MANAGEMENT PLAN

- City of Casper
- User Fees
- Development Dedications/Fees
- BLM and State Forestry Division
- One Percent Sales Tax
- The State Loan and Investment Board
- Wyoming Department of Transportation
- Wyoming Department of Environmental Quality

Roadway maintenance can be provided by the district through an annual assessment, both for maintenance and snow plowing if desired. The district property owners pay the annual assessment with their property tax. The County returns that amount to the district which can contract with whomever it wishes to provide road grading and maintenance and snow removal. Many such districts in the County have constructed new roads, water, sewer and other facilities using an assessment of property owners approved by the property owners themselves, and, in addition, have been able to obtain grant funding from the Wyoming Business Council Block Grant program and the Wyoming State Loan and Investment Board to match the local assessments. (The block grant program is for low to moderate income families and is not likely to work in a second home area like the study area.) For those areas seeking public water, the improvement and service district is the cleanest and most efficient form of funding, constructing, and operating a water, or sewer, system. The district can assess themselves for a portion of the project while obtaining grant funds from the Wyoming Water Development Commission and the State Loan and Investment Board.

The beauty of the improvement and service district is that a district of twenty lots can assess themselves for these improvements and apply for grants as well, and not have to be included as part of another district. On the other hand, the larger the district the more value the district can provide in standardizing roads, water and sewer and minimizing administrative costs.

City of Casper

The City of Casper has a unique investment in Casper Mountain with its operation at Hogadon Ski Area. The City benefits from the provision of County services, including law enforcement, road maintenance, and fire protection. The City should continue to work with the County and contribute City funds toward these services. An example of this approach is the water reservoir developed at Hogadon that can also be used for Mountain fire protection. Also, Payment In Lieu of Taxes (PILT) has been used by the Casper Mountain Fire District.

User Fees

User fees can provide funds for a given service or facility which can be provided on a "pay-as-you-go" basis. The County has developed a workable user fee program for the ski trails and the camp sites it operates. In another example, the Snowmobile Association has a user fee program that directly benefits snowmobilers. The fees help the State of Wyoming maintain local snowmobiling trails. User fees can be used for park maintenance, road maintenance, and public safety services for areas utilized by recreationalists.

Development Dedications/Fees

Developer dedications and fees are becoming more commonplace throughout the United States for funding facility improvements. This approach should be extended to include donations for development of adequate water supplies and equipment for fire protection. Because of the lack of new subdivisions on Casper Mountain these fees and dedications are very minimal.

BLM and State Forestry Division

The State Forestry Division and federal grant programs offer cooperative programs that work in cooperation with the fire districts and the Firewise committee to provide funding for individuals who implement Firewise practices on their properties. This funding program is critical to the future of the study area and the currently cooperating agencies should seek additional funds from other sources. Funds are also available through the Division for promoting forest health on private property and controlling forest insect diseases.

One Percent Sales Tax

The study area property owners could either by themselves, or in cooperation with the County and City, propose to use County or City Optional One Percent Sales Tax funding for public improvements on Casper Mountain, including roads, recreation areas, and fire district equipment among others. This type of a request could be based on the fact that all the public can use the public areas on Casper Mountain. Several 'one cent' projects have been successfully funded on Casper Mountain for recreation and firefighting equipment.

The State Loan and Investment Board (SLIB)

The SLIB traditionally funds water, sewer, streets and other public infrastructure items. Currently they are in a mode of funding primarily public safety items, such as fire halls, fire trucks, emergency radio systems and other public safety items. Grants have been received within the study area. Continuing their use for fire equipment and buildings will free up local money for improvements elsewhere in the study area.

Wyoming Department of Transportation (WYDOT)

WYDOT has Enhancement Funds in two programs that could be used to fund trails on the mountain. The On-system program provides 90 percent State/10 percent Local grants for pathways and other transportation related facilities. These trails would have to be within the state right-of-way. The Off-System or TEAL program provide 80/20 funding again for trails and other transportation related facilities.

The Wyoming Department of Environmental Quality (DEQ)

DEQ provides grants for water resource studies, such as the one set to begin soon through the Natrona County Development Department. This study will determine how to best protect the watershed and maintain a clean water source

CHAPTER 6

LAND USE IMPLEMENTATION

- Summary of Proposed Land Use Plan
- Implementation Strategies/Zoning
  - MR-1

CHAPTER 6—LAND USE IMPLEMENTATION

This section of the Plan reiterates the recommendations made throughout the rest of the document and outlines their implementation strategies. The intent is to ultimately achieve the goals and policies of the Plan through targeted strategies that will attain the greatest results.

Summary of Proposed Land Use Plan

Chapter 4 presents the full description of the study area's land use plan. Primary factors that fed into the development of the land use map include:

1. New residential development should be low density, sensitive to natural resources, and of a high quality that protects scenic quality, enforces septic standards, assures water quality, and utilizes wildfire mitigation practices.

2. Commercial development should be limited in intensity and area and designed to blend in with the natural setting.

3. Recreational facilities and activities should be upgraded at existing sites with new sites being developed as needed. Activities and trails should be dispersed to have the least impact on surrounding land uses and wildlife.

4. Unique natural resources, water quality, and forest health warrant protection through voluntary and regulatory methods. Open space should be encouraged to protect the north face watershed and viewshed and to maintain areas for recreation, grazing, and wildlife habitat.

5. Property owners and improvement and service districts will be responsible for water supply, sewage disposal, roads, and access. Fire fighting should be handled through mutual aid agreement, and Firewise strategies should be implemented. Limit communication towers to established areas.

6. Existing use, ownership, and natural resource patterns suggest that future development and recreation activities should take place in the central and eastern portions. The western portion, due to larger ownership tracts, lack of access, and sensitive eagle habitat, should remain relatively undeveloped.

7. Water availability and sewage disposal are major constraints to development. Future residential densities should be carefully controlled, and community water and sewage treatment systems encouraged when appropriate.

8. Areas with 25 percent or greater slope must be carefully analyzed before development takes place to protect public safety, aesthetics, and environmental values.

9. Values of the study area include its scenic beauty and proximity to the Casper urban center.

These factors are reflected on the land use map. In general, residential areas are recommended to be low density and concentrated in the north, central, and east portion of the study area. Commercial development and communication towers should remain in existing areas, and commercial activity should be of a low intensity. Open space areas, found in the western study area and to the east, are very important to the study area and are the largely the result of park land, public land, and ranching. Critical areas include locations with slopes of 25 percent or greater, and the BLM designated Area of Critical Resource Protection for bald eagles.

Implementation Strategies/Zoning

Key strategies for implementing the plan include two new residential zoning categories. The proposed zoning categories are intended to replace some of the current zoning districts in the study area, with the exact location of the new zoning districts to be finalized after public hearings before the County Planning and Zoning Commission and Board of County Commissioners.

The new zoning categories are Mountain Residential One (MR-1) and Mountain Residential Two (MR-2). Both are intended to allow low density, single family housing within the study area, along with a number of other allowed or conditional uses. Their intent, proposed use and size standards are:

MR-1

The intent and purpose of the Mountain Residential 1 district is to establish and protect areas for low density residential and accessory agricultural uses

Permitted uses:

(1) Accessory buildings and uses.
(2) Dwellings: one single family, manufactured home or seasonal dwelling per lot or tract.
(3) Forest and wildlife management.
(4) Family Child Care Home and Family Child Care Center
(5) Home occupation.
(6) Light agriculture, accessory to residential use on the same lot or tract.
(7) Park, playground, golf course and other similar open space recreation facilities.

CHAPTER 6

LAND USE IMPLEMENTATION

- Implementation Strategies/Zoning Continued
  - MR-2
- Implementation Strategies/Overlays

(8) Storage of flammable or combustible liquids not to exceed 500 gallons, total.
(9) Propane tank, not to exceed 2,000 gallons total.
(10) Other similar and compatible uses, as determined by the Board.

Uses that may be approved by conditional use permit:

(1) Bed and breakfast.
(2) Day care center.
(3) Place of worship.
(4) Public facility.
(5) Recreational facility, public or private.
(6) Arena, recreational.
(7) Utility installation.
(8) Communication tower.
(9) Other similar and compatible uses as determined by the board.

Minimum district size is 40 acres

Minimum lot size is 10 acres

MR-2

The intent and purpose of the Mountain Residential 2 district is to establish and protect areas for low density residential uses, recreational uses, accessory agricultural uses, and commercial uses (upon approval of conditional use permits and in those areas designated for commercial in the 2004 Casper Mountain Land Use Plan).

Permitted uses:

(1) Accessory buildings and uses.
(2) Dwellings: one single family, manufactured home or seasonal dwelling per lot or tract.
(3) Forest and wildlife management.
(4) Family Child Care Home and Family Child Care Center
(5) Home occupation.
(6) Light agriculture, accessory to residential use on the same lot or tract.
(7) Park, playground, golf course and other similar open space recreation facilities.
(8) Storage of flammable or combustible liquids not to exceed 500 gallons, total.
(9) Propane tank, not to exceed 2,000 gallons total.
(10) Recreational vehicles (RV's) for seasonal use
(11) Recreational vehicles (RV's) for temporary shelter of up to one year while dwelling construction is occurring
(12) Other similar and compatible uses, as determined by the Board.

Uses that may be approved by conditional use permit:

(1) Bed and breakfast.
(2) Day care center.
(3) Place of worship.
(4) Public facility.
(5) Recreational facility, public or private.
(6) Arena, recreational.
(7) Eating and drinking (optional) establishments.
(8) General store.
(9) Utility installation.
(10) Communication tower.
(11) Aggregate extraction.
(12) Campgrounds.
(13) Other similar and compatible uses as determined by the board.

Minimum district size is 40 acres

Minimum lot size is 5 acres

In addition to these new residential zoning districts, the land use plan supports the continued use of the Urban Agriculture and the Ranching, Agriculture and Mining zoning districts to maintain open space. The districts allow limited residential development and are particularly supportive of ranching and agricultural land uses.

One other strategy that should be mentioned is the Planned Unit Development, particularly when used with cluster development. PUDs allow increases in density that can best support community water and sewer systems, and they are an excellent method for clustering houses based on density rather than minimum lot size. Thus the approach would allow developers to create building envelopes that can economically support community systems, while also leaving the rest of the site as open space.

Implementation Strategies/Overlays

Two overlays are proposed to further the implementation of the study area's land use plan. One pertains to slopes and will apply in areas having 25 percent or greater slope. The other provides mitigation strategies to promote fire safety and would be applicable in the entire study area.

CHAPTER 6

LAND USE IMPLEMENTATION

- Implementation Strategies/Overlays Continued
  - Slope Protection Overlay
  - Mountain/forest fire safety overlay district
- Plans and Policies
- Plan Implementation Process

Slope Protection Overlay

This overlay is intended to protect slopes from haphazard, unsafe development that could destroy vegetation and wildlife habitat, as well as impact surrounding property owners. It is proposed that the overlay be adopted as part of the County Zoning Resolution and applied to specific areas that are mapped in the Casper Mountain Land Use Plan and and/or in the County Zoning Resolution. The intent is that the overlay can be used for Casper Mountain and elsewhere in Natrona County as appropriate. Key points of the overlay include:

a. The overlay district applies to lands within any zoning district with 25% or more slopes.

b. Site plans in overlay areas are subject to approval by the County Planning Commission. Submittal materials include:

   1. Design documents and site plans that illustrate that building and access road construction will not create visual scars, cause erosion problems, or obstruct desirable views.
   2. Before and after contour mapping
   3. Foundation designs
   4. Plans and profiles for roads and access drives.
   5. A written analysis of the overall effect of the proposed development as well as the existing and potential development of lands which affect or may be affected by the proposed development.

Mountain/Wildfire Safety Overlay District

Over and over again, the plan has discussed fire mitigation, access, and safety. The intent of this overlay district is to require that certain wildfire mitigation zone improvements are completed prior to the issuance of zoning certificates and building permits for all new principal structures within the Casper Mountain Study Area. Three basic areas of improvements are addressed: 1) Road Access, 2) Vegetative Management and Defensible Space, 3) Building Design and Materials. This overlay district provides requirements and recommended standards that are nationally recognized to reduce wildfire hazards in forested subdivisions and developed areas. Nationally, subdivisions that have implemented some or all of these improvements in areas where wildfire occurred had losses of vegetation and structures that were much less than adjacent areas that had no improvements implemented.

It is intended that the entire study area be included in the fire safety overlay district. Site plans would be subject to approval by the County Planning Commission, and standards for road access, vegetative management and defensible space, and building design and materials would be applicable as either requirements or recommendations.

Plans and Policies

All developments should be consistent with the goals and policies of the Casper Mountain Land Use Plan . In addition, all development should conform to all applicable, Federal, State and local laws and regulations.

Plan Implementation Process

Coinciding with approval of the revised Casper Mountain Land Use Plan, the Zoning Resolution should be amended as proposed, the Mountain should be rezoned, and the slope protection and wildfire overlay districts should be adopted consistent with the Plan. The Plan should also be used as a guide to formulate future amendments to the County's development regulations and to review specific development proposals.

The process of applying the complete implementation package for Casper Mountain is a two step process: 1) all development should be reviewed for consistency with the goals, policies, and land use component of the Casper Mountain Land Use Plan and 2) all development should be reviewed according to the provisions of the Zoning Resolution, the Subdivision Resolution, and the Design Review Process. It should be noted that not all types of development will undergo the same level of review. Single family houses to be built on already subdivided lots should be exempted from design review. Subdivisions of land for resale where no immediate building is contemplated do not require the application of all provisions of the Design Review Resolution. A balanced application of the Resolution is the responsibility of the Planning Commission and County Board of Commissioners.

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REFERENCES

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