

# CHAPTER ONE

## Forestwide Direction

### SECTION ONE - FORESTWIDE GOALS AND OBJECTIVES

#### INTRODUCTION

This chapter specifies the goals and objectives that will be emphasized for integrated resource management across the entire Forests and Grassland. The goals in Section One represent the priorities for management emphasis. They define the Forest's long-term desired condition which is used to establish the Forest's objectives. Section Two contains additional goals that apply generally to the everyday, ongoing management activities.

**Goals** describe desired end-results and are normally expressed in broad, general terms. Forest Plan goals link broad agency goals as set forth by law, executive order, regulation, agency directives and the Resource Planning Act (RPA) program. These goals also closely reflect the Regional Goals described in the *Rocky Mountain Regional Guide* (1992).

**Objectives** are concise statements of measurable, desired results intended to promote achievement of *Forest Plan* goals. Objectives describe (1) desired resource conditions in the area covered by the Plan, either in the next decade or longer, and (2), desired levels of goods and services that the Plan is capable of producing in the next decade.

The reader may note that some resources, management programs, or responsibilities are only briefly mentioned or are not mentioned at all in this chapter. Chapter Two contains additional objectives for the Forests and Grassland. The Forest Supervisor shall strive to plan and implement projects which contribute to achieving *Forest Plan* objectives in a manner consistent with *Forest Plan* standards and applicable legal requirements. Projects which help to achieve the objectives in Chapter One are the highest priority for implementation.

Many variables affect the achievement of objectives which cannot be fully assessed when a plan is revised or amended. There are numerous legal mandates, Congressional intent as directed by annual budgets, and political issues over which the local Forests and Grassland has little or no control. Given this situation the ARNF-PNG will have to determine what mix of activities is most appropriate in any given year and utilize every opportunity to move toward the overall management intent prescribed by the goals and objectives. A forest plan need not be amended if its objectives are not achieved.

The objectives (range of desired accomplishments) in Section One were developed to provide the focus for management of the ARNF-PNG. Objectives are measurable in either quantitative or qualitative ways. To understand the tables accompanying the objectives, the first number in the

range shown is based on a “base” budget of \$9.5 million. The second number is based on a “full” budget of \$19.5 million. These two levels represent the lowest and highest expected budget amounts. For example, there are two numbers found in the last two columns of Table 1.1. The first is based on the base budget and the second on the full budget.

## FORESTWIDE GOALS AND OBJECTIVES

National Forests and Grasslands that are located near large metropolitan areas have issues, opportunities and challenges that are significantly influenced by the large number of people who frequently visit them or are adjacent neighbors. The Arapaho and Roosevelt National Forests and Pawnee National Grassland are located along the Front Range of the Colorado Rocky Mountains. Both feel the urban influence of not only the metropolitan Denver area but also the rapidly growing population that stretches from Colorado Springs north to Fort Collins. This corridor is home to more than three million people who live and work in a largely urban environment with its associated experiences and life styles. The attitudes, values, needs and expectations of these people differ markedly from those of people who live in more rural settings. Urban dwellers usually work and spend their daily lives in close proximity to many other people in a highly developed infrastructure that provides minimal exposure to natural settings and processes.

The Arapaho and Roosevelt National Forests and Pawnee National Grassland are easily accessible to large numbers of people from these urban settings as well as to millions of visitors to Colorado. The Forests and Grassland are served by an extensive transportation system that provides fast and easy year-round access to much of the public land. Because of the close proximity and ease of access, visitors come frequently and repeatedly for short-term day use, overnight use, and extended vacations. Land-management activities are readily seen and tracked by these repeat visitors who have an ongoing stake in what is happening at areas familiar to them. Much of the Forest provides a scenic backdrop to the Front Range urban corridor. The corridor’s backdrop provides both a value and an expectation for those within the Forests and Grassland boundaries as well as for those who view it from a distance.

The landownership pattern of Forest, Grassland and private land creates another special challenge. Approximately 750,000 acres of small private parcels are intermixed with federal lands. Those parcels, and the people who live on them, are neighbors of the ARNF-PNG. Intensive interaction with them is needed to conserve public interest in federal lands. A key element of this intensive interaction is the development and implementation of strategies for managing fire and fuels.

In this setting with its strong urban influence, the Forests and Grassland are managed to meet legal mandates for providing multiple uses. ***Meeting Congressional intent to provide a sustainable flow of resources is accomplished while assuring long-term ecosystem health and biological diversity.*** The Forests and Grassland provide traditional commodities such as timber, grazing and minerals as well as an important source of water for both municipal and agricultural

use in support of the large urban population. Much of the vegetation treatment that is done through timber harvest is to improve wildlife habitat, reduce forest fuels in areas of high potential wildfire risk, restore forest and grasslands to healthier conditions, and retain an aesthetically pleasing natural environment.

In order to accomplish the multiple-use mission of the Forest Service in an area adjacent to large urban populations, the Arapaho and Roosevelt National Forests and the Pawnee National Grassland will:

- emphasize partnerships and cooperation with state, county, and local municipalities, private corporations and citizen groups, and other federal agencies so that management activities maintain or enhance forest resources, and provide the greatest level of public benefit
- monitor and evaluate implementation of Forest Plan so that direction is consistent with current science and responsive to changing resource conditions and public issues
- develop user-pay programs to improve forest-use permitting and to accelerate provision of needed recreational opportunities

To achieve the mission over time, **forestwide management implementation must balance the demands of people's vastly different resource-use values with maintaining ecosystem health.** For example, vegetation management is a major tool for both commodity production and maintaining wildlife habitat that protects species from being listed as threatened or endangered. To attempt to achieve this balance, the Arapaho and Roosevelt National Forests and Pawnee National Grassland will focus management emphasis on:

- biodiversity, ecosystem health and sustainability (air, soil, vegetation, water quality and water supply)
- human use (sustainable developed dispersed recreational opportunities, wilderness use, travel)
- land use and ownership

Each management emphasis has several goals and objectives that describe the Forest's and Grassland's intent to reach this balance. These goals and objectives apply to the entire ARNF-PNG and set priorities for the next 10 to 15 years. Further, these goals and objectives will be achieved through outreach, public education, and collaborative planning efforts. Monitoring and evaluation (Chapter Four of the Plan) will measure the progress toward achieving Plan goals and objectives.

## **MANAGEMENT EMPHASIS GOALS AND OBJECTIVES**

Management objectives are often presented as a range of desired accomplishments. This range varies from “base” to “full,” depending on annual budget levels or appropriations. Base-level funding allows the Forest to carry out minimum management activities to attain the lower level of desired accomplishments.

### **Biodiversity, Ecosystem Health and Sustainability**

#### *Goals:*

1. Manage the Forests and Grassland to assure productive, healthy ecosystems, blending social, physical, economic, and biological needs and values.
2. Implement projects identified through integrated assessments at a landscape scale (assessment areas of 10,000 to 100,000 acres) to enhance forest health and to create sustainable combinations of land use and resource management.
3. In ponderosa pine and Douglas-fir forests, manage existing old growth and mature forests to retain and encourage old-growth qualities.
4. Establish an upward trend for threatened, endangered or sensitive plant and animal species (TES), and maintain sensitive species through management activities that recognize TES habitat needs across all levels or scales.
5. Protect the basic air, soil and water resources.
6. Bring all sixth-level watersheds to a functional condition.
7. Maintain or improve water quality, stream processes, channel stability and aquatic management indicator species habitats, and riparian resources, while providing for municipal and agricultural uses.
8. Provide a range of successional stages of community types across the Forests and Grassland landscapes that: maintains ecosystem integrity
  - maintains or improves habitats for management indicator species
  - protects adjacent property values
  - reduces wildfire hazards
  - minimizes wildfire suppression costs

#### *Objectives:*

1. Obliterate approximately 440 miles of system roads, trails and “ways” to improve

Forests and Grassland wildlife habitat effectiveness and watershed condition by 2007.

2. Manage acres of old growth and acres of mature forests to retain or encourage development of old growth as shown in the following table.

**Table 1.1. Acres of Old Growth/Mature Forest to be Retained, Increased**

Species	Retain	10 Yr. Increase <sup>a</sup>	20 Yr. Increase <sup>a</sup>
Ponderosa Pine	1,300	600 – 900	1,300 - 1,900
Douglas-fir	400	300 – 400	500 - 800

<sup>a</sup>The increase is in addition to acres in the Retain column.

3. Enhance TES habitat and species by completing three or more habitat improvement projects annually by 2005.
4. Improve four Air Quality Related Values (water, soil, visibility and flora) that are at risk to a maintenance or higher level of protection by the next planning period.
5. Develop a Forests and Grassland emissions budget by 2003 to help assess both the cumulative impacts of Forests and Grassland emissions and to select tools and options for vegetation management.
6. Improve the condition of 60 percent of the ecological landtype units that are at risk to a maintenance or higher functioning level by the next planning period.
7. Improve the watershed condition of up to six sixth-level watersheds as shown in the following table by 2007.

**Table 1.2. A Summary of Existing Watershed Condition Categories <sup>a</sup>**

Watershed Condition	Number of Watershed		
	Class I, Functional	Class II, At-risk	Class III, Non-functional
Existing	41	87	19
Desired Future Condition by 2007	42 - 48	83 - 86	16 - 19

<sup>a</sup> Watershed health is improved through judicious daily decisions in overall Forest management, not just through watershed-improvement projects alone.

8. Obtain stream flows sufficient to sustain aquatic life and maintain stream processes on an additional one to five segments of stream channels by 2007.
9. Improve channel stability on 10 to 40 miles of streams by 2007.

10. Treat 49 to 160 acres of non-point pollution on Forest lands annually. Priority will be given to Class II and III watersheds and streams which are not fully supporting uses designated by the State of Colorado. Major sources of pollution include abandoned mines as well as human-induced sedimentation.
11. Reduce the number of high risk/high value, and high and moderate risk acres by 2,000 to 7,000 acres annually. Both mechanical and prescribed fire treatments may be used.

**Table 1.3. Acres to be Treated to Mitigate High Hazard Fuels**

Risk/ Values Class <sup>a</sup>	Acres to Treat to Meet Strategies <sup>b</sup>	Acres Treated Annually at Base Level Funding	Acres Treated Annually at Full Budget
High Risk/ High Value	45,000	2,000	7,000
Mod Risk/ High Value	72,000		

<sup>a</sup> Definitions: hazard: the potential to burn; risk: the potential to ignite; value: the potential for loss

<sup>b</sup> Preliminary estimate from Forests' Fire Protection Assessment Process

12. Manage acres of Forests and Grassland structural stages to obtain the range of stages shown in Tables 1.4 and 1.5.

**Table 1.4. Estimated 10- and 20-Year Changes in Acres of Forest Vegetation Structural Stages <sup>a</sup>**

Forest Vegetation Structural Stages	Current Acres	10-Year Change <sup>b</sup> (acres)	20-Year Change <sup>b</sup> (acres)
Late Successional-Old Growth	108,900	+ 4,000 to 5,000	+9,000 to 10,400
Late Successional-Mature	474,000	+5,000 to 6,000	+12,000 to 13,600
Sapling - Pole	344,000	- 25,000 to 27,200	-53,000 to 54,000
Shrub - Seedling	6,100	+7,000 to 8,100	+23,000 to 24,200
Grass - Forb	10,100	+7,000 to 8,100	+ 5,000 to 6,300
Conifer Totals (acres)	943,100	No Change	No Change

<sup>a</sup> Source: Table 3.60, FEIS

<sup>b</sup> The range of acres shown for 10- and 20-year changes can be influenced by budget levels and by natural occurrences such as fire and insect and disease infestations.

**Table 1.5. Estimated 5-, 10- and 15-Year Changes in Acres of Grassland Vegetation Structural Stages<sup>a</sup>**

<b>Plant Community And Structured Stage</b>	<b>Current Acres</b>	<b>5-Year Change (acres)</b>	<b>10-Year Change (acres)</b>	<b>15-Year Change (acres)</b>
<b>Grass Community</b>				
High	3,325	No Change	+58 to +70	+85 to +100
Medium	12,429	+65 to +80	+1820 to +1900	+3500 to +4000
Low	165,271	-65 to -80	-1878 to - 1970	-3585 to - 4100
<b>Shrub Community</b>				
High	1,215	No Change	+20 to +30	+25 to +35
Medium	1,595	+190 to +220	+330 to +360	+355 to +410
Low	12,667	-190 to -220	-350 to - 390	-380 to - 445

<sup>a</sup>The lower value for each pair is for base-level funding; the upper value is for full funding.

**Human Uses**

*Goals:*

1. Provide quality developed, dispersed, and wilderness recreational opportunities within the resource capacity of the area.
2. Provide an integrated travel system that considers various modes of motorized and nonmotorized use consistent with the resource capacity of the area.

*Objectives:*

1. Reconstruct or rehabilitate zero to 60 high-impact, dispersed camping areas annually, consistent with resource capacity, by 2007.
2. Provide designated wilderness campsites where the resource impacts of dispersed \ camping are severe; numbers to be consistent with resource capacity, by 2007.
3. Construct zero to 30 new dispersed-use campsites annually, consistent with resource capacity, by 2007.
4. Upgrade 60 to 75 developed but substandard recreational facilities to Forest Service standard annually, consistent with resource capacity, by 2007.

5. Provide a satisfactory recreational experience for at least 70 percent of Forests and Grassland visitors annually, as determined from comment forms that show ratings of “acceptable” or higher.
6. Convert approximately 30 miles of “ways” to National Forest System roads or trails annually through 2007.
7. Reconstruct approximately 1.5 to 7.0 miles of System roads and 1.5 to 7.0 miles of System trails annually through 2007.
8. Develop approximately 25 to 110 miles of new nonmotorized and motorized trails by 2007.
9. Construct one to four miles of new System roads (that will remain open) annually through 2007.
10. Construct one to four miles of System trails annually through 2007.
11. Maintain 20 percent of System travelways (roads and trails) annually through 2007.

### **Land Uses and Ownership**

#### *Goals:*

1. Protect or enhance Forests and Grassland resources and increase management efficiencies through significantly improved boundary management, access, and adjustments in landownership.
2. Provide improved customer service in the areas of special-use permits, rights-of-way grants, and landownership adjustments by reducing the number of backlogged cases.
3. Require the costs of permit application, review, and administration to be borne primarily by the benefitting parties.
4. Review and process land- and water-use authorizations by the expiration date of the permit.

#### *Objectives:*

1. Achieve the following by the year 2007.

**Table 1.6. Land Ownership/Boundary Management Strategy**

<b>Lands/Use Strategy</b>	<b>Current Needs – 10/1/97</b>	<b>Desired Outcome by 2007. Reductions from Current Needs: Base Budget (1st); Full Budget (2nd)</b>
Identify NFS <sup>a</sup> Boundaries	8400 miles	8,375 - 7,995 miles
Maintain NFS Boundaries	460 miles	415 - 395 miles
NFS lands without adequate access	71,567 acres	58,567 - 31,567 acres
Consolidation of NFS lands through landownership adjustment (LEX <sup>b</sup> , STA <sup>c</sup> , Acquisitions)	66,024 acres	55,974 - 16,974 acres

<sup>a</sup> National Forest System

<sup>b</sup> Land Exchange

<sup>c</sup> Small Tracts Act

2. Reduce the number of existing backlogs for types of cases listed in Table 1.7.

**Table 1.7. Lands/Uses Backlog Strategy**

<b>Type of Case</b>	<b>Current Backlog (number)</b>	<b>Desired Outcome by 2007. Reductions in Current Backlog: Base Level Funding (1st); Full Budget (2nd)</b>
Applications on file from entities wishing to cross NFS (FLPMAs) <sup>a</sup>	156 Applications on file	56 - 56 Applications on file
Encroachments	3813 Cases on file or suspected	3,435 - 2,863 Cases on file
STA <sup>b</sup> Applications	140 Applications on file	40 - Zero Applications on file
SUP <sup>c</sup> applications other than FLPMA	64 Applications on file	No Applications on file
Expired permits or permits Needing new authorization	261 Permits on file	No Permits on file

<sup>a</sup> Federal Land Policy and Management Act of 1976

<sup>b</sup> Small Tracts Act

<sup>c</sup> Special-Use Permit

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## **SECTION TWO - OPERATIONAL GOALS, STANDARDS AND GUIDELINES**

### **INTRODUCTION**

Section Two specifies operational goals, standards and guidelines that apply generally to the daily work of the Forests and Grassland. The definition of goals in this section is the same as in section one. The goals in this section provide direction for the activities not specifically mentioned in Section One. Section Two goals still serve the same function and are used to provide the context for developing standards and guidelines and outputs and activities as displayed in Supplemental Table 1 at the end of this volume.

The standards and guidelines in this section are management requirements that apply Forest- and Grassland-wide. Additional standards and guidelines are contained in Chapter Two for each geographic area and in chapter three for each management area. If forestwide standards and guidelines conflict with geographic area or management area standards and guidelines, those that are more site-specific or more stringent apply.

Standards are defined as courses of action or levels of attainment required to achieve goals and objectives. Standards are mandatory and deviation from them is not permissible without an amendment to the *Forest Plan*. Standards are developed (1) when laws or policies do not exist or benefit from further clarification, (2) when standards are critical to objectives, and (3) when unacceptable impacts are expected if a standard were not in place.

Guidelines are defined as preferred or advisable courses of action or levels of attainment designed to achieve the goals and objectives. When deviation from a guideline is necessary, it will be documented during the project-level analysis. Under those circumstances, the responsible official should recognize the purpose(s) for which the guideline was developed and assure interested individuals that any subsequently approved actions are not in conflict with the purposes for which the guideline was developed. Guidelines are developed in the following circumstances: (1) when they contribute to achievement of goals; (2) in response to variable site conditions; (3) in response to variable overall conditions; and (4) when professional expertise is needed.

### **CONFORMANCE WITH OTHER DIRECTION**

Additional direction is contained in the *Forest Service Manual* and the *Forest Service Handbook*. A partial listing of some of the direction is contained in Appendix A and Appendix B to this *Forest Plan*. If new changes are made in the Forest Service directives system that conflict with the standards and guidelines of this *Forest Plan*, the *Forest Plan* will be amended.

The ARNF-PNG will continue to manage for multiple uses, meet all legal requirements to protect the environment and insure healthy ecosystems consistent with Congressional and public intent. Soil, air, and water resources will be protected. Threatened and endangered species and their habitat will be evaluated and managed according to the Endangered Species Act. Habitat will be maintained or improved for designated management indicator species. Water and soil resources will be managed to meet the requirements of the Clean Air and Clean Water Acts. These basic management tenets are written in law and in Forest Service policy, and are part of the everyday work of Forests and Grassland employees.

## **OPERATIONAL GOALS, STANDARDS AND GUIDELINES**

Goals (**GO**), standards (**ST**) and guidelines (**GL**) are grouped according to the outline below. Direction for managing the ecosystem in an integrated fashion often cannot be categorized to fit under one heading. Direction pertaining to one subject may also be covered under other headings. Within each section and heading, appropriate goals, standards and guidelines are presented in order. Objectives for the *Forest Plan* are displayed in Supplemental Table 1.

### **PART 1: PHYSICAL RESOURCES**

- Air
- Water Resources
- Mineral and Energy Resources

### **PART 2: BIOLOGICAL RESOURCES**

- Biodiversity
- Silviculture-Timber
- Grazing Management
- Wildlife

### **PART 3: DISTURBANCE PROCESSES**

- Fire
- Insects and Disease
- Undesirable Species

### **PART 4: MANAGING FOR RECREATIONAL USERS**

- Dispersed Recreation
- Developed Recreation
- Scenery Management

### **PART 5: ADMINISTRATION**

- Real Estate
- Special Uses
- Infrastructure

## **PART 1: PHYSICAL RESOURCES**

### **Air**

1. **(GO)** Protect the Forests and Grassland ecosystems from unacceptable on-forest air pollution-caused impacts.
2. **(ST)** Conduct all land-management activities in such a manner as to comply with all applicable federal, state, and local air-quality standards and regulations.

### **Water Resources<sup>1</sup>**

3. **(GO)** Work cooperatively with national, state and local interests to protect, water related values in perpetuity on National Forest System lands.

#### *Hydrologic function*

4. **(ST)** Manage land treatments to conserve site moisture and to protect long-term stream health from damage by increased runoff.
5. **(ST)** Manage land treatments to maintain enough organic ground cover in each land unit to prevent harmful increased runoff.

#### *Riparian areas and wetlands*

6. **(GO)** Activities that have the ability to affect the continuity of structure, composition, and function within riparian ecosystems shall be managed to sustain riparian areas.
7. **(ST)** In the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long-term stream health and riparian ecosystem condition. (wording changed via Errata #3, July 1999)
8. **(ST)** In watersheds containing aquatic TES species, allow activities and uses within 300 feet or the top of the inner gorge (whichever is greatest), of perennial and intermittent streams, wetlands, and lakes (over 1 acre) only if onsite analysis shows that long-term hydrologic function, channel stability, and stream health will be maintained or improved.

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<sup>1</sup>Directions 3-24 come from the *Watershed Conservation Practices Handbook R2 Amendment 2509.25-96-1*. Forest Plans work in concert with the *Forest Service Manual* and handbooks such as this one. To understand how these standards and guidelines will be implemented for projects, consult the handbook. It is available on request from the Supervisor's Office, 240 West Prospect Road, Fort Collins, CO 80526.

9. **(ST)** Design and construct all stream crossings and other instream structures to provide for passage of flow and sediment, withstand expected flood flows, and allow free movement of resident aquatic life. (wording changed via Errata #3, July 1999)
10. **(ST)** Conduct actions so that stream pattern, geometry, and habitats are maintained or improved toward robust stream health.
11. **(ST)** Maintain long-term ground cover, soil structure, water budgets, and flow patterns in wetlands to sustain their ecological function, per 404 regulations. (wording changed via Errata #3, July 1999)
12. **(ST)** Cooperate with state, tribal, and local governments and holders of water rights, and other interested parties to manage water resources to minimize damage to scenic and aesthetic values, fish and wildlife habitat, and to otherwise protect the environment. (wording changed via Amendment #5, July 2005)
13. **(ST)** Manage water-use facilities to prevent gully erosion of slopes and to prevent sediment and bank damage to streams.

*Erosion and sediment*

14. **(GO)** Manage the soil resource, Forest Service activities and those activities permitted by the Forest Service, such that the physical, chemical and biological processes and functions of the soil in an ecosystem are maintained or enhanced.
15. **(ST)** Limit roads and other disturbed sites to the minimum feasible number, width, and total length consistent with the purpose of specific operations, local topography, and climate.
16. **(ST)** Construct roads and other disturbed sites to minimize sediment discharge into streams, lakes, and wetlands.
17. **(ST)** Stabilize and maintain roads, trails, and disturbed sites during and after construction to control erosion.
18. **(ST)** Reclaim roads and other disturbed sites when use ends, as needed, to prevent resource damage.

*Soil productivity*

19. **(ST)** Manage land treatments to limit the sum of severely burned and detrimentally compacted, puddled, and displaced land to no more than 15 percent of any land unit (*FSH* 2509.18). If a soil is compressed more than 15 percent or if the soil pore space is decreased more than 15 percent as compared to a soil of similar texture then the soil is detrimentally compacted.

*Watershed conservation practices—water purity*

20. **(ST)** Maintain or improve long-term levels of organic matter and nutrients on all lands.
21. **(ST)** Place new sources of chemical and pathogenic pollutants where such pollutants will not reach surface or ground water.
22. **(ST)** Apply runoff controls to disconnect new pollutant sources from surface and ground water.
23. **(ST)** Apply chemicals using methods which minimize risk of entry to surface and ground water.
24. **(GL)** Where there is the potential for toxic contamination of soil from ground disturbing activities (e.g. oil or gas drilling, mineral exploration), a contingency plan to prevent or rehabilitate soil contamination should be developed.

**Mineral and Energy Resources<sup>2</sup>**

25. **(GO)** Encourage and facilitate orderly exploration, development, and production of minerals and reclamation of disturbed areas in an environmentally sound manner.
26. **(ST)** Reclamation will be considered satisfactory when the disturbed area has been reclaimed in accordance with operating plan requirements, desired vegetation species have been seeded, and seeded vegetation has attained 80 percent potential cover on the disturbed areas as compared to adjacent undisturbed areas.
27. **(GL)** Avoid development of capital investments in areas that may be jeopardized by moderate to high mineral potential on nonfederal mineral estate ownership.

*Leasables*

28. **(ST)** For areas which will be recommended to Congress for inclusion in the Wilderness System during this revision of the *Forest Plan*, leasing of minerals will be delayed until authorized by Congressional action.

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<sup>2</sup> Management direction for locatable and stable minerals is discussed in pertinent laws and regulations.

*Reserved and outstanding rights*

29. **(ST)** Surface management for private oil and gas minerals will be negotiated with the owner and operator to be as close as possible to the standards used for federal minerals; prohibiting such development is not an alternative.

*Paleontological resources*

30. **(ST)** Sensitive paleontological information will not be subject to *Freedom of Information Act* disclosure.
31. **(ST)** Protect from disturbance or mitigate disturbances of known paleontological resources to conserve scientific, educational, interpretive, and legacy values.
32. **(ST)** Mitigate areas of potential paleontological resources in Classes 3, 4, and 5 of the Fossil Yield Potential Classification to identify presence or absence of management-relevant paleontological resources. If resources are identified, mitigate to Standard 1.
33. **(ST)** Survey and post land boundaries where paleontological sites have sensitivity rankings of 3, 4, or 5.

## **PART 2: BIOLOGICAL RESOURCES**

### **Biodiversity**

34. **(GO)** Maintain, and restore where necessary, the compositional, structural and functional elements which will perpetuate diversity.

### *Composition*

35. **(GO)** Manage vegetation composition and structure on rangelands and grasslands for a mosaic of conditions that should provide nesting and brood-rearing habitat for species that prefer tall, dense cover, as well as habitat for those that prefer short sparse cover.
36. **(GL)** Achieve or maintain satisfactory rangeland conditions on all rangelands. Satisfactory rangeland conditions occur when the existing plant communities (including species composition, structure, pattern and soil characteristics) are at or progressing towards the desired plant community.
37. **(GL)** Maintain aspen, even at the expense of spruce-fir or other late-successional stands.

*Landscape linkages*

38. **(GO)** Establish or maintain landscape linkages, where needed and feasible, which provide connections among large, contiguous blocks of late-successional forest.
39. **(GO)** Maintain, and restore where necessary, habitats of sufficient area and appropriate spatial pattern, to minimize the adverse effects of human-caused fragmentation.
40. **(GL)** Protect landscape linkage areas (patterned matrix, corridors, stepping stones, etc.) which facilitate multidirectional movement of species between important habitats such as late-successional forests, high-elevation tundra, meadows and forests, lower-elevation forests, shrublands and prairies.

*Special habitats*

41. **(GL)** Protect communities of special concern such as: talus slopes, caves, springs, seeps, wetlands, aquatic habitats, riparian habitats, shortgrass prairies, late-successional forests and alpine tundra (including the ecotone and sufficient buffer areas).

*Scale*

42. **(GO)** Allow ecological processes where feasible at all temporal and spatial scales to proceed in a manner that contributes to sustainable wildland ecosystems.

*Structure*

43. **(GL)** When managing vegetation, maintain edge contrasts and edge-to-interior ratios which mimic edge conditions that would result from natural disturbance regimes (fire, insect and disease infestations).

*Endangered, threatened and sensitive species*

44. **(GO)** Restore, protect and enhance habitats for endangered, threatened and proposed flora and fauna species listed in accordance with the Endangered Species Act and sensitive species appearing on the regional sensitive species list to contribute to their stabilization and full recovery.
45. **(GO)** Habitats for federally-listed threatened, endangered, and proposed species and regionally-listed sensitive species are protected, restored, and enhanced. Habitat on National Forest System lands is managed to help assure that those species, whose viability is a concern, survive throughout their range, that populations increase or stabilize, or that threats to populations are eliminated.
46. **(GO)** Prepare biological evaluations for each project authorized, funded, or conducted on National Forest System lands to determine possible effects of the proposed activity on endangered, threatened, or sensitive species.

47. **(GO)** Prepare species management guides to address the effects of land management activities on local populations of sensitive species at a broader scale, and to identify opportunities to enhance and develop habitat.
48. **(GO)** Develop conservation strategies as scientific information becomes available to specify the management considerations needed to maintain viable populations of sensitive species. When the Forest Service and the Fish and Wildlife Service of the U.S. Department of Interior have approved conservation agreements for sensitive species, provisions will be incorporated into the *Forest Plan* by amendment or revision, as appropriate, to protect the habitat for the species.
49. **(ST)** Where newly discovered threatened, endangered, proposed, or sensitive species habitat is identified, conduct an analysis to determine if any adjustments in the *Forest Plan* are needed.
50. **(ST)** Manage activities to avoid disturbance to sensitive species which would result in a trend toward federal listing or loss of population viability. The protection will vary depending on the species, potential for disturbance, topography, location of important habitat components and other pertinent factors. Special attention will be given during breeding, young rearing, and other times which are critical to survival of both flora and fauna.
51. **(ST)** Close areas to activities to avoid disturbing threatened, endangered, and proposed species during breeding, young rearing, or at other times critical to survival. Exceptions may occur when individuals are adapted to human activity, or the activities are not considered a threat.

*Conservation of genotypes*

52. **(GO)** Conserve a wide variety of native and desirable non-native genotypes across the full range of Forests and Grassland habitats.
53. **(GO)** When competing uses arise, favor habitat specialists that are characteristic of Restricted niches present in rare or declining habitats, over species which are habitat generalists, characteristic of common or expanding habitats.
54. **(ST)** Use genetically local (at the sub-section level), native plant species for revegetation efforts where technically and economically feasible. Seed mixtures should be weed free. To prevent soil erosion, use non-native annuals or sterile perennial species while native perennials are becoming established.

## Silviculture/Timber

55. **(GO)** Make fuelwood, Christmas tree, and other miscellaneous products available where consistent with management area direction and desired future conditions.
56. **(ST)** Develop prescriptions prior to timber harvest to identify the amount, size(s) and distribution of down logs and snags to be left on-site, as well as live, green replacement trees for future snags. On Forest sites, snags and coarse woody debris should be retained (where materials are available) in accordance with the average minimums specified in Table 1.8.

**Table 1.8 Forest *Minimum* Requirements for Snag and Woody Debris Retention and Continuing Recruitment on Forested Sites Following Timber Harvest.<sup>a</sup>**

Forest Type	Snags			Woody Debris
	Minimum Diameter (inches)	Retention Density (number per acre)	Minimum Snag Height (feet)	Retention Density (linear feet per acre)
Spruce-fir	10	1	25	50
Lodgepole Pine	8	1	25	33
Aspen	8	1	25	33
Mixed Conifer	10	2	25	50
Douglas-fir	10	1	25	50
Ponderosa Pine	10	1	25	50

<sup>a</sup> These amounts are to be calculated as *per-acre* averages over *project areas*. The appropriate distribution of down wood and snags will be prescribed during project development.

57. **(ST)** Limited timber cutting on unsuitable or tentatively suitable and not available lands, may occur for such purposes as salvage, protection or enhancement of biodiversity or wildlife habitat, or to perform research or administrative studies or scenic-resource management consistent with management area direction. Regulated timber-harvest activities will occur on only those lands classified as suitable and available for timber production as shown on the *timber suitability map* enclosed with this document.
58. **(ST)** When trees are harvested on suitable and available lands, the cutting must be in such a way that there is assurance that the technology and knowledge exists to adequately restock these areas within five years after final harvest. Minimum restocking levels are defined in Tables 1.9. and 1.10.

**Table 1.9. Standard for the Required Minimum Numbers of Seedlings for Adequate Restocking of a Cutover Site**

Growing Stock					All Live Trees			
Species	Spruce-fir	Aspen	Douglas-Fir	Lodgepole Pine	Ponderosa Pine	Pinion Juniper	Other Softwood	Other Hardwood
Trees per Acre	150	300	150	150	150	120	150	300

**Table 1.10 Standard for the Required Minimum Numbers of Seedlings for Adequate Restocking of a Regeneration Site**

Growing Stock: All Live Trees								
Species	Spruce-fir	Aspen	Douglas-Fir	Lodgepole Pine	Ponderosa-Juniper	Pinion-Softwood Pine	Other Hardwood	Other
Trees per Acre	150	300	150	150	150	120	150	300

59. **(ST)** The requirement for adequate restocking within five years is initiated by the final harvest. Five years after final harvest means five years after clearcutting, five years after the final overstory removal in the shelterwood and seedtree methods, or five years after selection cutting. The timing of first and third year restocking surveys is initiated by the reforestation treatment.
60. **(ST)** No minimum seedling height requirements are specified. Seedlings must have survived a minimum of one year and be expected (on the basis of research and experience) to be able to produce the desired future condition. The number of seedlings in Table 1.9 represents the minimum number of seedlings required, considering natural mortality, to produce a merchantable timber stand at rotation age without intermediate treatments.

**Table 1.11 Appropriate Silviculture Systems by Forest Type Cover**

Management Activity	Engelmann Spruce/Sub-alpine Fir	Ponderosa Pine	Lodgepole Pine	Interior Douglas-Fir and White Fir	Aspen	Mixed Conifer
<b>Silvicultural System</b>						
<b>Even-Aged</b>						
Clearcut	WJ	WJ	A	WJ	A	WJ
Shelterwood	A	A	A	A	N	WJ
Seedtree	N	WJ	WJ	WJ	N	WJ
Coppice	N	N	N	N	A	N
<b>Two-Aged</b>						
Irregular Shelterwood	A	A	A	A	N	WJ
Coppice with Standards	N	N	N	N	A	N
<b>Uneven-Aged</b>						
Group Selection	A	A	A	A	A	WJ
Single-tree Selection	A	A	N	A	N	WJ
<b>Stocking Control: (thinning)</b>						
Precommercial	A	A	A	A	N	A
Commercial	A	A	A	A	N	A
<b>Salvage of Dead Material</b>	A	A	A	A	A	WJ
<b>Site Preparation</b>	A	A	A	A	WJ	WJ
<b>Reforestation</b>						
Planting	A	A	A	A	N	WJ
Seeding	N	A	WJ	N	N	N
Natural	A	A	A	A	A	A
<b>Regeneration Protection</b>	A	A	A	A	WJ	WJ
<b>Tree Improvement</b>	A	A	A	WJ	WJ	WJ

A = Acceptable    WJ = When Justified    N = Not Acceptable

61. **(ST)** The scientifically defined silvicultural systems shown, by forest cover-type, in Table 1.11 which meet the management objectives for the landscape or individual stands of trees within a landscape setting are acceptable. Both even-aged and uneven-aged management systems can be used and applied at scales ranging from a few acres to many hundreds of acres. These silvicultural systems are to be applied in a manner that will ensure natural regeneration where artificial regeneration is not necessary for other resource objectives. Tree stand vegetation management treatments are to be approved by certified silviculturists. The silvicultural systems identified in Table 1.11 can be used to convert uneven-aged stands to even-aged management and even-aged stands to uneven-aged management. (See Appendix E of the *FEIS* for further explanation of silvicultural systems and applications.)
62. **(ST)** When trees are to be harvested on other than suitable lands, exceptions to the five-year restocking standard are appropriate as documented in project decisions when the harvest meets one of the following criteria:
  - a. For permanent openings that serve specific management direction
  - b. Where provided for in specific management practices and prescriptions
  - c. Where it is desirable to delay the onset of regeneration of crown closure to meet specific desired conditions and management objectives
63. **(ST)** Forty acres is the maximum allowable opening acreage for forest types. Exceptions to this maximum are provided at 36 CFR 219.27(d)(2)(I) through (iii). The regulations at 36 CFR 219.27(d)(2) (ii) allow for size limits exceeding those established at 36 CFR 219.27(d)(2) and 36 CFR 219.27(d)(2)(I). Exceptions are permitted for individual timber sales after 60 days public notice and review by the Regional Forester. The regulations at 36 CFR 219.27(d)(2)(iii) provide that the established limit shall not apply to the size of areas harvested as a result of natural catastrophic conditions such as fire, insect and disease attack, or windstorm.
64. **(ST)** Utilization standards for live and dead trees are shown in Table 1.12.
65. **(ST)** Retain large woody debris on harvested or thinned sites to help retain moisture, trap soil movement, provide microsites for establishment of forbs, grasses, shrubs, and trees, and to provide habitat for wildlife.
66. **(ST)** The size of the uncut forest areas between openings must be based on the management objectives for the landscape unit being analyzed. If these objectives include creating a mix of vegetation types to benefit the kinds of wildlife associated with early successional stages and edges, the size of uncut units can be small. For the late succession-associated species, the uncut units should be large enough to function as an ecological system not overly influenced by the edge.

**Table 1.12 Timber Utilization Standards**

Type of Product	Minimum Diameter at Breast Height (Inches)	Top Diameter (Inches)	Minimum Length (Feet)	Percent Net of Gross
<b>Live Trees</b>				
Coniferous Sawtimber	7	6	8	33 1/3
Aspen Sawtimber	8	6	8	50
Products Other Than Sawtimber	5	4	6.5	50
<b>Dead Trees</b>				
Sawtimber	8	7	16	33.3
Products Other Than Sawtimber	5	4	6.5	50

67. **(ST)** Where disease can be spread from an uncut stand to a newly regenerated stand, it is desirable to cut the adjacent infected stand before the regenerated stand reaches a height of six feet.
68. **(GL)** Provide dead trees and live replacements to support primary cavity excavators (woodpeckers) at or above 50 percent of their biological potential.
69. **(GL)** Do not undertake regeneration harvests of even-aged timber stands (sites) until the stands have generally reached or surpassed 95 percent of the culmination of the mean annual increment measured in cubic feet. Exceptions may be made where resource-management objectives or special resource considerations require earlier harvest, such as:
- a. stands which are in imminent danger from insect or disease attacks
  - b. wildlife habitat improvement
  - c. visual resource enhancement or rehabilitation
  - d. ecosystem restoration
  - e. areas managed for Christmas tree production
70. **(GL)** Do not apply minimum or maximum size limits for stand acreages where an uneven-aged structure can be maintained throughout.

71. **(GL)** Artificially created openings will no longer be considered openings when the trees in the opening have reached a height and density that meets the objectives and criteria established for the management area. Criteria to consider in determining when an opening is no longer an opening include:
- a. desired conditions planned for the management area
  - b. visual sensitivity of the area and character of the landscape
  - c. abundance, quality and need for cover for big game animals
  - d. other vegetation that may be present (such as tall shrubs)
  - e. forest health
  - f. need for seed sources
  - g. need for interior forest area
  - h. production of wood fiber
  - i. watershed and riparian area protection

**Table 1.13 Sample Guidelines for When an Opening Is No Longer Considered an Opening**

Forest Cover Type	Trees/Acre	Height of Trees
Ponderosa Pine and Mixed Conifers		
Big Game Cover	200	6 feet
Retention, Partial Retention Scenic Condition Objective	200	25% of the height of adjacent stand
Lodgepole Pine and Spruce-Fir		
Big Game Cover	300	6 feet
Retention, Partial Retention Scenic Condition Objective	150	25% of height of adjacent stand

72. **(GL)** Take the landscape as the primary unit of analysis for silviculture. A landscape is defined here to mean a distinct landform such as a mesa, or an sixth-level watershed. There is a great variety of landscape types within the Rocky Mountain Region. Some landscapes may contain more than a single tree species. Some landscapes are "fine-grained" (characterized by many small areas in various stages of plant succession). Others are "large-grained" (characteristically forested with large, unbroken expanses of trees and few openings). There are areas in the Region which have become a patchwork of forest and open places as a result of human use prior to establishment of the National Forests, past Forest Service management practices, and natural disturbances (wind, fire, insect activity, and earth movement).

73. **(GL)** Apply silvicultural standards and guidelines at the watershed and landscape level, as well as to individual stands of trees to perpetuate a range of environmental conditions while supplying goods and services to people.
74. **(GL)** In most circumstances, rely on or make primary use of those silvicultural systems which ensure regeneration of forest stands through natural seeding and suckering.
75. **(GL)** Use artificial regeneration methods when it is unreliable to count on the natural sequence of events and/or environmental conditions to regenerate the forests within five years.
76. **(GL)** Except for treatments designed to enhance meadows, avoid altering more than one-third of the edge of a natural opening whenever an artificially created opening lies adjacent to a natural opening. Additional edge should not be created until previously treated areas are considered closed (meets regeneration standards), according to the standard listed in Table 1.10.
77. **(GL)** Use thinning practices which consider genetic diversity and competition among the trees for water, nutrients and light. The frequency of thinning should depend upon the tree species, financial efficiency, and the site's growing conditions (as commonly measured by the site index).
78. **(GL)** Where appropriate, reduce competition between desired trees and other vegetation.
79. **(GL)** If the silviculture system being applied to a particular area of the landscape is uneven-aged, harvest trees designated for commercial production based on the desired density as determined by age class or size, and the objectives for the area.

### **Grazing Management**

80. **(GO)** Provide forage for both wildlife and domestic livestock in a manner consistent with other resource objectives and environmental constraints.
81. **(GO)** Achieve vegetation trends toward satisfactory range condition within five years after rangeland project decisions are made and necessary changes to grazing systems and allowable use standards have been fully implemented.
82. **(ST)** Coordinate livestock grazing on rangelands to provide adequate cover for deer in wooded draws and riparian areas.
83. **(ST)** In areas where tall dense cover is desired for ground-nesting birds, carry over adequate residual cover from previous growing seasons, since some species begin nesting in April and May before spring growth.

84. **(ST)** Manage livestock grazing to avoid adverse impacts to nesting habitat in areas where bird species prefer to nest in undisturbed cover and where these species are a primary consideration.
85. **(ST)** Manage allotments according to the strategy shown on the *range suitability map*.
86. **(ST)** For animal damage control activities conducted by other governmental entities, the Forest Service will cooperate by providing mitigation measures to protect National Forests and Grassland resources. Mitigation measures emphasize protection of public safety; threatened, endangered, or sensitive species; water quality; or other resource values.
87. **(ST)** Phase out season-long grazing in an allotment, except where it is determined to achieve or maintain the desired plant community.
88. **(GL)** The site-specific rangeland analysis necessary for preparation of allotment management plans shall document these elements of riparian communities:
- a. desired plant communities
  - b. site-specific mitigation measures
89. **(GL)** When trends toward satisfactory range condition are not achieved within five years by changes in grazing system and allowable use standards, evaluate causes and make appropriate changes in grazing systems, stocking rates or allowable use standards.
90. **(GL)** Develop site-specific vegetation utilization and residue guidelines during rangeland planning, and document them in allotment management plans. In the absence of updated planning or an approved allotment management plan, the utilization and residue guidelines shown in Tables 1.14 and 1.15 will apply.

**Table 1.14 Allowable Use Guidelines for Rangeland Planning**

TYPE OF MANAGEMENT	IF EXISTING RANGELAND CONDITION IS:	
	SATISFACTORY	UNSATISFACTORY
Season-long	45%	30%
Fall and Winter	55%	40%
Deferred Rotation	50%	35%
Rest Rotation	55%	40%

**Table 1.15 Riparian Vegetation Residue Allowances**

SEASON OF USE	IF EXISTING RANGELAND CONDITION IS:	
	SATISFACTORY	UNSATISFACTORY
Spring/Summer Use Pasture <sup>a</sup> Tall Carex Species Kentucky Bluegrass	4 inches 1-2 inches	6 inches 2-3 inches
Fall/Winter Use Pasture <sup>b</sup> Tall Carex Species Kentucky Bluegrass	4 inches 1-2 inches	6 inches 2-3 inches

<sup>a</sup> Spring/summer use: stubble height is present on all streamside areas at the end of the growing season.

<sup>b</sup> Fall/winter use: stubble height is present on all streamside areas at the end of the grazing season.

91. (GL) Apply the following mitigation measures to both occupied and unoccupied riparian habitat. *The Biological Evaluation for Sensitive Species in Riparian Grazed by Domestic Livestock* (USDA FS, Rocky Mountain Region, 1995) is the reference for the development and application of these measures.

- a. Avoid season-long grazing in riparian pastures.
- b. Implement short-duration spring grazing where possible to provide greater opportunity for regrowth and to avoid utilization of willows.
- c. Implement total rest where possible in riparian pastures with deteriorated range where conditions are not likely to improve with livestock grazing.
- d. Remove livestock from a grazing unit when the average stubble height on Carex (sedge) species reaches 3 to 4 inches in spring use pastures and 4 to 6 inches in summer and fall pastures.
- e. Remove livestock from a grazing unit when streambank disturbance (trampling, exposed soils, etc.) from the current year's livestock grazing reaches 20 to 25 percent of the key area stream reach.
- f. Limit utilization of woody plants to 15 to 20 percent of current annual growth.
- g. Control the length of the grazing period in spring-use riparian pastures to minimize utilization of regrowth. This is normally 20 to 30 days.
- h. Limit utilization of herbaceous species to 40 to 45 percent of weight.

## Wildlife

92. **(GL)** Selected management indicator communities for animals and plants will include: existing and developing old-growth forests; interior forests; young to mature forest structural stages; openings within and adjacent to forests; aspen forests; montane and prairie riparian areas and wetlands; montane and prairie aquatic environments; short-grass prairie; mid-grass prairie; and prairie dog towns. In addition, caves and mines on the Forests and prairie woodlands on the Grassland are identified as specialized habitat types.
93. **(GL)** Management Indicator Species. Providing for viability of native and desired non-native vertebrate animal populations is a management tenet that transcends management area and functional activity boundaries. To aid this goal, management indicator species have been identified to represent communities on the Forests and Grassland. Monitoring of these species will be done throughout the life of the *Plan*. For monitoring requirements see the *Forest Plan* Chapter 4 and Appendix G.

Arapaho and Roosevelt National Forests Management Indicator Communities and Indicator Species. (See *Forest Plan* Appendix G, Section One for detailed information on these species.): (This list was amended via Amendment #6, July 2005)

Existing and Potential Old Growth Forest:

Pygmy nuthatch

Interior Forest:

Golden-crowned kinglet

Young to Mature Forest Structural Stages:

Elk

Mule deer

Hairy woodpecker

Openings Within/Adjacent to Forest:

Elk

Mule deer

Bighorn sheep

Mountain bluebird

Aspen Forest:

Warbling vireo

Montane Riparian Areas and Wetlands:

Wilson's warbler

Boreal toad

Montane Aquatic Environments:

Greenback cutthroat trout

Colorado River cutthroat trout

Brook Trout

Brown Trout

Pawnee National Grassland Management Indicator Communities and Species:

Shortgrass Prairie:

Ferruginous hawk

Mountain plover

Midgrass Prairie:

Ferruginous hawk

Lark bunting

Prairie Dog Towns:

Prairie dog

Western burrowing owl

Prairie Aquatic Environments:

Plains topminnow

Plains killifish

Pawnee National Grassland Special Habitat Community and Indicator Species:

Prairie Woodlands:

Mule deer

*Terrestrial*

94. **(GO)** Maintain or improve habitat capability for terrestrial wildlife.
95. **(GO)** Retain the integrity of effective habitat areas.
96. **(ST)** Restrict seasonal use of travelways (under Forest Service jurisdiction) to reduce disturbance in sensitive big game areas such as birthing areas and winter ranges. This does not imply that all birthing areas and winter ranges are considered equally important, and not all will be considered "susceptible."
97. **(ST)** Structures, such as fences, roads, and canals, will be designed and built so that they do not create unreasonable or unnecessary movement barriers or hazards for wildlife.
98. **(ST)** Do not compromise wildlife habitat values when developing watchable wildlife opportunities for the public.
99. **(ST)** In riparian areas, cover that provides wildlife travel corridors will be maintained along the entire length of riparian zones on at least one side of the drainage. New corridor interruptions affecting both sides of the drainage will be of minimum width needed and no more than 60 feet.
100. **(ST)** Manage human disturbance at caves and abandoned mines where bat populations exist. When closing mines or caves for safety or protection reasons, reduce disturbance to residing bat populations and provide bat access.

101. **(ST)** Protect known raptor nest areas. Base the extent of protection on proposed management activities, human activities existing before nest establishment, species, topography, vegetative cover, and other factors. A no-disturbance buffer around active nest sites will be required from nest-site selection to fledgling (generally March through July). Exceptions may occur when individuals are adapted to human activity.
102. **(ST)** Restrict new developments, including new facilities, roads and trails, and concentrations of humans, within a one-mile sight distance of bighorn sheep lambing and mountain goat kidding areas if they would adversely impact lambing or kidding. Restrictions on activities are usually required from May 1 to July 15.
103. **(GL)** Maintain the function of key or unique habitats such as primary feeding areas, winter ranges, riparian habitat, breeding areas, birthing areas, rearing areas, migration corridors, animal concentration areas, wooded draws, and riparian areas. Human disturbance should be minimized during periods critical for wildlife.
104. **(GL)** In riparian areas where cover that would provide wildlife travel corridors does not presently exist due to past human activities, such areas should be managed to provide corridors in the future along the entire length of riparian zones, on at least one side of the drainage. Corridor interruptions affecting both sides of the drainage should be of minimum width needed and no more than 60 feet in length. Interruptions affecting one side of drainage should be no greater than 300 feet (parallel to the drainage).
105. **(GL)** Manage for a minimum of 12 prairie dog towns on 200 acres for minimum viable populations, and a maximum of 30 towns on 1,000 acres for compatibility with other resources and neighboring landowners on the Pawnee National Grassland. Towns should occur in clusters of three or more where each is three miles or less from another town to allow interbreeding of different populations and to perpetuate genetic viability.
106. **(GL)** Exclude human activity in key elk-calving areas during a minimum period of May 15 to June 15 and in key winter range of elk and deer for a minimum period of December 1 through March 30 with the exception of through routes.
107. **(GL)** Avoid disconnecting or severing intact areas of effective habitat with new open roads and trails. Favor seasonal use during noncritical times for wildlife when this cannot be avoided.
108. **(GL)** When developing new open roads and trails, do not reduce contiguous areas of effective habitat to less than 250 acres or further reduce effective habitat of 20 to 250 acres in size, except where access is required by law. See the *habitat effectiveness map* enclosed with this document.

109. **(GL)** Additional open roads and trails should not reduce effective habitat below 50 percent by geographic area, or further reduce effective habitat in geographic areas that are already at or below 50 percent on NFS lands. See geographic area direction in Chapter Two.

*Aquatic*

110. **(GO)** Maintain water quantity and quality to provide for the maintenance of riparian areas, aquatic habitat, and fish populations.
111. **(GO)** For any activity likely to affect existing aquatic habitats, favor improvement or maintenance of natural aquatic habitats over replacement or substitution, unless benefits of replacement or substitutions are higher.
112. **(GL)** Provide natural and beneficial quantities of large woody debris to support high quality aquatic habitats over the short and long term.
113. **(GL)** Rehabilitate aquatic habitats where past management activities have adversely affected their ability to support fish populations.
114. **(GL)** Maintain sediment in streams below levels which reduce reproductive success when compared to natural conditions or cause decline in biomass or community diversity of macroinvertebrates.
115. **(GL)** To prevent conditions toxic to fish, human-caused disturbances should not result in suspended sediment peaks above 250 mg/l in any stream reach for over one hour duration in any stream reach, nor more than 500 mg/l at any point in time.

*Late successional forests*

116. **(GO)** Maintain or develop a network of existing and future old growth that provides adequate habitat which is well dispersed, effective and accessible to associated wildlife species.
117. **(GO)** Provide for the most rapid development of future Douglas-fir and ponderosa pine old growth conditions within identified areas.\*
118. **(GL)** Retain all existing Douglas-fir and ponderosa pine old growth and increase amounts in the future.
119. **(GL)** Retain some connectivity of existing forested corridors within identified map areas, and between old-growth sites that are not planned for harvest, or manage for future forested corridors where connectivity is potential but absent.\*
120. **(GL)** Maintain or increase habitat effectiveness within identified old growth areas and all old growth sites that are not planned for harvest.\*

121. **(GL)** Within existing ponderosa pine and Douglas-fir old-growth stands that are known or discovered, either exclude vegetation treatments or reduce fire hazards using prescribed fire or mechanical means if sites are at risk from fire (e.g. removal of encroaching Douglas-fir regeneration in ponderosa pine old growth sites).\*
122. **(GL)** Allow through vegetation protection, or encourage through vegetation treatments the development of future Douglas-fir and ponderosa pine old growth conditions within identified old-growth areas.\*

\*(Refer to the Old Growth Decision Map from the DEIS of the Draft Revised Forest Plan.)

### **PART 3: DISTURBANCE PROCESSES**

#### **Fire**

123. **(GL)** When feasible and appropriate, use broadcast burning to dispose of slash, return the inorganic and organic chemicals in the foliage and small woody material to the soil, to reduce fire hazard, and to provide seed beds for natural regeneration.

#### **Insects and Disease**

124. **(GL)** Plan management activities with consideration for potential insect or disease outbreaks. Design management to meet or enhance management area objectives.
125. **(GL)** Use integrated pest management techniques, including silvicultural treatments, to meet management area objectives. Base treatment activities on values of, and risks to, wildlife habitat, adjacent private lands as well as public land. Give priority to areas in which values to be protected exceed the cost of protection (for example, adjacent to subdivisions, metropolitan areas, recreation sites, or areas of concentrated public use).
126. **(GL)** Project plans should consider existing infestations of insects or disease within a project area. Design activities to minimize the risks of spreading the infestation while still providing habitat for those wildlife species dependent on the presence of insects and disease.
127. **(GL)** Control natural insect and disease outbreaks in Wilderness only when justified by predicted loss of resource values outside of Wilderness.

#### **Undesirable Species**

128. **(GO)** Manage undesirable vegetation, including noxious weeds, using an integrated pest management approach.

129. **(ST)** Control undesirable nonnative and noxious plants throughout the Forests, with priority given to new species (new to Colorado or the ARNF-PNG), and to wilderness areas.
130. **(ST)** Use only certified "noxious weed-free" hay or straw for feed or revegetation projects anywhere on the ARNF-PNG.
131. **(ST)** For all proposed projects or activities, determine the risk of noxious weed introduction or spread, and implement appropriate mitigation measures.
132. **(GL)** Develop a noxious-weed and pest-management program that addresses awareness, prevention, inventory, planning, treatment, monitoring, reporting and management objectives.

Priorities for controlling noxious weeds are:

- a. new invaders
- b. new areas
- c. spreading or expanding infestations
- d. existing infestations

## **PART 4: MANAGING FOR RECREATIONAL USERS**

133. **(GO)** Ensure that all management activities are consistent with the adopted Recreation Opportunity Spectrum (ROS) class as shown on *ROS decision map* enclosed with this document.
134. **(GO)** Encourage outfitters and guides to provide desired recreational experiences within the resource capacity of the area.
135. **(ST)** Generally, Standard 12 provides for most recreation-related water uses, but additional water may be needed for special recreational features and heavy-use recreational areas. Cooperate with state, tribal and local governments, holders of water-rights and other interested parties to maintain enough additional water in associated streams to sustain the water-dependent recreational values. A preliminary assessment identified the key areas where these values exist and they are shown in Table 1.16. Additional areas may be identified during plan implementation. (wording changed via Amendment #5, July 2005)
136. **(GL)** Cooperate with state, tribal, and local governments and holders of water rights, and other interested parties to manage water resources to protect instream flows at outstanding recreation features. Such features include, but are not limited to, designated/study wild, scenic, or recreational rivers, stream segments used for

commercial boating, or segments having developed recreation sites or vistas; or national recreation/historic/scenic trails or scenic byways from which the segment(s) is visible in the foreground or middleground. Protection of water quantity and quality is vital to recreation experiences. See Table 1.16. Bypass flows and instream-flow water rights are distinctly different, but settlement of reserved water rights claims can meet this criterion if the negotiated flows are decreed to the United States by a court of jurisdiction. In addition, the word “outstanding” in this guideline is meant in the generic sense, and should not be confused with the use of the word to describe and analyze Wild and Scenic characteristics. (wording changed via Amendment #5, July 2005)

137. **(GL)** For existing dams and diversions, where water is being bypassed or returned to the stream, and is available for recreational and aesthetic uses, secure and maintain these flows where needed. See Table 1.16.
138. **(GL)** For newer dams and diversions, obtain bypass flows at the point of diversion or storage that protects water-dependent recreational values. See Table 1.16.
139. **(GL)** Manage vegetation in high-use recreational areas to provide for public safety and to improve forest health, as needed to maintain or improve the desired recreational settings(s).

## **Dispersed Recreation**

### *Opportunities*

140. **(GO)** Manage trail development at a broad scale to coordinate with trail systems developed by municipalities, counties, states, other federal agencies and partners.
141. **(GO)** Consider loop trails where appropriate for all trail networks.
142. **(ST)** Make facilities provided at trailheads consistent with the recreational setting and provide for parking, trail information, and appropriate sanitation facilities.
143. **(GL)** For trail-system analyses and decisions, include consideration of universal design for all new construction or rehabilitation proposals.

### *Management*

144. **(GL)** Close, rehabilitate, or otherwise mitigate dispersed sites when:
  - a. campsite condition reaches Frissell class 4 (heavy) or 5 (severe)
  - b. site occupancy exceeds the adopted visual quality objective
  - c. there are social use conflicts
  - d. unacceptable environmental damage is occurring. (Frissell, Sidney, S. 1978. Judging recreation impacts on wilderness campsites. *J. For.*, 76/8.)

**Table 1.16: High Value Recreation Stream Segments\*+**

Stream Name; Reach	Stream Name; Reach
South St Vrain; Headwaters to Lefthand diversion	North Boulder Creek; Waterfall at confluence with Boulder Creek
North Fork Cache La Poudre; Headwaters to Cache La Poudre River.	Arapaho Creek; Headwaters to Monarch Lake
Cache La Poudre River; Headwaters to Forest Boundary	Willow Creek; Lost Lake Trailhead to Forest Boundary
Joe Wright Creek; Headwaters to Cache La Poudre River	St. Louis Creek; Headwaters to Forest Boundary
South Fork Cache La Poudre River; Headwaters to Cache La Poudre River.	Fraser River; Midland Campground to Forest Boundary
Laramie River; Headwaters to Rawah Creek	West Fork Clear Creek; Big Bend Picnic Area to Forest Boundary
North Fork Big Thompson River; Glen Haven Picnic Area to Lower NF Thompson Picnic Area	Clear Creek; Headwaters to Forest Boundary
Big Thompson River; Lake Estes to Forest Boundary	South Clear Creek; Headwaters to Clear Creek
South St Vrain; Middle St Vrain to Forest Boundary	Chicago Creek; Headwaters to Forest Boundary
Middle St Vrain; Headwaters to Raymond	Fall River Fall River Reservoir to ½ mile below Continental Divide Scenic Trail crossing
Rainbow Creek; Rainbow Lakes to Caribou Creek	Buchanan Creek, Gourd Lake to Monarch Lake

\*This table is merely a representation of high value recreation stream segments to which standard 135 and guideline 136 may apply. A determination of flow needs would be needed at the project level during permit issuance/reissuance to determine whether to apply standard 135 and/or guideline 136, regardless of whether a stream segment is listed in this table.

+ This table was changed via Amendment #5, July 2005.

145. **(GL)** If use exceeds the area's capacity for a given recreation opportunity spectrum (ROS) class, employ the following management actions, in order of priority, to address the impacts or effects on the recreational setting:

- a. inform the public and restore or rehabilitate the site
- b. regulate use
- c. restrict the number of users
- d. close the site

146. **(GL)** Where forage is limited, require overnight campers with recreational livestock to carry cubed, pelleted, or rolled feed. Feeds shall be free of viable noxious-weed seeds.

## Developed Recreation

### *Development*

147. **(ST)** Develop and implement vegetative management plans for all developed sites to enhance the natural setting and maintain or develop the desired vegetation.

148. **(ST)** Camping stay limits may be set to meet management objectives.
149. **(ST)** Make facilities provided at trailheads consistent with the recreational setting and provide for parking, trailhead panels for trail information, and appropriate sanitation facilities.
150. **(ST)** At all new or reconstructed developed recreational sites, provide a range of universally-accessible opportunities within the limits of the site characteristics.
151. **(GL)** Provide readily available off-site and on-site information on recreational opportunities for developed sites.
152. **(GL)** When campground occupancy in peak season is less than 20 percent, conduct analysis to decide whether to close the campground.
153. **(GL)** Each Ranger District should document backlogged maintenance and rehabilitation needs and associated costs, and update at intervals not exceeding two years.

### **Scenery Management**

154. **(ST)** Prohibit management activities that are inconsistent with the scenic integrity objective unless a decision is made to change the scenic integrity objective. A decision to change the scenic integrity objective will be documented in a project-level NEPA decision document. (wording changed via Amendment #9, October 2006)
155. **(ST)** The scenic classes, which are a measure of the relative importance or value of landscapes to people, are usually accepted as the base for scenic integrity objectives unless special documented circumstances warrant a change. (wording changed via Amendment #9, October 2006)
156. **(ST)** A High scenic objective will be met within the foreground for all National Scenic and Recreation Trails. (wording changed via Amendment #9, October 2006)
157. **(GL)** Design and implement management activities to meet the adopted scenic integrity objective for the area as shown on the SIO Map enclosed with this document.
158. **(GL)** Rehabilitate all existing facilities and areas that do not meet the scenic-condition objectives specified for each management area. Set priorities for rehabilitation considering the following:
  - a. relative importance of the area and the amount of deviation from the scenic-condition objectives; "foreground" of high public-use areas has highest priority
  - b. length of time it will take natural processes to reduce the visual impacts so that they meet the scenic condition objective

- c. length of time it will take rehabilitation measures to meet the scenic condition objectives
- d. benefits to other resource-management objectives to accomplish rehabilitation

## **PART 5: ADMINISTRATION**

### **Real Estate**

#### *Facilities*

- 159. **(ST)** Do not retain newly acquired facilities unless sufficient maintenance funding is available or cooperative maintenance can be secured, and a substantial Government benefit can be demonstrated.
- 160. **(ST)** Destroy facilities acquired during land donation, exchange, or purchase unless they serve a definite purpose and funding is available for their maintenance.

#### *Rights-Of-Way*

- 161. **(ST)** Retain existing access rights where needed to meet *Forest Plan* goals and objectives.
- 162. **(GL)** Acquire rights-of-way to provide general unrestricted access for full public use and management activities where needed.
- 163. **(GL)** Require reciprocal grants where needed when granting rights-of-way easements across National Forest System lands.

#### *Land adjustments*

- 164. **(GO)** Seek opportunities to acquire or dispose of lands to reduce Forest Service administrative costs and improve management efficiency.
- 165. **(ST)** Give priority in land-adjustment activities to acquiring lands that contain habitat identified by the Fish and Wildlife Service of the U.S. Department of Interior as necessary for recovery of federally-listed threatened and endangered species.
- 166. **(ST)** Consider the following in land-adjustment activities (including land exchange, purchase, disposal, donation):
  - a. Evaluate and balance the overall combination of all resource values and factors including wildlife habitat, fisheries habitat, riparian areas, wetlands, cultural resources, recreational opportunities, scenic value, watershed protection, timber resources, rangelands, public access, better

federal land management, and other factors. Impacts to issues and resources identified as important during site-specific scoping will be considered in all land-adjustment activities.

- b. Consider the effect of land adjustments on sensitive species habitat. avoid land adjustments which could result in a trend toward federal listing or loss of population viability for any sensitive species. Sensitive species habitat can be conveyed if conveyance would not result in a trend toward federal listing or adversely impact the population viability of the species, or if effects could be mitigated.
- c. Acquire lands that contain resource values identified during scoping as important in contributing toward National Forest System resource management goals and objectives as stated in the *Forest Plan*. Examples include: wetlands, riparian areas, essential wildlife habitat, threatened or endangered species habitat, sensitive species habitat, significant cultural resources, timber lands, rangelands, or other areas.

### Special Uses

- 167. **(GO)** Ensure utility corridors are consistent between adjoining Forest, regions, and other Federal and State land management agencies.
- 168. **(ST)** Require burial of electrical utility lines of 33 kilovolts or less and telephone lines unless one or more of the following applies:
  - a. Scenic integrity objective of the area can be met using an overhead line. (wording amended via Amendment #9, October 2006)
  - b. Burial is not feasible due to geological hazard or unfavorable geologic conditions.
  - c. Greater long-term site disturbance would result.
  - d. It is not technically feasible.
- 169. **(ST)** Do not approve new uses or reissue for current uses where the primary use is storage or disposal of hazardous materials, including landfills, when the use permits expire.
- 170. **(ST)** Conserve existing and designated inventoried rights-of-way that are needed for implementation of the *Forest Plan* to protect them for future construction and occupancy.
- 171. **(ST)** Authorize proposals to utilize designated utility corridors without alternative route analysis, subject to site-specific environmental analysis.

172. **(GL)** Utilize current utility corridors fully and provide utility corridors in the future in areas that meet the needs of society while protecting the integrity of the environment.
173. **(GL)** Do not authorize conflicting uses or activities within transportation and utility corridors.
174. **(GL)** Consolidate occupancy of transportation and/or utility corridors and sites wherever possible and compatible.

## Infrastructure

### *Travelways*

175. **(ST)** Protect or enhance trails to be retained as part of the designated travelway system during other resource projects, but relocate, reconstruct, or otherwise keep functional and maintain the ROS experience of those disrupted by other management activities. Give special consideration to nationally-designated trails.
176. **(ST)** Designated travelways displayed on the *forest visitor map*, and newly constructed travelways, are open to motorized-vehicle use unless a documented decision shows that:
  - a. motorized use conflicts with *Forest Plan* objectives
  - b. motorized use is incompatible with the Recreation Opportunity Spectrum class
  - c. travelways are located in areas closed to motorized use and are not "designated routes"
  - d. motorized use creates user conflicts that result in unsafe conditions unrelated to weather conditions
  - e. physical characteristics of travelways are hazardous for motorized use
  - f. travelways do not serve an existing or identified future public need
  - g. financing is not available for maintenance necessary to protect resources

On all lands outside of designated travelways, motorized use with wheeled vehicles is restricted unless the *forest visitor map* or a Forest Order indicates that use is specifically allowed. Snow machine use on snow is allowed unless specifically restricted.

177. **(ST)** Specific roads that qualify under criteria established by statute for Revised Statute 2477 will be honored by the Forest Service.

178. **(GL)** System travelways determined to be no longer needed to achieve proposed management activities or located where resource damage cannot be mitigated shall be obliterated, revegetated, and sloped to drain.
179. **(GL)** Develop and implement a coordinated signing and road-maintenance program in cooperation with other jurisdictions.
180. **(GL)** Maintain all roads at the minimum maintenance level to meet the management objectives for the area.
181. **(GL)** Post past and probable flood heights near facilities in inventoried 100-year floodplains to provide visible warnings to the public about possible periodic flooding.
182. **(GL)** Develop new trail systems to expand the range of recreational opportunities, provide for user safety, and disperse existing use into different areas.
183. **(GL)** Manage road use by seasonal restriction if:
  - a. use causes unacceptable damage to soil and water resources due to weather or seasonal conditions
  - b. use causes unacceptable wildlife conflict or habitat degradation
  - c. use results in unsafe conditions due to weather conditions
  - d. roads serve a seasonal public or administration need
  - e. areas accessed have seasonal needs for protection or non-use

**DON'T INCLUDE THIS PAGE OR ANY PAGES  
FOLLOWING THIS PAGE!!!!!!**

**GO TO CHAPTER TWO WHICH STARTS ON  
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