USDA Forest Service
U.S. DEPARTMENT OF AGRICULTURE

Intermountain Region/Ashley National Forest

April 2023

Land Management Plan for the Ashley National Forest

Pre-Objection Version

Daggett, Duchesne, Summit, Uintah, Utah, and Wasatch Counties in Utah and Sweetwater County in Wyoming

***Cover images clockwise from top**: Above the Lake Fork Drainage looking east toward Tungsten Pass, Mount Lovenia in foreground; participants at the Ute Indian Tribe Powwow in Fort Duchesne; Flaming Gorge National Recreation Area; Ute Mountain Fire Lookout. Photos credit: USDA Forest Service.*

We make every effort to create documents that are accessible to individuals of all abilities; however, limitations with our word processing programs may prevent some parts of this document from being readable by computer-assisted reading devices. If you need assistance with any part of this document, please contact the Ashley National Forest at 435-789-1181.

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

Ashley National Forest Land Management Plan

Daggett, Duchesne, Summit, Uintah, Utah, and Wasatch Counties in Utah and Sweetwater County in Wyoming

Responsible Official:	Susan Eickhoff, Forest Supervisor Ashley National Forest 355 North Vernal Avenue Vernal, UT 84078-1703
For additional information:	call (435) 789-1181, or visit our website: https://www.fs.usda.gov/main/ashley/landmanagement/planning

This page intentionally left blank.

Contents

Tables

List of Figures

Figures in Appendices

The following figures are referenced throughout the plan.

Figure 1-1. Vicinity map of the Ashley National Forest
Figure 1-2. Tribal Trust Lands and Historic Boundary of the Uintah and Ouray Reservation
Figure 1-3. Recreation opportunity spectrum settings in summer on the Ashley National Forest
Figure 1-4. Scenic integrity objective locations on the Ashley National Forest
Figure 1-5. Central Utah Project withdrawn lands on the Ashley National Forest
Figure 1-6. Designated areas and management areas on the Ashley National Forest
Figure 1-7. Designated areas on the Ashley National Forest
Figure 1-8. Management areas on the Ashley National Forest
Figure 2-1. Priority watersheds on the Ashley National Forest
Figure 4-1. Lands that may be suitable for timber production on the Ashley National Forest

List of Abbreviations

CCF	hundred cubic feet
CFR	Code of Federal Regulations
CUP	Central Utah Project
d.b.h.	diameter at breast height
forest plan	Ashley National Forest Land Management Plan
Forest Service	United States Department of Agriculture Forest Service
GIS	geographic information system
MBF	thousand board feet
RMZ	riparian management zone
SCC	species of conservation concern
U.S.C.	United States Code

Plan Component Abbreviations

AIR = air quality

ALPINE = non-forest vegetation: alpine

AKNRGA = Ashley Karst National Recreation and Geologic Area

ASPEN = forest vegetation: aspen

ATRISK = at-risk plant species

BYWAY = national scenic byways

CARTER = Carter Military Road

CARBON = carbon storage and sequestration

CLIM = adapting to climate change

CONIF = forest vegetation: coniferous forests

DA = designated area

DC = desired condition

FAC = facilities

FGNRA = Flaming Gorge National Recreation Area

FIRE = fire

FISH = fisheries and aquatic ecosystems

FW = forestwide

GD = guideline

GEOL = geologic resources and hazards

GO = goal

GRAZ = livestock grazing

HIST = cultural and historic resources

HUW = High Uintas Wilderness

HVRA = protection of highly valued resources or assets

IND = monitoring indicator

IRA = inventoried roadless areas

LAND = land status and organization

LANDSU = lands special uses

MA = management area

MINL = energy and minerals

MON = monitoring question

NRTRAIL = National Recreation Trail

OB = objective

PJ = forest vegetation: pinyon-juniper

RAREHAB = rare and unique habitats—calcareous fens and peatlands

RECDEV = developed recreation sites

RECDIS = dispersed recreation

RECEV = recreation events

RECGP = noncommercial group use

RECOG = outfitters and guides

RECRES = recreation residences

RECSU = recreation special uses

RECTEC = emerging recreation technologies

RECWIL = preliminary administrative recommendation of wilderness

RMABACK = backcountry recreation management areas

RMADEST = destination recreation management areas

RMAGENL = general recreation management area

RMZ = riparian management zones

RNA = research natural areas

ROAD = transportation infrastructure—roads

ROS = recreation opportunity spectrum

SAGE = non-forest vegetation: sagebrush

SCCGA = Sheep Creek Canyon Geologic Area

SCENIC = scenic resources

SHRUB = non-forest vegetation: desert shrub

SOCEC = social and economic sustainability

SOIL = soils

STATN = historic ranger stations

ST = standard

SUIT = suitability

SWETT = Swett Ranch

TIMB = timber

TRAIL = trails

TRIBE = areas of tribal importance

UML = Ute Mountain Fire Lookout Tower

VEGF = forested vegetation

VEGNF = non-forest vegetation

VEGTER = terrestrial vegetation

VISEDU = visitor education and interpretation

WATER = watershed- and groundwater-dependent ecosystems

WILDL = wildlife

WSR = eligible and suitable wild and scenic rivers

Chapter 1. Introduction

This land management plan (commonly referred to as "forest plan") guides the Ashley National Forest in fulfilling its stewardship responsibilities to best meet the current and future needs of the American people. This plan provides the vision, strategy, and constraints that guide integrated resource management, provide for ecological sustainability, and contribute to social and economic sustainability on the national forest and the broader landscape.

About the Ashley National Forest

The Ashley National Forest encompasses roughly 1.4 million acres in northeastern Utah and southwestern Wyoming in seven counties across the northern and southern slopes of the Uinta Mountains, the Wyoming Basin, and the Tavaputs Plateau (see Figure 1). The Ashley National Forest adjoins the Uinta-Wasatch-Cache National Forest as well as Bureau of Land Management, tribal, state, municipal, and private lands (Figure 1-1). Portions of the Ashley National Forest are in the Ute Indian Tribe ancestral homelands and the Eastern Shoshone Tribe ancestral homelands.

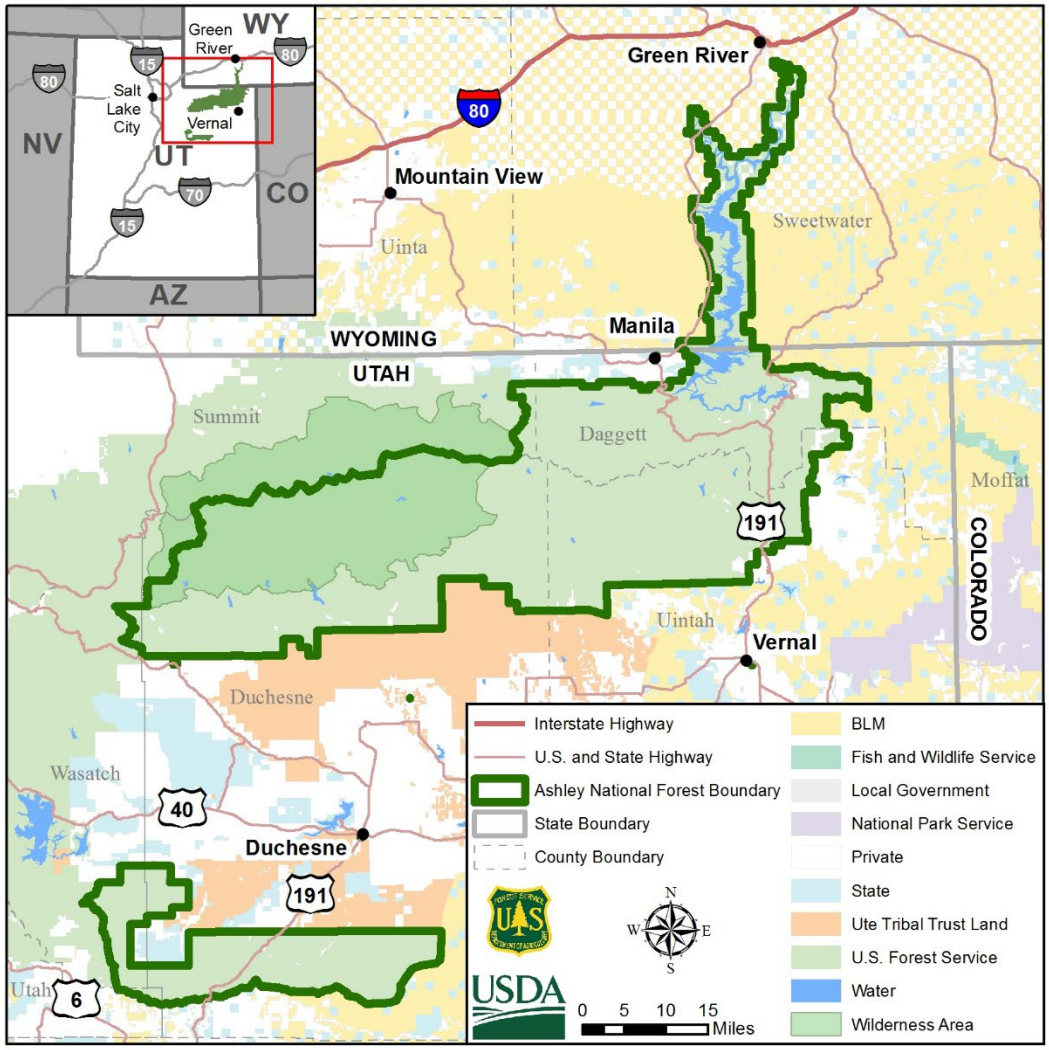


Figure 1. Location of the Ashley National Forest

Plan Structure

This forest plan is organized as follows:

Chapters and backmatter	Appendices
Chapter 1: Introduction Chapter 2: Forestwide Direction Chapter 3: Area Direction Chapter 4: Plan Monitoring Program References Glossary	Appendix 1: Maps Appendix 2: Watershed Condition Framework Appendix 3: Potential Management Approaches Strategies, and Coordination Appendix 4: Timber Suitability Appendix 5: Desired Scenic Character

Purpose of the Land Management Plan

This forest plan guides management of the Ashley National Forest during the next 15 years. Forest plans are prescriptive documents that set desired conditions, objectives, standards, and guidelines for managing resources. This plan can be described as follows:

- It is strategic—it does not include project and activity decisions, which are made later and only after more detailed analysis and further public involvement.
- It is adaptive in that new knowledge and information can be analyzed and the forest plan can be amended, if appropriate, at any time.
- It honors the continuing validity of private, statutory, or preexisting rights.

The forest plan also provides guidance for working with Federal, tribal, state, and county governments. The goal is to coordinate an "all lands approach" that considers the role of Ashley National Forest land management within the broader landscape.

All supporting documentation for this plan can be found in the project record. Planning documents, including the index to the project record, can be accessed on the Ashley National Forest website: http://www.fs.usda.gov/goto/AshleyForestPlan.

Regulatory Direction for Forest Planning

The National Forest Management Act and its implementing regulations direct the Forest Service to revise land management plans at least every 15 years. This can be done sooner at the discretion of the responsible official under the following circumstances: when conditions or demands in the areas covered by the plan have changed significantly; when changes in agency policies, goals, or objectives would have a significant effect on national forest-level programs, or; when monitoring and evaluation indicate a revision is necessary.

A forest plan guides and constrains the actions of Forest Service personnel, not the public. Any constraint on the public can only be imposed by law and regulation, or through an order issued by a Forest Service responsible official. In addition to forest plans, management of National Forest System lands is guided and constrained by other laws, regulations, policies, executive orders, and procedures in the Forest Service directives system (manuals and handbooks). These are generally not repeated in forest plans.

Changes to the forest plan may be made following the appropriate plan amendment or administrative change procedure in 36 CFR 219. Minor changes to other forest plan content, such as updates to maps or data or correcting typographical errors, may be made using an administrative correction process. The public is notified of all administrative changes to a forest plan.

Implementing the forest plan

The forest plan provides a framework and management direction that guides resource management. The forest plan does not authorize projects, activities or site-specific prohibitions or commit the Forest Service to take action. The plan may constrain the Forest from authorizing or carrying out projects and activities, or the manner in which they may occur. Project or activity decisions will need to be made following appropriate procedures. For example, site-specific analysis in compliance with the National Environmental Policy Act will need to be conducted in order for prohibitions or activities to take place on the ground, in compliance with the broader direction of the forest plan.

The Forest will follow all laws, regulations, and policies that relate to managing NFS land. The forest plan is designed to supplement, not replace, direction from these sources. Other Forest Service direction, including laws, regulations, policies, executive orders, and Forest Service directives (manual and handbook), are not repeated in the forest plan.

When analyzing a proposed project or activity, the Forest planning team should:

1) identify the forestwide plan components (desired conditions, objectives, standards, and guidelines) that apply to the proposed project (see chapter 2),

2) identify the plan components that apply to the management area(s) potentially affected by the proposed project (see chapter 3), and

3) identify the plan components that apply to the geographic area(s) potentially affected by the proposed project (see chapter 4).

Project and activity consistency with the forest plan

As required by the National Forest Management Act of 1976 and the 2012 planning rule, all projects and activities authorized by the Forest Service after the record of decision for the forest plan must be consistent with the applicable plan components (16 U.S.C. 1604 (i)) as described at 36 CFR § 219.15 (c and d)). A project or activity approval document must describe how the project or activity is consistent with applicable plan components by meeting the following criteria (36 CFR § 219.15(d)):

1. **Desired conditions and objectives**. The project or activity contributes to the maintenance or attainment of one or more desired conditions or objectives or does not foreclose the opportunity to maintain or achieve any desired conditions or objectives over the long term.

2. **Standards**. The project or activity complies with applicable standards.

3. **Guidelines**. The project or activity

   i. complies with applicable guidelines as set out in the plan or

   ii. is designed in a way that is as effective in achieving the purpose of the applicable guidelines (§ 219.7(e)(1)(iv)).

4. **Suitability**. A project or activity occurs in an area

   i. that the plan identifies as suitable for that type of project or activity or

   ii. for which the plan is silent with respect to its suitability for that type of project or activity.

When a proposed project or activity would not be consistent with the applicable plan components, the responsible official shall take one of the following steps, subject to valid existing rights (36 CFR § 219.15(c)):

- modify the proposed project or activity to make it consistent with the applicable plan components,
- reject the proposal or terminate the project or activity,
- amend the plan so that the project or activity will be consistent with the plan as amended, or
- amend the plan contemporaneously with the approval of the project or activity so that the project or activity will be consistent with the plan as amended. This amendment may be limited to apply only to the project or activity.

Plan Elements

Elements of the forest plan are as follows:

- forestwide, management area, and designated area desired conditions, objectives, standards, and guidelines (chapters 2 and 3);
- the suitability of lands for specific multiple uses, including those lands suitable for timber production (chapter 3, suitability determinations by area);
- an estimate of the long-term sustained yield and projected timber sale quantity (chapter 2, production of natural resources);
- a description of the plan area's distinctive roles and contributions within the broader landscape (chapter 1);
- the identification of priority restoration watersheds (appendix 2);
- proposed management actions and strategies that may occur on the plan area (appendix 3);
- the areas proposed to be recommended to Congress for inclusion in the National Wilderness Preservation System and/or rivers identified as eligible for inclusion in the National Wild and Scenic Rivers System (chapter 3, Area Direction); and
- the plan monitoring program (chapter 4).

Plan Components

Plan components provide a strategic and practical framework for managing the plan area. Plan components guide future project and activity decision-making. The plan must indicate whether specific plan components apply to the entire plan area, to specific management areas or geographic areas, or to other areas as identified in the plan (36 CFR 219.7(e)). Forestwide plan components are found in chapter 2 of this document. Area management direction is found in chapter 3 of this document.

Desired conditions, objectives, standards, guidelines, suitability, and monitoring questions and monitoring indicators have been given alphanumeric identifiers for ease in referencing them. These identifiers are as follows:

- the level of direction (for example, FW = forestwide, MA = management area, DA = designated area; note that for management area or designated area direction, the acronym for the specific area is also included);

- the type of direction (DC = desired condition, OB = objective, ST = standard, GD = guideline, GO = goal, SUIT = suitability, MON = monitoring question, IND = monitoring indicator);
- the resource (for forestwide direction; for example, WATER = watersheds, PJ = forest vegetation: pinyon juniper); and
- a unique number (in numerical order starting with 01).

The following description of plan components comes from the 2012 Planning Rule at 36 CFR 219.7(e):

- A **desired condition** is a description of specific social, economic, or ecological characteristics of the Ashley National Forest toward which management of the land and resources should be directed. Desired conditions must be described in terms that are specific enough to allow progress toward their achievement but not include completion dates. The Forest Service intends to move toward these forestwide desired conditions over the next 15 years, although they may take many decades to achieve.
- An **objective** is a concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions. Objectives should be based on reasonably foreseeable budgets. Objectives are intended to be reached over the life of this forest plan, considered to be the first 15 years of its implementation, unless otherwise specified.
- A **standard** is a mandatory constraint on project and activity decision-making. A standard is established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.
- A **guideline** is a constraint on project and activity decision-making that allows for departure from its terms so long as the purpose of the guideline is met. Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.
- A **goal** is optional plan content and a broad statement of intent, usually related to process or interaction with the public. Goals are expressed in broad, general terms and do not include completion dates. They may be used to describe overall desired conditions of the Ashley National Forest that also depend on conditions beyond the Forest Service's authority.
- The **suitability** of specific lands within a plan area is identified for various uses or activities based on the desired conditions applicable to those lands. The plan also identifies lands within the plan area as not suitable for uses that are not compatible with desired conditions for those lands. The suitability of lands need not be identified for every use or activity. Suitability identifications may be made after consideration of historic uses and of issues that have arisen in the planning process. Every plan must identify those lands that are not suitable for timber production.

Area Management

The plan must indicate which plan components apply forestwide, which apply to specific parcels of land, and which apply to land of a specific character. Every plan must have management areas or geographic areas or both. The plan may identify designated or recommended designated areas as management areas or geographic areas (36 CFR § 219.7(d)). These areas are assigned sets of plan components such as desired conditions, suitable uses, and in some areas either standards or guidelines or both.

Designated areas or features are identified and managed to maintain their unique special character or purpose. Some categories of designated areas may be designated only by statute, and some categories may be established administratively in the land management planning process or by other administrative processes of the Federal executive branch. Examples of statutorily designated areas are national heritage

areas, national recreational areas, national scenic trails, inventoried roadless areas, wild and scenic rivers, wilderness areas, and wilderness study areas. Examples of administratively designated areas are experimental forests, research natural areas, scenic byways, botanical areas, and significant caves (36 CFR § 219.19).

What the Forest Plan Does Not Cover

Forest plans set broad direction; they do not include site-specific direction for where future projects will occur or how many permits will be issued. Forest plans also do not affect treaty rights or other valid existing rights established by statute. The following are not in this forest plan:

- **Direction about specific roads and trails**—Determinations about which roads and trails will be open or closed to specific types of motorized and nonmotorized uses are not addressed at the forest plan level; however, the forest plan may provide context and guidance for future travel management decisions.
- **Authorizations for oil and gas leases**—This forest plan does not evaluate or make determinations about the suitability or availability of lands for future mineral or oil and gas leasing. Suitability and availability have already been determined via the Western Uintah Basin Oil and Gas Leasing EIS and Decision. Any future determinations, including needed or appropriate lease stipulations to be applied to future oil and gas leasing, would be done as a separate leasing analysis.
- **Recommendation to Congress or designation of wilderness or wild and scenic rivers**—Wilderness and wild and scenic rivers are not designated during plan revision as these designations can only be performed by Congress. The plan may include a preliminary administrative recommendation of areas for wilderness designation or a determination of rivers or river segments that are eligible or suitable for wild and scenic river designation. Plan recommendations or determinations require further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. The forest plan identification of preliminary administrative recommendations or determinations does not guarantee either recommendation to Congress or formal designation by Congress; however, it does influence plan direction on how to manage these areas in the interim.
- **Changes to designated roadless areas**—The boundaries of inventoried roadless areas, defined by the 2001 Roadless Area Conservation Rule, cannot be changed at the national forest level. The roadless rule can be modified only through a national rulemaking process or congressional action.
- **Numbers and types of permits**—Determining the number of livestock permitted to graze or the types and numbers of other types of permits is managed at the site-specific project level; however, the forest plan establishes desired conditions and other guidance with which permitted activities will need to be consistent.
- **Existing water rights**—The National Forest Management Act does not authorize the Forest Service to adjust bypass flow or water right transfer requirements. Rather, it directs the Forest Service to prepare management plans that provide for multiple uses and sustained yield of forest resources, in accordance with the Multiple-Use Sustained-Yield Act of 1960. It specifies that the national forests shall be managed for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. The act does not grant the Forest Service the authority for bypass flow requirements. The National Forest Management Act does not contain any other specific directives governing Forest Service management of water resources. The forest plan establishes desired conditions and other guidance for watershed management; however, it does not address administration of water rights.

Other Required Plan Content

The 2012 planning rule also requires that a plan have "other required content" (36 CFR § 219.7(f)(1)) addressing priority watersheds (appendix 2), possible management actions (appendix 3), monitoring program (chapter 4), and the distinctive roles and contributions of the plan area within the broader landscape, which follows below.

Distinctive Roles and Contributions within the Broader Landscape

The description of the Ashley's distinctive roles and contributions within the broader landscape reflects those things that are truly unique and distinctive (36 CFR 219.2(b)). This description is important because it is a source of motivation or reasons behind desired conditions. It is important to understand the ecological, social/economic, and cultural/historic context of the Ashley National Forest in order to better gauge the relative importance of each role. The National Forest System lands within the boundary of the Ashley National Forest are also referred to as the "plan area." The following distinctive roles and contributions were derived from public input and the assessment (Forest Service 2017) and its supporting documents.

Recreation

The Ashley National Forest provides a wealth of recreation opportunities and scenic settings for local residents and visitors from across the Nation. The diverse topography, landscapes, water features, vegetation, fish, wildlife, and history make the Ashley a valued outdoor playground. Scenery is an important part of a visitor's recreational experiences, and it adds value to their national forest experience. On the Ashley, the most popular recreation activities are sightseeing and driving for pleasure, picnicking, viewing wildlife, fishing, camping, visiting historical sites, hiking, hunting, and off-highway vehicle riding. Visitors can enjoy a variety of recreation settings that range from primitive to highly developed sites. Several historic guard stations are available for public rental, providing both recreational and educational experiences for visitors.

The Flaming Gorge National Recreation Area is a popular attraction. It offers boating and fishing on the Flaming Gorge Reservoir and on the Green River, which is a blue-ribbon trout fishery. The High Uintas Wilderness is popular for backpacking and horse packing to explore the many lake basins and alpine areas. The Highline Trail spans the wilderness from west to east along the crest of the Uinta Mountains and passes by Kings Peak, the highest point in Utah. The Ashley Karst National Recreation and Geologic Area has two popular campgrounds (Whiterocks and Paradise Park), dispersed recreation sites, hiking trails, reservoirs, the popular Red Cloud Loop Road, and a variety of other recreation opportunities.

Water Resources

The Ashley National Forest, surrounded by arid lands and lands being used for agriculture and other purposes, provides critical downstream water resources in the Colorado River Basin and groundwater for local communities, including the neighboring Ute Indian Tribe, visitors, and aquatic and terrestrial plants and animals (including species at risk and valued sport fish species). The Flaming Gorge Reservoir, located within the boundaries of the national forest, is a key component of the Colorado River Storage Project, which provides for long-term regulatory storage of water in the Upper Colorado River Basin. The Flaming Gorge Reservoir plays a vital sustaining role through extended periods of drought. Groundwater resources on the Ashley National Forest include seeps, springs, and wetlands as well as numerous natural caves and underground drainage systems. These unique geologic systems contribute to overall biodiversity, endemic species, and rare habitats.

Terrestrial and Aquatic Ecosystems

About 70 percent of the Ashley National Forest is in the Uinta Mountains. This is the largest east-west-trending mountain range in the lower 48 states. Together with the Tavaputs Plateau, the Uinta Mountains provide a unique ecological transition zone connecting the northern and southern Rocky Mountains. Lands on the Ashley National Forest support a diverse range of vegetation, wildlife, geology, uses, and activities. The Uinta Mountains have a large lodgepole pine belt that is unique in Utah. It also has nearly 300 square miles of alpine habitat. Geology and geomorphology are also diverse and dramatic, including broad glacial basins above the tree line, steep river canyons at lower elevations, and highly dissected plateau lands in the Tavaputs Plateau portion of the Ashley National Forest. The diversity of terrestrial and aquatic wildlife species on the Ashley National Forest mirrors this range and variety of ecosystems and habitats.

Lands on the Ashley National Forest supply high-quality water for a variety of ecological and socioeconomic benefits in the Upper Green River Basin. Streams, springs, lakes, fens, and other wetlands provide for biological diversity. Their presence and good condition are important for sustaining forest ecosystems. These waters also provide habitat for numerous aquatic species. Healthy terrestrial and aquatic ecosystems contribute to functioning and resilient forests and rangelands and watersheds, which lead to abundant terrestrial and aquatic wildlife, healthy watersheds and abundant water supplies, beautiful landscapes, and a variety of other ecosystem services.

Social and Economic Values and Contributions

Local communities and tribes have historic and ancestral connections to the lands that comprise the Ashley National Forest. Historic and prehistoric cultures used this area extensively, resulting in abundant cultural resources across the national forest. Many places on the Ashley National Forest are important to the Ute Indian Tribe for hunting and gathering activities and ceremonial and traditional uses. Livestock grazing and ranching has occurred on and around the Ashley National Forest since the mid- to late 1800s and is still a primary source of livelihood. Timber and woodland products are a traditional commodity of the Ashley National Forest and are useful byproducts of forest restoration and fuel (vegetation) reduction projects.

Communities that are close to National Forest System lands tend to be some of the greatest beneficiaries of ecosystem services the land provides. The Ashley National Forest's ecosystem services contribute to social and economic sustainability. Local economies benefit from the availability of ecosystem goods and services, such as recreation and grazing lands, as well as other natural resources. Individuals in local communities have benefited from a host of services such as land- and water-based recreation, livestock grazing, commercial timber harvest, oil and gas production, hard-rock mining, firewood gathering, hunting, fishing, scenery, and wildlife viewing, and visiting historic sites.

Chapter 2. Forestwide Direction

Ecological Sustainability and Diversity of Plant and Animal Communities

Air Quality

Air quality is one of the many resources the Forest Service monitors and protects on National Forest System lands. Clean air is an important resource. This is not only because clean air provides life to nearly all living organisms but also because it contributes to clean water and healthy fisheries, soils, and ecosystems. Clean air also helps boost economies through tourism and recreation by providing clear vistas and fresh air. Air pollutants can deposit onto landscapes or exist in the air at levels that negatively affect water quality and ecosystem function; some examples are algal blooms, mercury buildup in fish tissues, elevated levels of ozone, and pollutant damage to plants.

The Forest Service must comply with Federal and state air quality laws and standards, including the Clean Air Act. Under the 1970 Clean Air Act, national ambient air quality standards (NAAQS) were established to protect human health and welfare, including the environment. All Federal, state, and private entities must comply with these national standards wherever the public has access. Smoke from wildfires is considered a natural part of the landscape and background condition; therefore, states can demonstrate to the Environmental Protection Agency (EPA) that national ambient air quality standard violations from wildfire smoke are beyond their control.

The 1977 Clean Air Act amendments direct Federal land managers to "preserve, protect, and enhance the air quality" in mandatory class I national parks and wilderness areas. The Ashley National Forest does not manage any class I areas, although it may consult with other Federal land agencies about national forest management activities that could affect air quality in their class 1 areas. The High Uintas Wilderness, managed in part by the Ashley National Forest, is designated as a class II wilderness area. The Wilderness Act of 1964 requires that class I and II wilderness areas be administered "for the use of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness."

Under most conditions, the Ashley National Forest experiences clear visibility; however, in the summer months, smoke from wildfires periodically reduces visibility in the region. Smoke from wildfires contains fine particulates ($PM_{2.5}$; particulate matter less than 2.5 micrometers in diameter) and other chemical constituents that are a source of air pollution. Another air quality trend detected has been increasing levels of airborne reduced nitrogen (nitrates and ammonium) at higher elevations on the Ashley National Forest. Similar trends in airborne nitrogen have been identified at other locations in the West through national air quality monitoring networks such as NADP, IMPROVE, and CASTNET.[1]

The Environmental Protection Agency has designated portions of the Uinta Basin in marginal nonattainment status for elevated levels of wintertime ozone. The nonattainment area includes a 70-acre portion of the Ashley National Forest north of Vernal, Utah (the boundary being the 6,250-foot elevation

[1] NADP is the National Atmospheric Deposition Program, a cooperative effort between Federal, state, and local agencies, educational institutions, private companies, and nongovernmental agencies. Learn more here: https://nadp.slh.wisc.edu/.
IMPROVE is the Interagency Monitoring of Protected Visual Environments network. It tracks the concentration and chemical composition of haze aerosols at about 170 mostly rural locations across the United States. Learn more here: http://vista.cira.colostate.edu/Improve/improve-program/.
CASTNET is the Clean Air Status and Trends Network, established in 1987 to assess trends in ambient air quality and deposition of acidic pollutants due to emission reduction programs. Learn more here: https://www.epa.gov/castnet.

contour, which equates to approximately 70 acres). Under general conformity provisions of the Clean Air Act, the Forest Service is prohibited from taking permitting or funding actions in a nonattainment area that cause or contribute to a new or existing violation of an air quality standard or delay the attainment of a standard.

Forest Service air quality policy directs coordination of national forest activities with Federal and state air quality control efforts. It does this by managing or mitigating the sources of air pollution created by Forest Service activities such as prescribed burning, the construction and use of roads, oil and gas activities, mining, and the operation of various facilities.

Desired Conditions (FW-DC-AIR)

01 Ambient air quality across the Ashley National Forest complies with Federal and state standards and air quality management plans.

02 Air quality across the Ashley National Forest supports human and ecosystem health, visibility, recreation, multiple use, and wilderness values—recognizing that short-term smoke impacts may periodically occur from wildland fires.

03 Annual deposition of air pollutants is below published critical loads or levels for targeted resources on the Ashley National Forest.

04 Smoke emissions from wildland fires on the Ashley National Forest resemble the pattern, degree, and frequency of natural fire regimes.

Guideline (FW-GD-AIR)

01 The Forest Service should consider emission reduction strategies to reduce impacts to resources if project emissions are identified as a potential concern. Emission reduction strategies may include, but are not limited to, cleaner equipment, cleaner fuel, zero-emitting equipment, add-on control technologies, or altering the timing of the action.

Soils

Soils are unconsolidated mineral and organic materials that support plants, making them the basis of terrestrial ecosystems. Soils contain carbon, air, and water and are habitat for many organisms. These range from bacteria, fungi, and algae microorganisms to multicellular plants and animals. A view of the soil profile provides a look back in time and a history of the area. The layers of the soil reveal hundreds to thousands of years of influences that climate (temperature and precipitation), vegetation, and living organisms have had on the soil parent materials.

The soil also indicates impacts from more recent influences: fires, floods, earth movements, and human activities. Because the Ashley National Forest has a diverse range of soil-forming factors, the soils are also variable. All of the soils of the world are classified into 12 soil orders, and 8 of these orders are found on the Ashley National Forest.

Soils help determine what plant communities can be supported, and they are important for maintaining healthy watersheds. Soils store, purify, and transmit water, and they store and cycle nutrients and carbon. Interactions between plants and soil are continual. Soils of high quality are capable of supporting productive native plant communities. Likewise, productive plant communities sustain soils by providing cover, root support, plant litter and coarse woody materials, and the organic matter and root exudates that sustain soil structure, soil porosity, and microorganisms.

Guidance to protect soils comes from the National Forest Management Act of 1976, which mandates that the productive capacity of forested areas be protected on Federal lands. The Clean Water Act of 1972 also provides regulations to limit nonpoint source pollution of watersheds, and Forest Service regional direction requires maintaining soil quality and hydrologic function.

Soil quality and sustainability on the Ashley National Forest can be degraded by invasive plants, climate change, loss of organic additions to the soil surface, and land-disturbance activities including recreation, oil and gas development, mining, past or current overgrazing, and impacts from fire. The Forest Service can protect soils for current and future generations by focusing on sustaining native vegetation and preventing erosion. Management that maintains healthy plant communities also reduces invasive plant species and supports resilient soils by providing cover, roots, and organic additions to the soil surface. Management to reduce and prevent soil erosion is needed because soils are a nonrenewable resource due to the length of time needed for them to form. Soil erosion can be reduced by minimizing all forms of soil disturbance (compaction, puddling, displacement, and severely burned soil) and by maintaining effective ground cover on the soil surface.

Desired Conditions (FW-DC-SOIL)

01 Soil quality and productivity are sustained or improving, allowing soil resources to maintain key ecological functions. Soil biological, chemical, and physical processes cycle nutrients and carbon. This sustains the biological diversity and productivity of vegetation communities and provides habitat for small to large organisms. Soils contribute to the health of watersheds by serving as a filter to degrade, immobilize, and detoxify undesirable organic and inorganic materials. Soils store water in watersheds and provide for desirable water storage and release.

02 Organic materials, including coarse woody debris and plant litter, are sufficient to maintain soil surface organic horizons, provide moisture retention, and prevent accelerated erosion. Organic additions to soils sustain soil nutrients, carbon, organic matter, and microbial population properties and maintain soil productivity.

03 Where natural site conditions allow, biological soil crusts are present and maintained to improve nutrient cycling, add organic matter, and stabilize soils, including areas of desert-shrub, rangelands, sagebrush, and alpine ecosystems.

04 Effective ground cover prevents or minimizes sheet, rill, and gully erosion. Accelerated soil erosion is minimal, short-term (due to precipitation or soil disturbance), or due to the inherent erosiveness of parent materials.

05 Previously managed areas that have incurred detrimental soil disturbance recover through natural processes and restoration activities.

06 Soils are managed to maintain or increase soil organic carbon.

Guidelines (FW-GD-SOIL)

01 Vegetation management projects should not exceed 15 percent detrimental soil disturbance within the activity area from impacts of combined pre-existing and new management-caused detrimental soil disturbance. Where the preexisting conditions of detrimental disturbance, or the combined prior and new projected disturbance, exceeds 15 percent of the activity area, management activities should include mitigation and post-project reclamation so the activity area is moving toward a cumulative 15 percent or less detrimentally disturbed soils. Restoration should focus on providing

soil stability and ground cover and allow variable time frames for full recovery by combined management and natural processes.

02 Areas occupied by landings, temporary roads, and main skid trails in timber projects and timber sales should, post-project reclamation, have a minimum of 60 percent effective ground cover for distances needed on those surfaces (project specific) to protect soil resources from erosion and prevent recreational use**.** For soil inventory purposes, effective ground cover is expressed as a percentage of material other than bare soil on the land surface. It includes coarse woody debris, litter, duff, surface rocks (large gravels, cobbles, stones, boulders, and rock outcrop), biological crusts, and vegetation in contact with the soil. This method of estimating ground cover differs from other resource protocols.

03 Vegetation management in conifer stands should retain coarse woody debris at the completion of management activities for soil ecological function and wildlife. Downed wood maintains soil carbon, organic matter, fertility, and moisture and supports multiple soil organisms. Coarse woody debris is important for the feeding, denning, and cover needs of wildlife. Where available, post-treatment site conditions should include various sizes of coarse woody debris (minimum of 3 inches in diameter) distributed over 40 percent or more of the project area. Post-treatment sites should include logs at least 8 feet in length with diameters that are representative of the conifer stand being treated. Coarse woody debris levels are expected to vary due to risk to highly valued resources or assets from hazardous fuel conditions and the site-specific prescriptions for downed wood retention. Outside of highly valued resources or assets, the required amounts of coarse woody debris levels are displayed in table 1.

Table 1. Minimum coarse woody debris levels to retain on site

Conifer Vegetation Type	Coarse Woody Debris (Tons per 10 Acres)	Minimum number of Down Logs per 10 Acres (at least 8 Feet in Length)	Minimum Down Log Size (Mid-Point Diameter)*
Ponderosa pine	20–50	30	12 inches
Lodgepole pine	50–100	50	8 inches
Douglas-fir	50–100	50	12 inches
Mixed conifer	100–150	50	12 inches
Engelmann spruce	100–150	50	12 inches

Sources: Forest Service et al. 1998; Forest Service 2000.

* If size is not available, use largest size on the site.

04 Ground-based mechanical equipment for vegetation management should not be operated in areas where sustained grades exceed 40 percent. This is to minimize the likelihood of soil compaction, displacement, and erosion. Exceptions may be made in specific harvesting, felling, skidding, and yarding operations where soil, slope, and equipment types and harvest methods are determined appropriate to maintaining soil quality.

05 National Core Best Management Practices and Regional Handbook soil and water conservation practices as well as project-specific design features and mitigations should be used and developed as needed to protect soils from compaction, displacement, and erosion and to maintain soil productivity.

Watershed, Aquatic, and Riparian Ecosystems

Watershed- and Groundwater-Dependent Ecosystems

Healthy watersheds and clean water are critical resources that sustain ecosystems on the Ashley National Forest and benefit downstream communities. Since the founding of the Forest Service under the Organic Act of 1897, protecting water resources has been recognized as one of the agency's key roles in managing our national forests.

The Safe Drinking Water Act of 1974 and the Clean Water Act of 1972 provide the regulatory foundation for water quality protection in the United States. The Safe Drinking Water Act establishes standards and requirements to protect public drinking water and its sources: rivers, lakes, springs, and groundwater wells. The objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Through its various sections, the act uses a variety of regulatory and nonregulatory tools to control direct pollutant discharges from point sources and to manage runoff from nonpoint sources into waters of the United States. The act also gives states and tribes the option of taking primary responsibility for water pollution control and setting water quality standards within their jurisdictions. The Forest Service, as an agency of the Federal Government, is required to comply with all Federal, state, and local requirements for water pollution control in the same manner as any nongovernment entity.

Lands on the Ashley National Forest supply high-quality water for a variety of ecological and socioeconomic benefits in the Upper Green River Basin. Streams, springs, lakes, fens, and other wetlands provide for biological diversity. Their presence and good condition are important for sustaining forest ecosystems. These waters also provide habitat for numerous aquatic species, including spawning and rearing habitat for native cutthroat trout and desired nonnative sport fish such as brook, brown, and rainbow trout. Precipitation and runoff from the national forest supply water for groundwater aquifers, public drinking sources, agriculture (irrigation and livestock), and power generation. Recreation, such as boating, fishing, and swimming, also brings revenue to the surrounding area, enriches lives, and provides jobs.

The Ashley National Forest contains an estimated 1,100 miles of perennial streams and more than 22,000 acres of wetland habitat. The Ashley National Forest also contains 55,000 acres of lakes, ponds, and reservoirs, with the Flaming Gorge Reservoir encompassing more than 41,000 of these acres.

The Ashley National Forest is well represented with groundwater-dependent wetlands, springs, seeps, and fens. The Forest likely contains the highest percentage of fens of national forests in the Intermountain Region, with an estimated 13,900 acres of potential fen habitat. These unique wetland types are slow forming, requiring thousands of years to develop naturally. They benefit watersheds by reducing flood risk, improving water quality, and providing habitat for common and rare species.

Desired Conditions (FW-DC-WATER)

01 Watersheds and watershed features such as streams, lakes, riparian areas, and wetlands are able to respond and adjust to disturbance without long-term adverse effects on their physical or biological integrity.

02 Watersheds are healthy and resilient, providing clean water for designated beneficial uses on the Ashley National Forest and for downstream communities.

03 Streams, springs, seeps, wetlands, and riparian areas are resilient to disturbance and to the warmer and drier climates that are predicted.

04 Streams are in equilibrium with their water and sediment supplies, maintaining channel dimensions, particle size, entrenchment ratios, and sinuosity representative of their watershed setting. Floodplains are accessible to overbank flows. Sediment deposited during overbank floods allows for floodplain development and the propagation of flood-dependent plants. Surface and groundwater provide late-season stream flows, moderate water temperatures, and sustain surface and subsurface aquatic ecosystems.

05 Where appropriate and suitable habitat exists, beavers play a role in creating and maintaining riparian and wetland areas. These animals' activities increase water residence time on the landscape, elevating water tables, connecting streams to the valley floor and floodplain, providing aquatic habitats, increasing overbank floods, attenuating sediment, and dissipating flood flows.

06 Plant communities along natural perennial waterbodies, in wetlands, and in wet meadows are healthy, vigorous, and self-perpetuating. They have a diverse composition of wetland and riparian species that provides woody debris, soil cover, streambank stability, and thermal control characteristics of resilient aquatic and riparian ecosystems. Invasive plant species are absent or in low abundance. The distribution and condition of riparian and wetland areas provide migration, breeding, feeding, and sheltering opportunities for a wide range of terrestrial, aquatic, semiaquatic (amphibian), and avian wildlife as well as forage for sustainable livestock grazing.

07 Upland watershed, soil, and vegetation conditions contribute to healthy, resilient riparian areas, wetlands, and stream channels.

08 Water quality (including groundwater) meets or surpasses applicable state and Federal standards and fully supports designated beneficial uses, where attainable. Aquifers possessing groundwater that provide designated beneficial uses maintain water quality at natural or background levels.

09 Groundwater-dependent ecosystems that depend on the specific ecosystem or ecosystem feature in question—for example, wetlands, seeps, springs, fens, riparian areas, groundwater-fed streams, lakes, aquifers, and cave and karst systems—persist in size and exhibit timing of water table elevations within their natural range of variation.

10 Fens and other groundwater-dependent wetlands maintain the necessary soil, hydrologic, and vegetation conditions and sediment influx rates that provide for the storage, purification, and release of water and the storage of carbon and that serve as suitable habitat for rare or uncommon terrestrial and aquatic species.

Objectives (FW-OB-WATER)

01 To complete all essential projects identified in the restoration action plans of at least two watersheds every 10 years by means identified in the national Watershed Condition Framework.

02 To improve or rehabilitate at least five road/trail crossings of water features every 5 years where impacts on water resources are identified, giving precedence to priority watersheds, fish-bearing streams, and streams identified as impaired based on requirements in section 303(d) in the Clean Water Act.

03 To improve or protect habitat conditions for at least five groundwater-dependent ecosystem features (springs, seeps, and other wetlands) every 5 years.

Guidelines (FW-GD-WATER)

01 Management activities in drinking water source protection areas should be consistent with applicable source water protection requirements and goals. Short-term effects from activities in source water protection areas may be acceptable when those activities support long-term benefits to source water protection areas and aquatic resources.

02 Where possible, natural timing and variability of water table elevation at springs, meadows, fens, and wetlands (groundwater-dependent ecosystems) should be maintained or restored.

03 Best management practices to protect water quality and aquatic resources should be incorporated as needed into project-level plans/designs. Project-specific best management practices should draw from applicable best management guidelines in documents such as National Best Management Practices for Water Quality on National Forest System Lands (Forest Service 2012), the Forest Service Soil and Water Conservation Handbook (Forest Service Handbook 2509.22), and the most current nonpoint source pollution and silvicultural best management practice guidelines for the States of Utah and Wyoming.

Fisheries and Aquatic Ecosystems

Healthy watersheds and clean water are critical resources for all fisheries and aquatic ecosystems. The waters of the Ashley National Forest provide habitat for numerous aquatic species, including spawning and rearing habitat for native cutthroat trout and desired nonnative sport fishes such as brook, brown, and rainbow trout and kokanee salmon. The Ashley National Forest also provides suitable habitat for nongame fish species, such as mountain suckers and mottled sculpin; amphibians, such as boreal chorus frogs and northern leopard frogs; and many clean water taxa of aquatic invertebrates that are an important food source for fish and amphibians as well as indicators of high water quality.

The Colorado River cutthroat trout is the only native trout on the Ashley National Forest and has been identified by the regional forester as a species of conservation concern.[2] State fish and game agencies manage native and nonnative sport fishes. The Forest Service collaborates with these agencies as well as with Trout Unlimited. While the Forest Service works closely with the state agencies in population management, its primary role is the management of aquatic habitat on which these species depend. Specific plan components for fisheries and aquatic ecosystems are identified as -FISH.

Desired Conditions (FW-DC-FISH)

01 Connectivity of habitat for native and desired nonnative fish and aquatic species is maintained or improving. Populations are expanding into previously occupied habitat, and interconnectivity is maintained within meta-populations. To maintain sustainable populations, critical life stages are distributed and abundant.

02 Habitat and water quality in lakes and streams allow native fish populations and other aquatic species to thrive, and habitat is not fragmented by management activities.

03 Aquatic habitat within stream channels is characterized by riffles, runs, pools, and woody material that occur at frequencies and with dimensions reflective of the climate, geology, landform, and natural vegetation of the area.

[2] Refer to the Intermountain Region webpage on species of conservation concern for more information: https://www.fs.usda.gov/detail/r4/landmanagement/planning/?cid=fseprd944994. See also the crosswalks for at-risk species in appendix D of the final EIS.

04 In perennial waterbodies, aquatic invasive species are either absent or in low abundance so that ecological processes, habitat quality, and the viability of native and desired nonnative species remains undiminished.

05 Habitat conditions contribute to the long-term viability of Colorado River cutthroat trout throughout its historical range. Cutthroat trout populations are stable or increasing and are protected from nonnative fish.

06 Streambeds contain less than 20 percent fines (sand, silt, and clay) in fish spawning habitat.

07 All aquatic species populations are self-sustaining, free of or minimally affected by nonnative plants, animals, disease, and pathogens.

Objectives (FW-OB-FISH)

01 To complete at least one project per year with design features to restore habitat or populations of aquatic species.

02 Every 5 years, to achieve an increase of 10 stream miles of aquatic species habitat progressing toward or meeting desired conditions through various forms of structural habitat improvements.

03 In collaboration with state fish and game agencies, to improve aquatic habitat along 30 miles of stream during the first 10 years of plan implementation through nonnative fish removal.

04 To improve habitat connectivity along five stream reaches in the first 10 years of plan implementation.

Guidelines (FW-GD-FISH)

01 New, replacement, and reconstructed crossing sites of fish-bearing streams, such as culverts, bridges, and other stream crossings, should allow for aquatic organism passage unless a barrier is desired to protect native aquatic species, such as Colorado River cutthroat trout, from the invasion or reinvasion of a nonnative species such as brook trout.

02 Construction of stream crossings and other channel work using heavy equipment should be avoided in streams with populations of Colorado River cutthroat trout during their spawning and incubation seasons from March 15 to July 31. In streams where kokanee salmon and brown trout spawn, such operations should be avoided from September 15 to November 30. In streams with other fish populations, these operations should be scheduled to occur during low-flow periods.

03 To prevent the introduction of aquatic invasive species, equipment that is exposed to untreated water, such as drafting equipment, water tenders, and helicopter buckets, should be inspected and cleaned of aquatic invasive species according to current regional Forest Service and state best management practices and directives.

04 Information on preventive measures related to aquatic invasive species should be provided at water-based recreation sites, such as boat ramps and docks, to help prevent the introduction or spread of nonnative species.

05 Sufficient habitat should be provided to maintain viable native and desirable nonnative fish and amphibian species.

Riparian Management Zones

Riparian areas are important elements of watersheds that provide critical transition zones linking terrestrial and aquatic ecosystems. Healthy riparian areas protect waterbodies from excessive sedimentation, erosion, and pollution. Riparian areas provide shelter and food for aquatic animals and shade for water temperature regulation. Riparian areas dissipate stream energy, which can reduce flood damage. Riparian areas provide wildlife habitat, increased biodiversity, and habitat connectivity, enabling aquatic and riparian organisms to move along river systems and thus preventing community isolation and fragmentation.

Riparian management zones (RMZs), with associated plan components, are established to protect the ecological integrity of these areas from potential harmful effects of catastrophic wildfire, unmanaged recreation, and potential overgrazing. Forest plans establish general widths for RMZs around lakes, perennial and intermittent streams, and open water wetlands, giving special attention to the land and vegetation in the closest 100 feet from perennial waterbodies.

RMZs are not intended as "no management zones" since treatment may be necessary to achieve desired conditions. However, increased guidance is provided for activities within RMZs. Various land-use activities may be allowed within RMZs, but riparian and aquatic ecological conditions must be maintained, restored, or enhanced.

Desired Conditions (FW-DC-RMZ)

01 RMZs provide healthy and functioning aquatic, riparian, upland, and wetland ecosystems. These support native and desired nonnative plant, vertebrate, and invertebrate communities. They provide connectivity between upland, riparian, and aquatic habitats and provide corridors for movement of aquatic and terrestrial species. The ecosystems also support a distribution of physical, chemical, and biological conditions appropriate to natural disturbances affecting the area. They contribute to healthy watersheds while providing for multiple uses.

02 RMZs accommodate key riparian functions, including streambank stability, desired inputs of organic matter, flood flow dispersal, sediment capture and filtration, stream temperature moderation, groundwater recharge, and water quality maintenance.

Guidelines (FW-GD-RMZ)

01 Pesticides and other toxic chemicals should be applied in RMZs only as needed to maintain, protect, or enhance aquatic and riparian resource values; to restore native riparian and aquatic species; or to provide for public health in the form of mosquito abatement.

02 Refueling, equipment maintenance, and storage of fuels and toxicants should be avoided within RMZs to protect water quality. Where actions are necessary, such as operations for fire suppression or refueling at developed sites and marinas, they should occur in designated areas and there should be appropriate spill containment provisions on site.

03 New landings, designated skid trails, and log decks should be located outside of RMZs to minimize effects on aquatic and riparian resources. If located in the RMZ, such features should be of minimum size and located outside the active 100-year floodplain.

04 Construction of new roads, temporary roads, and motorized trails should be avoided in RMZs to maintain and protect aquatic resources and water quality, except as follows:

- Where necessary for stream/RMZ crossings

- Where construction or relocation from another area would contribute to aquatic and riparian desired conditions
- Where construction or relocation outside of the RMZ would result in greater resource damage
- Where the Forest Service is limited by law or regulation

05 RMZs are generally defined in table 2, but the distance from feature should be adjusted if determined necessary through review of a site by a Forest Service hydrologist or fisheries biologist.

Table 2. Riparian management zone dimensions

Riparian Management Zone Type	Default Riparian Management Zone Distance from Feature
Perennial streams, natural ponds, lakes, open water wetlands, seeps, springs, and reservoirs	The slope distance extending 150 feet from the bankfull edge of the water body, or two site potential tree heights from the bankfull edge, or the distance from the waterbody to the outer margin of the riparian vegetation, whichever is greater
Intermittent seasonally flowing channels and waterbodies supporting riparian vegetation	The slope distance extending 100 feet from the bankfull edge of the waterbody or the distance from the waterbody to the outer margin of the riparian vegetation, whichever is greater
Ephemeral stream channels and waterbodies, unstable or potentially unstable areas	The slope distance extending 50 feet from the channel edge, or 50 feet from the outer edge of the unstable area

06 Vegetation management activities may occur within RMZs if they are designed to maintain or enhance desired riparian and aquatic conditions. Activities that cause soil compaction or soil erosion within RMZs should be avoided, minimized, or mitigated.

Terrestrial Vegetation

Terrestrial vegetation varies across the landscape and is controlled by inherent conditions such as topography, geology, soil, aspect, precipitation, elevation, and other factors. Vegetation communities range from desert in the Green River Basin of Wyoming to alpine along the crest of the Uinta Mountains. This complexity of communities supports a high diversity of plant and animal life. Terrestrial vegetation is typically dynamic and is susceptible to such drivers and stressors as climate, succession, fire, insects, disease, invasive species, drought, and human uses.

Plan components that are included in this terrestrial vegetation section are designed to maintain or restore ecological function and vegetation integrity and resilience. This is to ensure diversity and persistence of plants and wildlife and their habitats and to provide long-term social, economic, and ecological sustainability in light of relevant community dynamics.

Plant community attributes, such as composition, structure, species richness, ground cover, and disturbance response, are plan component indicators. These indicators are used to define, measure, and evaluate ecological function, integrity, resilience, and sustainability. Terrestrial vegetation on the Ashley National Forest can be adequately assessed, for the most part, using these attributes.

Desired conditions, standards, and guidelines for terrestrial vegetation are to be applied at the forestwide scale unless otherwise specified. Desired conditions may be achieved through natural processes or management prescriptions. Standards and guidelines are designed to ensure that future project activities are conducted in a manner that moves vegetation communities within the Ashley National Forest toward desired conditions. Objectives identify vegetation communities with existing conditions that now need or that may soon need prescribed actions to move existing conditions toward desired conditions.

Additional plan components have been developed to address specific needs for at-risk species, forest vegetation, and non-forest vegetation. Subsections for each of these types of vegetation communities follow the general plan components for terrestrial vegetation listed below.

Desired Conditions (FW-DC-VEGTER)

01 A network of viable, healthy native plant communities is present across the landscape such that genetic and species diversity and connectivity are maintained. Collectively, these communities support numerous and diverse life forms with a range of seral states, compositions, and structure or age classes. These communities are functional, resilient, and self-sustaining while providing multiple uses and services to the public.

02 Ecological processes that drive ecological conditions are present and functioning in a manner that sustains ecological integrity and resilience. Ecosystems respond to and recover from natural disturbances and management practices, concurrent with other existing and foreseeable drivers and stressors, without long-term adverse changes in condition or trend.

03 Plant species and communities that represent a variety of seral stages are present across the landscape and function at physical and biological site potential. Vegetation structure is consistent with fuel densities and patterns that perpetuate historical fire regimes that facilitate vegetation community ecological function.

04 Vegetation communities with fire histories maintain resiliency and self-perpetuation. Fire disturbance regimes move toward their natural frequency and magnitude.

05 Invasive species are either nonexistent or are in low abundance and neither disrupt ecological processes nor diminish ecological integrity and resilience.

06 Desired nonnative species are used to enhance or sustain ecological integrity and support healthy, functioning ecosystems. These species do not invade into and displace neighboring resilient native communities.

07 Sufficient amounts of protective ground cover (85 percent of potential) commensurate with soil type and site potential are present on desert shrub, upland, montane, subalpine, alpine, and other landscapes. Soil erosion is driven by inherent conditions and natural events.

08 New noxious weed establishments are infrequent or nonexistent in terrestrial, riparian, and aquatic communities. Existing noxious weeds either are absent or are at densities that do not disrupt ecological processes nor diminish the ecological integrity and resilience of native vegetation communities.

09 Within their capability, native vegetation communities provide satisfactory foraging and nesting habitat for native pollinator species such as bees, butterflies, moths, and hummingbirds. Ecological processes create vegetation conditions and patterns that sustain plant species richness within the natural range of variability.

Guidelines (FW-GD-VEGTER)

01 Management actions should use native plant materials to meet desired condition criteria in native plant communities that have ecological integrity, resiliency, and functional ecological processes and are neither susceptible to nor directly threatened by invasive plants. These may include plant materials that are pollinator species friendly.

02 Management actions should use nonnative plant materials to restore and maintain desired conditions only in plant communities where ecological integrity, resiliency, and ecological processes have been compromised by or are susceptible to invasive plants. Nonnative plant materials should have moderate to high resource values with proven capability to compete with invasive plants, but they should not invade and displace neighboring resilient native communities.

03 Ground disturbances in and next to plant communities that are susceptible to or are affected by invasive plants should be seeded within 1 year following disturbance. Plants that have proven capability to compete with invasive plants should be used.

04 Plant communities that are susceptible to or are affected by invasive plants that have been burned with prescribed fire or wildfire should be seeded during the same growing season following the fire. Seed mixes should include plants that have proven capability to compete with invasive plants.

Goals (FW-GO-VEGTER)

01 Coordinate and cooperate on integrated noxious weed and invasive species management with academic research institutions, private landowners, and county, regional, state, tribal and Federal entities. These organizations have an interest in forest and rangeland health to maintain the ecological integrity and resilience of vegetation communities that are vulnerable to destructive stressors. Coordinate to enhance awareness and education, pool resources, expand surveys, streamline treatment strategies, and carry out new and adaptive treatment methods.

02 Manage noxious weeds using an integrated forest management approach in strategy, funding, and implementation across resource programs.

03 Support and accommodate research by Federal, state, and private entities that improves native plant seed genetics and increases native plant material selection, production, and distribution for ecological restoration.

04 Support the existing or future plant material industry through purchasing available and desirable plant material products for ecological restoration.

At-Risk Plant Species

Plan components for at-risk species apply to two categories of plants: those that are state and federally recognized as threatened, endangered, proposed, and candidate species and species of conservation concern that are identified by the regional forester. Plan components focus on habitat conservation and are designed to maintain ecological integrity and ensure plant persistence. See also the crosswalk for at-risk species in appendix D of the final EIS.

Desired Condition (FW-DC-ATRISK)

01 Ecological processes are present and functioning in a manner that sustains long-term persistence, supports recovery, and maintains viable populations of at-risk plant species.

Standard (FW-ST-ATRISK)

01 Manage total tree and shrub canopy cover to not exceed 10 percent within the habitat of Evert's wafer-parsnip (*Cymopterus evertii*) to maintain its persistence on semi-barren habitat.

Goal (FW-GO-ATRISK)

01 Persistence and recovery of federally protected plants includes cooperation with other government agencies, conservation groups, and landowners who help expand inventories, identify new habitat, and promote other actions to enhance plant habitat conservation or restoration.

Forest Vegetation

Introduction

The following section describes plan components for forested land, which includes aspen, pinyon-juniper woodlands, and other coniferous tree species on the Ashley National Forest. The Forest Service defines forested land as being at least 10 percent covered by forest trees of any size, including land that formerly had such tree cover. Forested land includes persistent pinyon-juniper woodland (Intermountain Society of American Foresters 2013).[3]

Aspen

Desired Conditions (FW-DC-ASPEN)

01 Aspen is represented across montane landscapes within a range of habitable environments with numerous community types, successional states, and structural classes (Mueggler 1988). Aspen structure, function, and distribution are within the natural range of variation. Aspen stands may consist of one, two, or more age or height classes of trees. Aspen communities are dominated by plants of moderate to high resource value, which means 60 percent or greater in relative cover of moderate to high resource value plants. Plant species richness is within the range of variability. Invasive plant species may be present, but these do not disrupt ecological processes nor diminish community resilience. Total ground cover is equal to or greater than 85 percent of potential.

02 Aspen clones can successfully regenerate by either catastrophic, continual, episodic, or fine-scale gap phase regeneration modes (Kurzel et al. 2007). Aspen stands, both seral and persistent community types, regenerate sufficiently to maintain long-term sustainability, especially following disturbances. New aspen suckering occurs equal to, but may extend beyond, the pre-disturbance perimeter of the regenerating clone. Crown cover of aspen suckers in persistent aspen is 40 percent or greater at 5 years post-disturbance (Kitchen et al. 2019).

Guidelines (FW-GD-ASPEN)

01 To protect aspen suckering and sucker survival following a disturbance, vehicles should be restricted from driving within or across disturbed persistent aspen areas except in emergencies, such as to control wildfire.

02 To help support suckering and sucker survival sufficient to perpetuate the long-term viability and resilience of aspen clones, livestock utilization of key forage species should be limited to no greater than 50 percent of the current year's growth, except where long-term monitoring and research demonstrates that a different allowable use level is appropriate.

[3] Persistent pinyon-juniper woodland sites are primarily those where presettlement-aged trees are present or where trees had once occupied the site; for example, skeletal remains may be evidence of a past fire. Potential expansion sites are areas where site conditions (climate) are intermittently suitable for pinyon or juniper. These two historical types of pinyon-juniper vegetation, persistent and expansion, are keyed out at project- or site-specific scales and are based in part on 10 percent tree canopy cover (Romme et al. 2007).

03 To minimize aspen regeneration failure, projects designed to regenerate aspen by cutting down, burning, or removing overstory aspen stems should be no less than 75 acres, except where silvicultural prescriptions specify smaller treatment areas. In persistent aspen stands, such projects should not consist of small treatments interspersed within aspen; rather, treatment boundaries should extend to and follow the perimeter of aspen clones or stands.

04 When aspen suckering is a desired outcome, timber harvest prescriptions should include cutting down or removing aspen trees in harvests in seral conifer/aspen communities to facilitate new aspen suckering.

Pinyon-Juniper Woodlands

Desired Condition (FW-DC-PJ)

01 Pinyon-juniper woodlands are represented across montane landscapes in their suitable thermal and precipitation zone. Colorado pinyon and Utah juniper are codominants, but Utah juniper becomes dominant at lower elevations—outside this zone—where environments are drier and colder. Numerous successional or structural stages are represented in the vegetation type (table 3).

Plant species composition and richness is variable and depends on tree crown cover, tree density, or vegetation structural canopy cover, tree density, or vegetation structural stage (Huber et al. 1999; Huber and Goodrich 2010). Communities are dominated by plants of moderate to high resource value, which means 60 percent or greater in relative cover of moderate to high resource value plants. Invasive plant species may be present, but these do not disrupt ecological processes nor diminish community resilience. Total ground cover is equal to or greater than 85 percent of potential.

Table 3. Successional and structural stage measurements for pinyon-juniper (PJ) vegetation type

Desired Structural Stage Measurements*	Desired Type (%)
Grass/forb with < 1% PJ (0–0.19 inches)	≈ 10
Seedling/sapling with < 5% PJ (0.2–2.9 inches)	≈ 10
Young woodland with 5–15% PJ (3–5.9 inches)	≈ 20
Mid-aged to mature woodland with 16–40% PJ (6–11.9 inches)	≈ 40
Old woodland with 41–80% PJ (> 12 inches)	≈ 20

Sources: Forest Service 1998, 2009a.

* Percent of pinyon-juniper is measured by crown cover. Crown cover is the percent of a fixed area covered by a vertical projection of the outermost perimeter of the natural spread of the foliage of plants above 4.5 feet. Crown closure can be measured from above looking down on the canopy (bird's-eye view). The total crown cover percent of an area cannot exceed 100 percent. Diameter ranges are measurements at root collar and are only estimates of the tree size that would be present at that successional stage of crown cover.

Objective (FW-OB-PJ)

01 To restore ecological function, integrity, and resilience, initiate upward trend, and establish and maintain desired condition of 500 acres of burned pinyon-juniper woodlands that are in degraded condition (due to, for example, invasive plant infestations, accelerated erosion) every 5 years.

Guideline (FW-GD-PJ)

01 Seeding should be done following mechanical thinning, mastication, and other treatments of pinyon-juniper woodlands to restore and maintain desired condition, especially where invasive plant species are present.

Coniferous Forests

Tree vegetative structural stage,[4] detailed below under desired conditions, is a six-class vegetation scheme that describes the developmental stages of a forest ecosystem. The vegetative structural stage classification strategy was developed in the southwestern United States as a tool to aid development of management recommendations for the northern goshawk (Reynolds et al. 1992). These classifications can be applied on a broader scale to any forest-dependent species and are a useful tool for describing existing and desired forest structure across a landscape.

The desired vegetation structural stage mix and the size and arrangement of forest patches on the landscape can be adapted to a variety of resource purposes. Forest personnel have developed local vegetative structural stage classifications to address tree sizes and conditions that occur on the Ashley National Forest (Wilson et al. 1996) for the persistent lodgepole and mixed conifer vegetation types.[5]

The rotation lengths given in table 5 and table 6 for desired conditions represent averages of what would occur on the Ashley National Forest. The rotation lengths are practical maximums because managing for anything longer would require preventing natural mortality by controlling insects and suppressing fire. Such a management strategy would be expensive and potentially disruptive to other components of the forest community and in the long run would likely have limited success. An example of an exception is small-scale applications, such as campgrounds and other high-value sites.

It is possible to sustain the tree vegetation types based on shorter rotations than those given below by shortening or eliminating the oldest stages of forest development, as through harvest. This practice would most likely be applied in areas of suitable timber production to increase wood product availability (see appendix 4, Timber Suitability).

The sustained forest scenario described here is intended to provide broad, long-term management direction. No single management prescription can be expected to achieve desired conditions on every site on a landscape, so it is important that resource specialists consider site-specific conditions and adapt these methods as needed during implementation. For example, individual stands may need to be managed on shorter or longer rotations than shown here, based on site characteristics and the mix of tree species.

Likewise, precise achievement of all the vegetative structural stage percentages shown in the following tables is not practical given the long timeframes involved, the variability in actual stand growth rates, and the unpredictability of disturbances. Instead, this scenario is a means of projecting the availability of forest products, including wildlife habitat and recreation opportunities, as well as of wood products. Success will be defined by designing and evaluating site-specific projects. It will be based on the ability to move forest vegetation toward the desired vegetation mix and a general trend toward that mix at the landscape level.

Desired Conditions (FW-DC-CONIF)

01 The Ashley National Forest supports a diversity of native tree species, generally within the natural range of variability. A full range of seral stages, including the recruitment and sustainability of early

[4] Vegetative structural stage classification may not be appropriate in uneven-aged stands. The classification is derived from basal area by diameter class. Generally, the class that contains the greatest amount of basal area determines the appropriate stage for an even-aged stand, assuming the total basal area or the basal area of that diameter class, or both, is functioning as a structural layer (Johnson 2002).

[5] Local classifications were developed for certain landtype associations. Reynolds et al. (1992) recommended a vegetative structural stage mix of 20:20:40:20 apply where local classifications have not been developed.

seral tree species in the landscape, maintains ecosystem resilience to recover and adjust to disturbances without long-term adverse effects on ecological integrity (see table 4).

02 The Ashley National Forest supports the distribution and abundance of forested structural stages that are ecologically resilient and sustainable and that support a diversity of forest size classes (see table 5 and table 6).

Table 4. Desired tree composition for mixed conifer, Engelmann spruce, persistent lodgepole, interior Douglas-fir, and ponderosa pine vegetation types*

Vegetation Type	Desired Coniferous Tree Species Composition	Percent**	Desired Condition (Other Attributes)
Mixed conifer	Engelmann spruce and lodgepole pine	> 60	Lodgepole pine, Douglas-fir, and blue spruce may be seral species. Spruce can persist as a seral species, a dominant climax species, or a codominant climax with subalpine fir. Aspen is often present and tends to occur in small canopy gaps. Early seral stands may also be present after a stand-replacing disturbance, composed almost entirely of lodgepole pine or aspen or both, where aspen can act as a nurse tree for conifers.
Engelmann spruce	Engelmann spruce	> 40	More than 40% to near 100% of the conifer trees are Engelmann spruce. Climax Engelmann spruce and subalpine fir may be the only seral species.
Persistent lodgepole pine	Lodgepole pine	> 80	Aspen may be an important seral species with lodgepole pine.
Interior Douglas-fir	Douglas-fir true firs	> 75 < 25	Aspen can be present. Early seral stands of aspen may also be present after a stand-replacing event, where aspen can act as a nurse tree to conifers. Douglas-fir is not replaced by true fir species (subalpine fir and white fir).
Ponderosa pine	Ponderosa pine	> 75	Aspen can be codominant.

Sources: Forest Service 1996a, 1998, 2009b; Forest Service et al. 1998; Huber et al. (2017).

* Seral aspen to the associated coniferous vegetation types is also included here where it applies.

** Percent applies to coniferous tree species only.

Table 5. Desired mix of structural stages by mixed conifer vegetation type and elevation*

Vegetation Type	Desired Structural Stages	Percent of Type (>9,500′)	Percent of Type (<9,500′)	Other Attributes
Mixed conifer (as characterized on trout slope landtype association in source 1a)	Grass/forb, seedling/sapling (0–4″ d.b.h.) Young forest (4–8″ d.b.h.) Mid-aged to mature forest (8–16″ d.b.h.) Old forest (16+″ d.b.h.)	≈ 20 ≈ 12 ≈ 46 ≈ 22	≈ 27 ≈ 13 ≈ 53 ≈ 7	Distribution is based on a 150–200-year rotation. Structure is as characterized by mixed-severity fire. Many stands are in uneven-aged, multi-canopy structural condition. Canopy gaps are also present and may consist of small (tens to hundreds of acres) even-aged patches** dominated by seral species such as lodgepole pine and aspen, especially at the lower elevations. More shade-tolerant species dominate the understory as canopies close. The mix of structural stages is weighted toward older classes above 9,500′. Coarse woody debris is present in moderate amounts (sources 1, 1a, 2, 3, 4, 5).

Vegetation Type	Desired Structural Stages	Percent of Type (>9,500′)	Percent of Type (<9,500′)	Other Attributes
Mixed conifer (as characterized on alpine moraine landtype association in source 1a)	Grass/forb, seedling/sapling (0–4″ d.b.h.) Young forest (4–8″ d.b.h.) Mid-aged to mature forest (8–16″ d.b.h.) Old forest (16+″ d.b.h.)	≈ 16 ≈ 12 ≈ 44 ≈ 28	Not applicable	Distribution is based on a 250-year rotation. Structure is as characterized by mixed-severity fire. Many stands are in uneven-aged, multi-canopy structural condition. Canopy gaps are also present and may consist of small even-aged patches dominated by seral species, such as lodgepole pine and aspen, especially at the lower elevations. More shade-tolerant species dominate the understory as canopies close. Coarse woody debris is present in moderate amounts (sources 1a, 2, 3, 4, 5).

Source codes: 1a = Forest Service 1996b; 1 = Forest Service 2009b; 2 = Forest Service 1998; 3 = Forest Service et al. 1998; 4 = Forest Service 2009a; 5 = Huber et al. 2017.
Notes. d.b.h. = diameter at breast height; ′ = feet; ″ = inches.
* Seral aspen with the associated coniferous vegetation types is also included here where it applies.
** A patch is distinguished from a group in this table. A patch is a small part of a stand or forest and can be many tens, hundreds, or even thousands of acres and is a relatively homogeneous part of a stand or forest that differs from the surrounding forest. A group is smaller than a patch, often expressed as a function of surrounding tree height. For example, a group size is commonly approximately twice the height of the mature trees (Helms 1998).

Table 6. Desired mix of structural stages for Engelmann spruce, persistent lodgepole, Douglas-fir, and ponderosa pine vegetation types*

Vegetation Type	Structural Stage	Desired Percent of Type	Other Attributes
Engelmann spruce	Individual stand structure is variable and contains a mix of all structural stages.	Not applicable	Many stands are in a multi-canopy structural condition (sources 1, 2, 4, 5).
Persistent lodgepole line (as characterized on Greendale Plateau, Parks Plateau, and Round Park landtype associations in source 1a)	Grass/forb, seedling/sapling (0–3″ d.b.h.) Young forest (3–6″ d.b.h.) Mid-aged to mature forest (6–12″ d.b.h.) Old forest (12″ + d.b.h.)	≈ 42 ≈ 17 ≈ 41 ≈ 0	Distribution is based on a 120-year rotation. Patch sizes** can be large (100s to 1000s of acres). Large fluctuations in the distribution of structural classes are more common than a balanced distribution. Consequently, structure distribution may only be achievable at very large geographic scales. Mature structures can be present, but old forests with decadence are rare (sources 1a, 1, 2, 3, 5).
Douglas-fir	Grass/forb, seedling/sapling (0–4″ d.b.h.) Young forest (4–8″ d.b.h.) Mid-aged to mature forest (8–16″ d.b.h.) Old forest (16+″ d.b.h.)	≈ 20 ≈ 20 ≈ 40 ≈ 20	Structure is as characterized by low-severity thinning fires and mixed-severity fires. Stand structure can range from uneven aged to even aged, but a dominating feature is that several structural classes tend to be evident in any landscape, composed of even-aged patches of mature and younger trees (sources 1, 2, 3, 5).
Ponderosa pine	Stand basal areas are at lower densities of approximately 35–70 square feet per acre to ensure regeneration of shade-intolerant ponderosa pine. Where stand	Not applicable	Structure is as characterized by low-severity surface fires. Forests are typically all-aged structure or uneven-aged stands composed of a mosaic of various even-aged groups—multi-aged

Vegetation Type	Structural Stage	Desired Percent of Type	Other Attributes
	structures are uneven-aged, a larger proportion of the basal area is allocated to large trees (for example, q-factor of 1.1 to 1.2 for 2-in. diameter classes).		but dominated by mature trees. All age/size classes should be represented in the landscape to ensure sustainability. Basal areas are at lower densities; basal areas never exceed 140 square feet per acre (sources 1, 5).

Source codes: 1a = Forest Service 1996; 1 = Forest Service 2009b; 2 = Forest Service 1998; 3 = Forest Service et al. 1998; 4 = Forest Service 2009a; 5 = Huber et al. 2017.
Notes. d.b.h. = diameter at breast height; ″ = inches.
* Seral aspen with the associated coniferous vegetation types is also included here where it applies.
** A patch is distinguished from a group in this table. A patch is a small part of a stand or forest and can be many tens, hundreds, or even thousands of acres and is a relatively homogeneous part of a stand or forest that differs from the surrounding forest. A group is smaller than a patch, often expressed as a function of surrounding tree height. For example, a group size is commonly approximately twice the height of the mature trees (Helms 1998).

Objective (FW-OB-CONIF)

01 To complete forested vegetation management treatments, such as timber harvest, planned ignitions, thinning, and planting, every year on an average of 2,400 acres (2,100 acres in the second decade) measured on a decadal basis, to maintain or move toward achieving desired conditions for forested ecosystems. Table 7 and table 8 display the projected annual vegetation management practices.

Table 7. Projected forestwide vegetation management practices (annual average acres in first decade)

Forest Cover Types	Improvement / Selection (Uneven-Aged Harvest)	Regeneration* (Even-Aged Harvest)	Thinning (Inter-mediate Harvest)	Sanitation / Salvage (Intermediate Harvest)	Pre-Commercial Thinning (Intermediate Treatment)	Prescribed Fire
Mixed conifer	16	57	0	187	43	18
Engelmann spruce	0	3	0	29	0	0
Lodgepole pine	0	107	32	178	428	7
Douglas-fir	10	5	0	33	0	12
Ponderosa pine	203	1	0	79	127	829
Persistent aspen	0	2	0	0	0	28
Woodland	0	0	0	0	0	0
Total**	229	175	32	506	598	893

Source: Derived from Ashley National Forest GIS data and a spreadsheet used to calculate projected timber sale quantity and projected wood sale quantity.
* Even-aged regeneration harvest treatment includes clearcut, shelterwood, shelterwood removal, and seed tree methods.
**Totals may not add up due to rounding.

Table 8. Projected forestwide vegetation management practices (annual average acres in second decade)

Forest Cover Types	Improvement Selection (Uneven-Aged Harvest)	Regeneration* (Even-Aged Harvest)	Thinning (Intermediate Harvest)	Sanitation/ Salvage (Intermediate Harvest)	Pre-commercial Thinning (Intermediate Treatment)	Prescribed Fire
Mixed conifer	16	57	0	187	43	18
Engelmann spruce	9	1	0	29	0	0
Lodgepole pine	0	107	32	178	107	7
Douglas-fir	10	5	0	33	0	12
Ponderosa pine	203	1	0	79	127	829
Persistent aspen	0	2	0	0	0	28
Woodland	0	0	0	0	0	0
Total**	239	174	32	506	277	893

Source: Derived from Ashley National Forest GIS data and a spreadsheet used to calculate projected timber sale quantity and projected wood sale quantity.

* Even-aged regeneration harvest treatment includes clearcut, shelterwood, shelterwood removal, and seed tree methods.

** Totals may not add up due to rounding.

Guideline (FW-GD-CONIF)

01 During mountain pine beetle outbreaks when there are high beetle population pressures on surrounding landscapes, prescribed burn operations in ponderosa pine should limit scorch and lower crown damage to less than 50 percent on 90 percent of ponderosa pine in the larger diameter classes. This treatment practice helps reduce tree susceptibility to bark beetle attack.

Non-Forest Vegetation

Plan components for this subsection are either specific for all non-forest vegetation or, as indicated, specific for a vegetation community type. These components are designed to maintain or move non-forest vegetation toward desired condition. Desired condition component potential is based on long-term monitoring data and other relevant information described and cited in the forest plan assessment (Forest Service 2017) and its supporting documents.

Desired Condition (FW-DC-VEGNF)

01 Non-forest vegetation communities vary across the landscape and are controlled by inherent conditions such as geology, soil, aspect, annual precipitation, and elevation. Communities are dominated by plants of moderate to high resource value, which means 60 percent or greater in relative cover of moderate to high resource value plants. Plant species richness is within the range of variability for each community. Invasive plant species may be present, but these do not disrupt ecological processes nor diminish community resilience. Encroachment of conifer tree species in vulnerable communities is limited to 10 percent tree crown cover or less. Communities vulnerable to fire and other disturbances recover within expected return intervals. Total ground cover is equal to or greater than 85 percent of potential.

Objective (FW-OB-VEGNF)

01 To restore ecological function, integrity, and resilience or initiate upward trend toward or maintain desired condition of 2,500 acres (on average) annually of non-forest vegetation. This applies to non-forest areas that are threatened by conifer encroachment or invasive plants or that are in degraded condition.

Alpine

Alpine landscapes are high-altitude areas found above timberline (above approximately 11,200 feet for the Uinta Mountains), with vegetation that is adapted to harsh environmental conditions. Plants are typically low-growing, mat-forming, small or dwarfed in their structure, or some combination of these things.

Desired Condition (FW-DC-ALPINE)

01 Alpine landscapes consist of a mosaic of plant communities that are controlled by topography, geology, aspect, snow accumulation and persistence, wind exposure, rodent activity, soil moisture, temperature, and other geomorphic features that help form habitable niches.

Desert Shrub

Desert shrub communities are adapted to the dry, cold desert environments along Flaming Gorge Reservoir in southwestern Wyoming of the Ashley National Forest.

Desired Condition (FW-DC-SHRUB)

01 Numerous desert shrub communities are represented across cold desert landscapes in the Green River Basin. Most of these communities are controlled by inherent geologic and soil features, resulting in distinct shrub or subshrub communities. Shrubs occasionally merge to form common codominant communities, such as shadscale (*Atriplex confertifolia*) and Wyoming big sagebrush. Herbaceous vegetation and total ground cover in most communities is inherently low (no more than 65 percent). Shrub interspaces typically consist of bare soil, biological soil crust, or pediments with intermittent herbaceous vegetation. Resilient desert shrub communities recover from drought, browsing, and other disturbances within expected return intervals.

Sagebrush

Sagebrush communities are composed of North American shrubs or sub-shrubs that form relatively large, distinct communities in semidesert and montane areas on the Ashley National Forest. Sagebrush type, distribution, and species composition are strongly influenced by annual precipitation, temperature, and soil.

Desired Conditions (FW-DC-SAGE)

01 Sagebrush communities are represented across the landscape within a broad range of environments, successional states, and community types. Sagebrush landscapes consist of variable ratios of shrub canopy cover that supports habitat needs for known sagebrush-obligate wildlife and plant species.

02 In greater sage-grouse seasonal habitat, 70 percent or more of sagebrush communities have 10 to 30 percent sagebrush canopy cover and less than 10 percent conifer canopy cover.

Objective (FW-OB-SAGE)

01 In the Anthro Plateau landtype association, to change at least 200 acres of mountain big sagebrush from 20 percent or greater canopy cover to less than 5 percent canopy cover every 5 years to enhance brood rearing and summer habitat for greater sage-grouse and to maintain ecological diversity in mountain big sagebrush.

Rare and Unique Habitats—Calcareous Fens and Peatlands

Calcareous fens and peatlands are rare and unique habitats on the Ashley National Forest identified during the forest plan assessment process. These habitats are of low occurrence and restricted distribution and have the presence of rare flora or fauna and other distinguishing or remarkable features.

Desired Condition (FW-DC-RAREHAB)

01 Calcareous fens and peatlands consist of native plant assemblages adapted to these cool and wet environments, with many plants that are rare, uncommon, or circumboreal. Groundwater, surface flows, and nutrients in fens or peatlands are sufficient to support ecological processes. Such processes are present and functioning in a manner that sustains ecological integrity and resilience and facilitates the continued development and accumulation of peat. The size of fens or peatlands remains constant, and organic soils retain current depth, quality, and uniformity.

Standard (FW-ST-RAREHAB)

01 Avoid or mitigate management activities that would disrupt ecological processes and hydrologic connectivity, diminish organic soils, or compromise the overall ecological integrity and resilience of calcareous fens and peatlands.

Fire

Fire is a primary ecological process that has shaped and maintained forest and non-forest ecosystems, which in turn sustains native plant communities and wildlife species. Wildland fire on the landscape occurs due to unplanned (natural and human-caused wildfires) and planned (prescribed fire) ignitions. Fire management strives to balance the natural role of fire while minimizing the impacts on watershed health, wildlife habitat, highly valued resources or assets, and air quality. This can be accomplished by using a coordinated risk management approach, which helps to promote landscapes resilient to fire-related disturbances and prepares for and executes a safe, effective, and efficient response to fire. Fire risk crosses management boundaries. Management on the unit is influenced by the National Cohesive Wildland Fire Management Strategy, policies, and laws. Firefighter and public safety are the first priority in every fire management activity. Fuels management activities are inherently fire management activities because their purpose is to alter potential fire behavior to reduce wildfire hazards and promote natural fire effects.

Desired Conditions (FW-DC-FIRE)

01 The risk of loss of life, damage to property, or reduced ecosystem function due to fire is low.

02 The full range of wildland fire and fuels management activities is used to achieve ecosystem sustainability and ecological resilience, and these activities reflect economic and social considerations.

03 Fuels (vegetation) are at levels that maintain natural fire regimes, support ecological resilience, and minimize uncharacteristic wildfire. Wildland fires exhibit the appropriate range of severity and frequency that is representative of historical fire disturbance regimes.

Objectives (FW-OB-FIRE)

01 Based on the historical disturbance regimes, to use wildland fire and other vegetation treatments to move toward or maintain desired conditions on approximately 6,600 to 32,000 acres per year (see

table 9) utilizing the full range of fuel reduction methods, consistent with forestwide, designated area, and management area direction.[6]

02 To manage natural unplanned ignitions to meet resource objectives associated with the vegetation types (see table 9) on 10 percent of the ignitions over every 10-year period.

Table 9. Potential number of acres burned per decade and desired severity, based on vegetation type

Vegetation Types	Dominant Fire Regime Groups	Total Acres	Fire Frequency in Years	Potential Acres Managed per Decade Based on Historical Fire Regime Groups (Acres, Low to High)	Percent of Fires in Each Severity Class
Ponderosa pine	I	37,855	6–60	6,309–63,092	Low: 55 Mixed: 39 High: 6
Lodgepole pine	V	76,786	90–200	3,839–8,532	Low: 19 Mixed: 0 High: 6
Douglas-fir	I, III	47,773	35–200	2,389–13,649	Low: 75 Mixed: 14 High: 81
Mixed conifer	V	310,807	200–300	10,360–15,540	Low: 0 Mixed: 2 High: 11
Engelmann spruce	V	144,492	200–400	3,612–7,225	Low: 0 Mixed: 20 High: 98
Miscellaneous	I	12,769	75–290	440–1,703	Low: 79 Mixed: 0 High: 80
Seral aspen	I, III, IV	117,137	13–70	16,734–90,105	Low: 0 Mixed: 54 High: 21
Persistent aspen	I	35,480	20–300	1,183–17,740	Low: 0 Mixed: 46 High: 46
Sagebrush	III, IV	120,726	40–100	12,073–30,182	Low: 0 Mixed: 0 High: 100
Pinyon-juniper	III, IV	122,268	150–200	6,113–8,151	Low: 5 Mixed: 65 High: 29
Desert shrub	IV	68,823	100-240	2,868-–6,882	Low: 0 Mixed: 0 High: 100

Sources: Utah fire groups described in Bradley et al. (1992); Huber et al. (2017); LANDFIRE Biophysical Settings and Mean Fire Return Interval (https://landfire.gov)

[6] Annual treatment acres may be affected by acreage burned by wildfire. Large wanted or unwanted wildfires will not preclude the Forest Service from trying to achieve targeted acreage per this plan or project-level NEPA.

03 To identify hazard tree removal areas during vegetation treatments. To mitigate 80 percent of hazard trees within 1.5 tree lengths of primary travel corridors or other values at risk.

Standard (FW-ST-FIRE)

01 Prioritize the safety of firefighters and the public in every fire management activity.

Guidelines (FW-GD-FIRE)

01 Within sensitive areas such as wilderness, fire management tactics should include minimum impact suppression tactics (MIST).

02 To prevent the use of motorized vehicles off existing travel corridors, firelines should not be located near public access points to the greatest extent possible.

03 When responding to fire ignitions, managers should use fire to achieve management objectives for other resources where and when conditions permit, keeping risk within acceptable limits. This is done to take advantage of the opportunity to use fire to improve ecological conditions and to make progress toward other desired conditions. Current and expected fire behavior provides the framework for developing objectives and strategies for wildfires.

04 Outside highly valued resources or assets, fuel treatments to promote fire severity based on the historical disturbance regimes by vegetation type (see table 9) should be used to support ecosystem sustainability and other resource desired conditions.

Goals (FW-GO-FIRE)

01 Use a hazard risk assessment and other fuels and fire behavior analytical processes, models, and tools to determine potential risk to values, to prioritize treatments, and to evaluate the positive and negative benefits from fire management activities.

02 Ensure that the management of wildland fires reflects the understanding that fire-adapted ecosystems span jurisdictional boundaries. Identify opportunities to achieve mutual objectives and accomplish them through collaborative planning. Manage fires to achieve Forest Service desired conditions and, where possible, to help achieve objectives relevant to adjacent land managers.

03 Engage both internal and external groups with fire management to define wildland fire as a necessary ecological process essential to the sustainability of the Ashley National Forest's fire-adapted ecosystems and to garner support for fire management activities.

Protection of Highly Valued Resources or Assets

Highly valued resources or assets are landscape features that humans care about and that are influenced positively and/or negatively by fire. Resources are naturally occurring, whereas assets are human made.

To further characterize the landscape as it pertains to strategic fire management guidance, the following direction is provided to spatially guide and prioritize the management of wildland fire and fuels reduction treatments to protect highly valued resources or assets. The direction also pertains to work with Forest Service cooperators toward achieving desired conditions.

Wildfire education and mitigation, hazardous fuels reduction treatments, and fire protection are necessary to reduce the impacts of wildland fire on values. Coordination with cooperators will emphasize reducing fire risk and creating fire-adapted communities and fire-resilient landscapes that rely less on aggressive wildfire suppression.

The Forest Service will use a suite of data, fire modeling tools, decision support processes, and other analytical tools to inform decision-making when pre-assessing areas for wildland fire risk and benefits. Factors that will change wildfire risk are vegetation and fuels conditions from restoration treatments and wildfires, new or changing communities, assets or natural resource values, and hazardous fuels treatments.

Desired Conditions (FW-DC-HVRA)

01 Where permanent infrastructure, structures, communities, and other highly valued resources limit the use of wildland fire or are potentially threatened by wildfire, fuel accumulations promote safe, effective fire management opportunities.

02 The Forest Service's engagement with adjacent communities contributes to the ability of those communities to be resilient to fire.

03 Fuels are at levels that present low risk to social, economic, and ecological values from high-severity fires. Hazardous fuels treatments next to values at risk are prioritized to produce fire-resilient landscapes.

Objectives (FW-OB-HVRA)

01 To protect highly valued resources or assets and create fire-resilient landscapes by treating hazardous fuels on 1,000 to 3,000 acres annually around highly valued resources or assets as shown in a hazard risk analysis and with partnership cooperation.

02 As part of the hazard risk analysis, to produce maps in collaboration with other resource staff and update these maps at least biennially, including these maps and data in the current wildfire decision support process and using them to inform project purpose and location.

Guidelines (FW-GD-HVRA)

01 If assurances can be made for public safety, managers should consider using fire to achieve management objectives.

02 Where firefighters are likely to work close to structures, administration sites, or permitted infrastructure or along primary travel corridors, hazard trees should be mitigated to maximize firefighter safety and minimize the likelihood of spotting.

03 In areas where critical values are directly at risk of wildfire, fuels treatments should result in low flame lengths, based on 90th-percentile weather conditions. This should be done to protect highly valued resources or assets and firefighter and public safety. Treatments should focus on reducing fuel loadings that may deviate from other resource requirements to meet the desired fire behavior characteristics. If there is conflict between the need to mitigate hazardous fuels to protect critical values, particularly human improvements, and other natural resource concerns, the priority should be to protect those critical values.[7]

Goal (FW-GO-HVRA)

01 Where wildfire has the potential to affect lands outside the national forest, ensure that multi-agency wildfire management decisions include incident response planning that involves effective, efficient,

[7] The project-level National Environmental Policy Act (NEPA) analysis should further refine the level of protection of values by analyzing tradeoffs, risks, and benefits

risk-based, wildfire management decisions and considers input from communities and multiple interested parties.

02 Collaborate with partners, adjacent landowners, private industry, and outside interests to increase the percentage of fire-resilient landscapes around highly valued resources or assets.

Adapting to Climate Change

Land management response to current or future climate and its effects is critical to minimizing the risks of climate change impacts. Adaptation actions can vary from simple, short-term actions to more complex, long-term approaches. Many climate adaptation approaches complement current planning strategies and have been incorporated into land management goals, desired conditions, and other plan components. However, managers may need to make some adjustments to prioritize which management actions to take and where to take them, based on the vulnerability of resources to climate change and the likelihood that actions in those places will be effective.

The Intermountain Adaptation Partnership identified climate change issues relevant to resource management on Federal lands in Nevada, Utah, southern Idaho, eastern California, and western Wyoming. The collaborative partnership resulted in the publishing of the important general technical report titled Climate Change Vulnerability and Adaptation in the Intermountain Region (Halofsky et al. 2018). Particularly in chapter 14, this assessment includes strategies and tactics to help resource areas and systems adapt to the effects of climate change, improving resource management on the Ashley National Forest.

Information describing the effects of climate change and assessing vulnerability to climate change on the Ashley National Forest is found in Assessment of Watershed Vulnerability to Climate Change for the Uinta-Wasatch-Cache and Ashley National Forests, Utah (Rice et al. 2017b) and Assessment of Aspen Ecosystem Vulnerability to Climate Change for the Uinta-Wasatch-Cache and Ashley National Forests, Utah (Rice et al. 2017a). In addition, Action Plan for Climate Adaptation and Resilience (USDA 2021) and USDA Forest Service Climate Adaptation Plan (Forest Service 2022) build on the knowledge for adapting to climate change and guiding land management activities.

Goal (FW-GO-CLIM)

01 Consider and incorporate climate adaptation strategies, approaches, and tactics in the development and design of projects and activities for resource management on the Ashley National Forest. Just as climate adaptation work continues to evolve, the Forest Service continues to collaboratively partner, learn, and incorporate effective science-based solutions.

Carbon Storage and Sequestration

The carbon that is stored in terrestrial ecosystems is present in living vegetation, soils, and dead organic matter, including wood and litter. Terrestrial ecosystems contain nearly three times the amount of carbon as the atmosphere, with forested areas storing higher levels of carbon than non-forested areas. Carbon sequestration captures and stores atmospheric carbon dioxide into other forms by processes such as photosynthesis.

Desired Condition (FW-DC-CARBON)

01 Carbon stocks are maintained by promoting forest stand health and the regeneration of forest stands and by retaining the net acreage of forested communities.

02 Rangeland carbon stocks are supported by management practices that maintain productive rangeland grass and shrub species, soil structure, and soil organic matter.

Wildlife

This section provides direction to maintain the diversity of animal communities and support the persistence of native terrestrial wildlife species on the Ashley National Forest: birds, mammals, reptiles, and invertebrates. Aquatic species such as fish and aquatic or semi-aquatic invertebrates are addressed in the watershed, aquatic, and riparian ecosystems section. See also the desired conditions for terrestrial and non-forest vegetation.

Wildlife habitat on the Ashley National Forest is diverse, ranging from the rugged topography and alpine environments associated with the highest peaks in the State of Utah to the more temperate coniferous forest slopes at mid-elevations to the lowlands of pinyon-juniper and sagebrush. Such diversity and the associated complexity provide conditions for a vast array of wildlife species. Many species are residents, and some spend their entire lives in the national forest, while others are migratory and spend only part of their life cycles there.

The 2012 Planning Rule adopts a complementary ecosystem and species-specific approach—known as a coarse-filter/fine-filter approach—to contribute to the diversity of plant and animal communities and the long-term persistence of native species on National Forest System lands.

On the Ashley National Forest, the coarse-filter plan components are designed to maintain or restore ecological conditions for ecosystem integrity and biological diversity. Fine-filter plan components are designed to provide for additional specific habitat needs for native animal species when those needs are not met through the coarse-filter plan components. Because the Forest Service's mission with respect to wildlife is to provide habitat for native species, most of the coarse-filter and some of the fine-filter plan components (desired conditions, standards, guidelines, objectives, and goals) that benefit wildlife are found under other sections of this document: terrestrial vegetation (forested and non-forested), geologic resources and hazards, soils, and watershed, aquatic, and riparian ecosystems. See also the crosswalks for at-risk species, pollinators, and habitats in appendix D of the final EIS.

The habitat needs of breeding populations of at-risk wildlife species that occur on the Ashley National Forest are addressed with plan components primarily in the terrestrial vegetation (forested and non-forested) section of the plan. At-risk wildlife species consist of species of conservation concern (species in which a substantial concern exists about their persistence in the national forest) and federally listed threatened, endangered, and proposed species. Breeding populations of federally listed threatened, endangered, and proposed species have not been documented on the Ashley National Forest. For a list of species of conservation concern identified for the Ashley National Forest, visit the Wildlife webpage on the Forest Service's Intermountain Region website.[8]

The Ashley National Forest contains lynx habitat that is unoccupied. It is considered a peripheral area for lynx that is incapable of supporting self-sustaining populations of lynx or of being used by a breeding female lynx. However, this habitat could be occasionally used by lynx during dispersal.

Forest plan components address habitat needs and threats to species of conservation concern. Desired conditions for feeding, breeding, and sheltering habitat used by these species of conservation concern and guidelines to achieve those desired conditions are largely found in the vegetation resource areas of this document. The vegetation desired conditions and guidelines also address the threat of invasive species,

[8] Intermountain Region Wildlife webpage: https://www.fs.usda.gov/detailfull/r4/plants-animals/wildlife/?cid=FSEPRD940029

conifer encroachment, and beetle epidemics that threaten these species. Guidelines listed below for wildlife primarily focus on addressing threats to species and their habitat that are not addressed in the other resource areas. These threats include habitat loss, fragmentation, and manipulation; human disturbance; spread of disease; and fire. See also the crosswalks for at-risk species in appendix D of the final EIS.

Desired Conditions (FW-DC-WILDL)

01 The plan area provides habitat that is needed for feeding, breeding, and sheltering by native species, particularly during periods of high energy demands such as reproductive seasons and winter, for the portion of those species' life cycles that occur on the Ashley National Forest. (See also the desired conditions for terrestrial and non-forest vegetation.)

02 Landscape patterns provide habitat connectivity for native species, which promotes daily and seasonal movement of species to facilitate maintenance of genetic diversity.

03 The Ashley National Forest contributes to the habitat needs (feeding, breeding, and sheltering) and the long-term persistence of species of conservation concern and those populations of threatened and endangered species that occur on the Ashley National Forest.

Guidelines (FW-GD-WILDL)

01 Management activities should avoid, minimize, or mitigate surface disturbance on native ungulate (animals with hooves) winter ranges during the winter season, generally considered to be November 15 through April 30. For proposed management activities that would occur during the winter, consideration should be given to impacts from the proposed activities that might disrupt these ungulates during this period.

02 When implementing large (more than 100 acres) vegetation treatments in coniferous forests, excluding pinyon and juniper forests, an average of 60 snags per 10 acres should be retained for cavity nesters, preferably in clumps with the largest diameter at breast height available. If snags are not available in the treatment area, then live trees may be substituted. This guideline does not apply to areas where snags pose a safety hazard near roads, trails, campgrounds, trailheads, and other facilities.

03 Vegetation treatments should avoid removal of known raptor nests and should avoid, minimize, or mitigate disturbance around known active nests, including raptor nests found through surveys. An active nest site is defined as a nest occupied by nesting raptors.

04 Management activities should avoid, minimize, or mitigate disturbance to hibernating bats and bat maternity colonies in caves, mines, or other features known to be used by bats during these critical periods.

05 Bat-friendly closure devices should be used when mines or caves with suitable habitat for bats are to be closed.

06 Management actions should be designed to avoid or minimize negative impacts on known Eureka mountainsnail sites so that the actions do not threaten the long-term persistence of the species.

07 In occupied pygmy rabbit habitat, vegetation treatments should be designed to maintain interconnected patches (with an average of ½ acre in size) of tall dense sagebrush (with an average of at least 20 percent canopy cover). If the area is not capable of meeting the 20 percent canopy

cover guideline, then vegetation treatments should be designed to include the highest percentage of canopy cover available within the interconnected patches.

08 Human activities that may cause disturbance to peregrine falcon eyries (nest sites) should be avoided, minimized, or mitigated.

09 When a domestic sheep or goat grazing permit for an allotment is voluntarily waived without preference, and if the allotment does not provide separation from bighorn sheep, then authorized use of the allotment should provide separation of domestic sheep and bighorn sheep by one or more of the following methods: (1) mitigate the threat of pathogen transfer from domestic sheep and domestic goats to bighorn sheep consistent with the most current state bighorn sheep management plans, (2) mitigate the threat of pathogen transfer from domestic sheep and domestic goats to bighorn sheep in accordance with reasonable management guidelines pursuant to a new site-specific memorandum of understanding, (3) leave the allotment vacant of domestic sheep and domestic goats, (4) work with the State of Utah to remove or translocate bighorn sheep, or (5) implement another method that would provide separation of the species or that would reduce the threat of pathogen transfer from domestic sheep and domestic goats to bighorn sheep.

10 New permitted domestic sheep or goat allotments should not be authorized unless the Ashley National Forest determines, based on local information and the best available science, that separation of the allotment from bighorn sheep will be obtained. This guideline does not apply to the use of pack goats for recreational use, nor to existing domestic sheep or goat grazing permits waived with preference.

11 Management actions should (1) avoid degradation of occupied sage-grouse habitat, subject to valid existing rights; (2) provide compensatory mitigation, subject to valid existing rights, when degradation of occupied sage-grouse habitat is not avoidable; (3) avoid morning and evening noise disturbance from large trucks to active sage-grouse leks during the breeding season, generally between March 1 and May 15 depending upon weather conditions; and (4) avoid surface disturbance and vegetation treatments in occupied sage-grouse nesting habitat during the nesting season, generally between March 1 and June 15 depending upon weather conditions. See glossary for definitions of occupied sage-grouse habitat, large trucks, compensatory mitigation, and active lek.

12 Commercial apiaries should not be authorized unless it is determined that the threat of pathogen transfer from the apiary to native bumble bees is not a concern.

13 To maintain peripheral lynx habitat for the possible dispersal movement of a Canada lynx to the Ashley National Forest, vegetation treatments should maintain a mosaic of forest structures on the landscape that includes some dense early successional coniferous and mixed coniferous-deciduous stands (regenerating stands for snowshoe hare production areas), along with a component of mature multistory conifer stands. Design of vegetation treatments should consider historical landscape patterns and disturbance processes.

14 Prior to ground-disturbing or vegetation management activities, the Forest Service should evaluate the beneficial and adverse effects of the action to birds of conservation concern identified by the U.S. Fish and Wildlife Service and, as practical, mitigate activities to lessen the impact to those species.

15 To help maintain and/or improve habitat connectivity and the ability of wildlife to move across the landscape, ground-disturbing and vegetation management activities should consider the beneficial

and adverse effects of the action to migrating ungulates and connective habitat and mitigate activities, as practical, to lessen the impact to migrating ungulates.

Goals (FW-GO-WILDL)

01 Cooperate with other agencies and tribal governments on conservation strategies, recovery plans, and habitat management for (1) the recovery of federally listed wildlife species populations that occur on the Ashley National Forest and (2) ecological conditions necessary to maintain the long-term persistence of wildlife species of conservation concern.

02 Coordinate management actions with management plans of other Federal, state, and local agencies, tribes, and adjacent landowners. Expand opportunities to manage wildlife habitat through coordination and collaboration along and across administrative boundaries.

03 Minimize the risk of contact between bighorn sheep and domestic sheep or domestic goats through collaboration with the State of Utah, such as by utilizing memorandums of understanding and applying site-specific management strategies described in domestic sheep permit annual operating instructions that strive to minimize the risk of contact between the two species.

Social and Economic Sustainability and Multiple Uses

Social and Economic Sustainability

Resources in the plan area contribute to the social and economic sustainability of local communities and the public. Economic sustainability refers to the capability of society to produce and consume or otherwise benefit from goods and services, including contributions to jobs and market and nonmarket benefits (36 CFR 219.19). Social sustainability refers to the capability of society to support the network of relationships, traditions, culture, and activities that connect people to the land and to one another and support vibrant communities.

The 2012 Planning Rule states that plans are to guide management so that national forests and grasslands are ecologically sustainable and contribute to socioeconomic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and have the capacity to provide people and communities with ecosystem services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future.

The Forest's healthy ecosystems provide a full range of goods and services that are vital to human health, financial sustainability, and well-being. Ecosystem services include benefits from all the uses that people traditionally have relied on—livestock forage, recreation, mineral extraction, and timber—as well as less obvious or apparent benefits, such as clean air and water and carbon sequestration.

General desired conditions and goals for social and economic sustainability are listed below. Plan components related to social and economic issues relevant to specific resources are addressed in relevant resource sections of this document. Management approaches to incorporate coordination with local communities during implementation of management actions should reduce the risk of impacts on all communities, including minority and low-income populations (see the section titled Working and Coordinating with Tribes, Partners, and Cooperators in appendix 3).

Desired Conditions (FW-DC-SOCEC)

01 Conditions on the Ashley National Forest sustain ecosystem services and multiple uses that contribute to the quality of life and sense of place for both present and future generations. These

include but are not limited to support for aquatic and terrestrial ecosystems, clean air and water, scenic values, cultural heritage values, and recreation opportunities.

02 Sustainable levels of goods and services, such as wilderness, fish and wildlife, recreation opportunities and access, timber, energy resources, livestock forage, and infrastructure, as determined by resource-specific desired conditions, are available from the Ashley National Forest. Conditions allow for the flow of these goods and services to be responsive to the needs, interests, and values of local and regional populations. They contribute to existing and emerging industries and overall economic conditions of Ashley National Forest communities.

Goal (FW-GO-SOCEC)

01 Work with interested local agencies, partner organizations, and the public to promote a common understanding of locations and activities that provide important socioeconomic contributions, particularly for environmental justice communities where residents are more vulnerable to shifts in social and economic conditions; to identify potential projects that may enhance community benefits; and to identify mitigation measures that may address adverse impacts on the resources.

Areas of Tribal Importance

Tribes are sovereign nations with whom the Forest Service maintains government-to-government relationships. Each tribe has unique rights, interests, and governing processes, necessitating unique coordination and consultation.

Portions of the Ashley National Forest overlap with Ute Indian Tribe and the Eastern Shoshone Tribe original tribal homelands. Approximately one-third of the Ashley National Forest (the entire Duchesne/ Roosevelt Ranger District) is within the original boundary of the Uintah and Ouray Reservation (see Figure 1-2). These lands remain significant for tribal identity and cultural traditions. Access to culturally significant plants, traditional resources, and ceremonial locations is an important component of tribal identity. In addition, many tribes have reserved the right to hunt, fish, gather, and pray pursuant to ratified treaties and agreements with the United States.

The boundaries of the Wind River Reservation of the Eastern Shoshone Tribe do not overlap with the Ashley National Forest. The traditional homelands of the Eastern Shoshone Tribe include broad areas across western Wyoming without formal boundaries.

As stated in Secretarial Order 3403, the Forest will consider the expertise of the Ute Indian Tribe and Eastern Shoshone Tribe as part of its decision-making, particularly concerning management of resources subject to reserved treaty rights and subsistence uses. The Forest Service recognizes that the Ute Indian Tribe and Eastern Shoshone Tribe have expertise, knowledge, and interests, including management of resources subject to treaty rights and subsistence uses, which should be incorporated into Federal decision-making where possible and consistent with Federal law.

Landscape vegetation communities are linked to areas of tribal importance. The Ute Indian Tribe considers the vegetation to be important as a part of the cultural landscape, particularly those areas on the original Uintah and Ouray Reservation. Locations with native species that are used for ceremonial or ritual purposes have cultural value and meaning beyond the individual plants.

Areas and resources of tribal importance include medicine trees, brush fences, rock art, wickiups (conical pole structures), burials, sun dance locations, mountain peaks, and prehistoric archaeological sites. Areas of tribal importance tie to the landscape and the viewshed and include scenic, audible, and visual components of the environment.

Desired Conditions (FW-DC-TRIBE)

01 Cultural landscapes, sacred sites, traditional cultural properties, areas of tribal importance, and other culturally significant areas and resources retain integrity and interconnectivity to provide tangible links to historically rooted beliefs, customs, and practices of tribal members.

02 Tribal members have access to sacred sites and important cultural landscapes on the Ashley National Forest for effective exercise of cultural, religious, and ceremonial traditions to sustain tribal practices, cultural integrity, social cohesion, and economic well-being.

03 Ashley National Forest resources, such as plants, animals, and minerals that are significant to the cultural and ceremonial practices of tribal members, are healthy, managed for sustainability, and accessible to support reserved tribal treaty rights related to hunting, fishing, and gathering.

Objective (FW-OB-TRIBE)

01 To provide access to cultural and sacred sites and religious and ceremonial resources through collaborative efforts with tribes and to increase understanding of areas of tribal importance by meeting each year with tribes to share and gather information on the resources, locations, and significance of areas of tribal importance.

Guidelines (FW-GD-TRIBE)

01 Adverse effects on plants or other resources that have been designated as culturally important by the Ute Indian Tribe's Cultural Rights and Protection Office should be minimized or avoided.

02 Tribes should be consulted, and areas of tribal importance should be avoided during specific times of tribal use designated by the Ute Tribal Historic Preservation Officer or the Eastern Shoshone Tribal Historic Preservation Officer.

Goals (FW-GO-TRIBE)

01 Collaborate with the Ute Indian Tribe to facilitate solutions to issues that are important to the Tribe and to the Ashley National Forest, including public access to National Forest System lands via roads on tribal lands and tribal identification of and access to culturally important plants on National Forest System lands.

02 Meet regularly with tribal representatives of the Ute Indian Tribe and the Eastern Shoshone Tribe at both the staff level and the leadership level. Incorporate tribal perspectives, needs, and concerns, as well as traditional ecological knowledge, into project design and decisions, as appropriate.

03 Provide Ashley National Forest employees such as law enforcement officers, forest protection officers, and resource specialists with training regarding treaty rights related to hunting, fishing, and gathering on the Ashley National Forest.

Cultural and Historic Resources

Cultural and historic resources are nonrenewable resources that provide a context for understanding the social, economic, and ecological sustainability of the broad region across northeastern Utah and southwestern Wyoming. Cultural and historic resources on the Ashley National Forest represent the processes and events important to the identity and history of local communities and tribes and contain a wealth of information regarding social and ecological conditions and changes through time.

The Ashley National Forest contains more than 2,500 known cultural sites (more than 2,000 prehistoric and almost 500 historic) that represent a vast range of human activities and occupation during an approximately 12,000-year period. Only about one-fifth of the lands on the Ashley National Forest have been surveyed for cultural resources, so it is likely that thousands of additional cultural sites may yet be found. The variety of cultural resources on the Ashley National Forest include Fremont baskets and storage structures, ancient stone tools, historic logging camps and military roads, rock art, Ute brush fences, Forest Service ranger or guard stations, and the last standing fire lookout tower in Utah.

Four specific cultural and historic resources are managed as historic management areas on the Ashley National Forest: the Ute Mountain Fire Lookout Tower, the Carter Military Road, the Swett Ranch Historic Site, and historic guard stations. These historic resources are further discussed in the historic management areas section of this document.

To protect cultural and historic resources, as required by the National Historic Preservation Act of 1966, the Forest Service has established policies and directives (Forest Service Manual 2360) for managing cultural and historic resources that maximize their benefits for the public and the agency. The Forest Service also evaluates how its authorized projects, activities, programs, and permits could affect cultural and historic resources. Such undertakings will avoid, minimize, or mitigate adverse effects on cultural and historic resources eligible for listing on the National Register of Historic Places (36 CFR 800.6).

Desired Conditions (FW-DC-HIST)

01 Cultural and historic resources that have scientific, cultural, or social value maintain their ability to provide information about historic and prehistoric lifeways. This is to foster opportunities to connect people with the past and provide valuable perspectives on past climates and environments.

02 Cultural and historic resource programs, interpretive presentations, and publications are available for the education and enjoyment of current and future generations. They provide public benefits and opportunities to understand and appreciate history and prehistory.

03 Collected prehistoric and historic artifacts are preserved and maintain their ability to provide information about past lifeways, cultures, and history, in accordance with 36 CFR 79.

04 Opportunities are available for volunteers to participate in cultural resource conservation activities, which include research, site stabilization, conservation, and interpretation.

05 Forest conditions and cultural and historic resources that reflect the prehistoric and historic uses of the Ashley National Forest are maintained to provide value and support scientific and historic research to understand the evolution and conditions of ecosystems and to benefit Forest Service land management practices.

Objectives (FW-OB-HIST)

01 To increase the ability of the Ashley National Forest to preserve cultural and historic resources by completing at least 200 acres of cultural resource surveys to identify and document five historic properties each year.

02 To develop a heritage program plan to address national forest-specific requirements of the National Historic Preservation Act of 1966, the Archaeological Resources Protection Act of 1979, the Native American Graves Protection and Repatriation Act of 1990, and Forest Service Manual 2360 (Heritage Program Management) within 3 years of forest plan implementation.

03 To conduct a problem-oriented research project every 3 to 5 years that employs scientific and historical research methods to provide a better understanding of the prehistory, ethnohistory, and history of the Ashley National Forest.

04 To enhance public understanding and increase awareness of cultural and historic resources by formally evaluating five historic properties for eligibility to the National Register of Historic Places each year.

Standard (FW-ST-HIST)

01 Avoid, minimize, or mitigate adverse effects on cultural resources eligible to the National Register of Historic Places for all projects, activities, permits, or actions on National Forest System lands in accordance with section 106 of the National Historic Preservation Act, as specified in 36 CFR 800, and in consultation with the appropriate State Historic Preservation Officers, Tribal Historic Preservation Officer, tribes, local governments, and other consulting parties.

Guideline (FW-GD-HIST)

01 If archaeological resources are inadvertently discovered, uncovered, or exposed during project activities, further damage to the cultural resources should be avoided and the Ashley National Forest cultural resource inadvertent discovery protocol should be carried out.

Goals (FW-GO-HIST)

01 Meet regularly with the Wyoming State Historic Preservation Officer (SHPO), the Utah State Historic Preservation Officer (SHPO), and the Ute Tribal Historic Preservation Officer (THPO) to consult, coordinate, and collaborate on long-term strategies and plans for the preservation, protection, and management of cultural resources on the Ashley National Forest.

02 Foster relationships with research institutions such as universities and museums to identify opportunities for problem-oriented research projects that employ scientific and historical research methods to provide a better understanding of the prehistory, ethnohistory, and history of the Ashley National Forest.

03 Collaborate with tribes to increase awareness of native perspectives on cultural resources on the Ashley National Forest.

Timber

Timber harvesting contributes to the local economy and is an important tool used to achieve desired vegetation conditions. The 2012 Planning Rule requires identification of lands that are not suited for timber production, based on the following six factors:

i. Statute, Executive order, or regulation prohibits timber production on the land;
ii. The Secretary of Agriculture or the Chief [of the Forest Service] has withdrawn the land from timber production;
iii. Timber production would not be compatible with the achievement of desired conditions and objectives established by the plan for those lands;
iv. The technology is not currently available for conducting timber harvest without causing irreversible damage to soil, slope, or other watershed conditions;
v. There is no reasonable assurance that such lands can be adequately restocked within 5 years after final regeneration harvest; or
vi. The land is not forest land. (36 CFR 219.11 (a)(1))

On lands suitable for timber production, regularly scheduled timber harvests are expected to occur. The harvest areas are located where other resource considerations and site limitations do not restrict management or limit the rate and amount of harvest over time to a considerable degree (table 10).

In accordance with the National Forest Management Act and Planning Rule regulations, the quantity of timber that may be sold must be less than or equal to the sustained yield limit. The sustained yield limit is the amount of timber volume meeting applicable utilization standards "which can be removed from [a] forest annually in perpetuity on a sustained-yield basis" (National Forest Management Act, section 11, 16 U.S.C. 1611; 36 CFR 219.11(d)(6)).[9] It is the volume that could be produced in perpetuity on lands that *may* be suitable for timber production (line C in table 10).

Table 10. Timber production suitability classification for the Ashley National Forest

Land Classification Category	Acres
A. Total National Forest System lands	1,378,473
B. Lands not suited for timber production due to legal or technical reasons*	1,248,396
C. Lands that *may* be suited for timber production (A − B)	130,077
D. Total lands suited for timber production because timber production is compatible with the desired conditions and objectives established by the plan	109,819
E. Lands not suited for timber production because timber production is not compatible with the desired conditions and objectives established by the plan (C −D)	20,258
F. Total lands not suited for timber production (B + E)	1,268,654

Source: Forest Service (2020).

* These are lands on which timber production is prohibited or lands withdrawn from timber production; lands on which technology to harvest timber without causing irreversible damage is not currently available; lands on which there is no reasonable assurance that they can be adequately restocked within 5 years of final regeneration harvest; and lands that are not National Forest System lands.

Timber harvest is allowed on some lands not suitable for timber production for such purposes as salvage, fuels management, insect and disease mitigation, protection or enhancement of biodiversity or wildlife habitat, research or administrative studies, or recreation and management of scenic resources. There are approximately 79,600 acres not suitable for timber production where timber harvest may be allowed under exception.

The sustained yield limit is estimated to be an average annual volume of 21,446 hundred cubic feet (CCF). This volume represents the biological capability for the land base on which it was calculated and is the upper limit of timber harvest, meeting applicable utilization standards, that could be offered. It is unconstrained by budgets, assumptions, or land management plan desired conditions. Actual sale levels depend on any number of factors, including fiscal capability of the planning unit, timber market conditions, constraints on timber harvest in the forest plan, and project-level analyses.

To clearly display the intended timber program, the projected wood sale quantity and projected timber sale quantity as described in appendix 4 are defined as follows:

- The *projected wood sale quantity* is the estimated output of timber and all other wood products, such as fuelwood, firewood, or biomass, expected to be sold during the plan period for any purpose on all lands in the plan area. The exceptions are salvage harvest, sanitation harvest, and tree removal to improve stand health or to reduce actual or anticipated spread of insects and disease.

[9] National Forest Management Act, Section 11, 16 United States Code 1611; 36 Code of Federal Regulations 219.11(d)(6)

- The *projected timber sale quantity* is the portion of the projected wood sale quantity that meets applicable timber utilization standards.

Table 11 displays the key characteristics of the different timber volume metrics.

Table 11. Characteristics of timber volume metrics

Characteristics	Sustained Yield Limit	Projected Wood Sale Quantity	Projected Timber Sale Quantity
Based on lands that may be suitable for timber production (table 10, line C)	Yes	No	No
Based on quantity sold from all lands in plan area	No	Yes	Yes
Based on the assumption that all lands that may be suitable for timber production are managed for timber production	Yes	No	No
Limited by plan components, fiscal capability, and organizational capacity	No	Yes	Yes
All volume meets utilization standards	Yes	No	Yes
Includes salvage or sanitation harvest volume	No	No	No

Source: Forest Service Handbook 1909.12, 64.35, exhibit 01.

Neither the projected wood sale quantity nor the projected timber sale quantity serves as a management target or as a limitation on harvest (appendix 4). Both are based on reasonable expectations about the fiscal capability and organizational capacity to achieve the desired conditions and objectives in this plan for the planning period. Calculation of these volume estimates are sensitive to a number of important assumptions: future budget trends, future markets for timber products, efficiency in planning and implementation, and the timing and locations of large disturbances.

If additional support to achieve desired conditions is provided through opportunities—such as increased congressional allocations, stewardship contracting, or work with partners through the Good Neighbor Authority—the projected wood and timber sale quantities identified in appendix 4 may be exceeded. Conversely, if available resources, markets, or other factors are less favorable than anticipated, the projected wood and timber sale quantities identified may not be met.

Desired Conditions (FW-DC-TIMB)

01 Lands identified as suitable for timber production support a regularly scheduled timber harvest program that promotes ecosystem health and sustainability.

02 Harvests for timber production and for purposes other than timber production contribute wood products and jobs to the local economy. A sustainable mix of timber products is offered, using a variety of harvest methods and contract types, in response to current and future market demands. This includes making fuelwood and other forest products available to the public through a robust personal use permitting program.

03 Lands suitable for timber production are resilient and resistant to damage caused by natural disturbance—wildfire, insects, and disease—and are less susceptible to economic loss of timber resources.

04 On lands suitable for timber production, trees that are dead or dying due to fire, insects, or disease are salvaged to recover as much of the economic value of the wood as possible.

Objectives (FW-OB-TIMB)

01 To annually offer timber (meeting timber product utilization standards) for sale at an average projected timber sale quantity of 3,806 CCF (1,145 thousand board feet or MBF), measured on a decadal basis[10] (see table in appendix 4).

02 To annually offer commercial timber and other wood products (including fuelwood, biomass, and other products that do not meet timber product utilization standards) for sale at an average annual projected wood sale quantity of 3,806 CCF (1,145 MBF), measured on a decadal basis[10] (see table in appendix 4).

Standards (FW-ST-TIMB)

01 Do not harvest timber solely for the purpose of timber production on lands not suited for timber production.

02 Do not harvest timber where soil, slope, or watershed conditions would be irreversibly damaged.

03 Select silvicultural treatments based on their ability to meet desired conditions and not solely on their ability to provide the greatest dollar return or output of timber.

04 Use clearcutting only where it has been determined to be the method most appropriate to meet the purpose and need of the project outcome. Use other types of even-aged harvest only where determined to be appropriate. Base determinations on an interdisciplinary team review of site-specific conditions and the desired conditions for vegetation, wildlife habitat, scenery, and other resources.

05 Shape and blend timber harvest units to the extent practicable with the natural terrain.

06 Allow even-aged stands to reach a minimum of 95 percent of culmination of mean annual increment of growth, as measured by cubic volume, before regeneration harvest occurs unless at least one of the following conditions has been identified during project development:

- when such harvesting would modify fire behavior to protect identified resource, social, or economic values
- when harvesting stands would make landscapes trend toward vegetation desired conditions
- when harvest would use uneven-aged silvicultural systems, thinning, or other intermediate stand treatments that do not regenerate even-aged or two-aged stands
- when harvest would be to improve stand health and to reduce actual or anticipated spread of insects and disease; to salvage timber from stands that have been substantially damaged by fire, windthrow, or other disturbance; or to maintain value when stands are in imminent danger from insect or disease attack
- when harvest would be on lands not suited for timber production and the type and frequency of harvest is due to the need to protect or restore multiple use values other than timber production

07 Limit the quantity of timber (meeting timber product utilization standards) that may be sold per decade to a maximum of 10 times the annual sustained yield limit of 21,446 hundred cubic feet (approximately 10,110 MBF). This volume limit includes timber sold from both lands suitable and

[10] 3,806 CCF is the annual projected timber (and wood) sale quantity for the first decade. Refer to appendix 4 for the projected timber (and wood) sale quantity for the second decade. Estimates of timber outputs may be larger or smaller on an annual basis if legal authorities, management efficiencies, or unanticipated constraints change in the future.

lands not suitable for timber production. The salvage or sanitation harvest of trees that have been killed or severely damaged by fire, windthrow, or other disturbances, or the harvest of trees to manage insect infestations and disease spread, are not subject to this limitation.

08 Limit openings created by clearcutting, seed-tree cutting, shelterwood seed cutting, or other cuts designed to regenerate an even-aged stand of timber in one harvest operation to a maximum of 40 acres. This standard applies to new, individual harvest proposals on National Forest System lands only and need not consider existing openings on National Forest System land, adjacent private land, or other agency lands.

- Openings will no longer be considered openings once a new crop of trees meeting minimum stocking requirements becomes established.
- There may be exceptions to the 40-acre maximum opening size when determined necessary to achieve desired ecological conditions for the plan area, such as those associated with forest patterns, patch sizes, and forest resilience in the short and long term. Maximum opening sizes under this exception are shown in table 12.
- Harvest openings created by a single harvest operation that exceed the maximum opening size require a 60-day public review and regional forester approval.

Table 12. Maximum opening sizes for regenerating an even-aged stand of timber in a single harvest operation under exception

Vegetation Type	Maximum Opening Size (acres)
Persistent lodgepole pine	200
Seral aspen	100

09 Do not apply the maximum opening size displayed in standard FW-ST-TIMB-08 and the 60-day public review and regional approval process to the size of harvest openings created by natural disturbances such as wildfire, windstorms, or insect and disease infestations.

10 To maintain forest cover, use timber harvest only when there is reasonable assurance of restocking within 5 years after final regeneration harvest. Prescribe the restocking level in a site-specific silvicultural prescription for a treatment unit, based on the objectives and desired conditions for the plan area. In instances where timber harvests are conducted to create non-forest conditions and to meet the objectives and desired conditions for the plan area and are consistent with other plan components, it is acceptable not to restock or to restock at low tree densities. In such cases, the affected land would no longer be forest land and no longer classified as suitable for timber production.

Guidelines (FW-GD-TIMB)

01 Timber should be harvested only where protection is provided for streams, streambanks, shorelines, lakes, wetlands, and other waterbodies.

02 Timber should be harvested consistent with the protection of soil, watershed, fish, wildlife, recreation, and scenic resources.

03 The minimum stocking standards outlined in table 13 for plantation certification for conifer-forested types should be used unless a certified silviculturist prescribes different minimum stocking requirements that are more appropriate for the site-specific conditions and stand management objectives.

Table 13. Minimum stocking requirement and plantation certification for coniferous forest types

Vegetation Type	Minimum Number of Established Trees per Acre	Distribution Across Area (Percent)
Lodgepole pine	150	70
High-elevation lodgepole pine (> 10,000 feet)	100	60
Ponderosa pine	100	70
All other types	150	70

Source: Johnson 2007.

Livestock Grazing

Livestock grazing on National Forest System lands is an important contribution to the social and economic importance of rural communities. Domestic livestock grazing occurs on active grazing allotments on the Ashley National Forest and authorized permit holders participate in managing grazing on these allotments. Refer to chapter 3 (Area Direction) for lands not suitable for grazing. The allotments are managed to be responsive to current Federal and state environmental laws and regulations. Livestock grazing plan components are designed to support terrestrial vegetation, riparian areas, soils, socioeconomics, and other resource plan components. They apply adaptive management practices that use science and ecological conditions to inform decisions and respond to drought and documented climate changes.

Desired Conditions (FW-DC-GRAZ)

01 Sustainable rangelands provide forage for livestock grazing that contributes to the agricultural economy and local employment and supports traditional lifestyles, cultural values, and generational ties to the land.

02 Livestock grazing and associated management activities are compatible with ecological functions and processes and the management of social resources, including designated areas.

Guidelines (FW-GD-GRAZ)

01 To ensure sustainability and resiliency of forage resources in upland and riparian areas, site- and species- specific annual indicators such as stubble height and utilization criteria should be developed during grazing allotment planning, and these indicators should be documented in allotment management plans. In the absence of updated planning or an approved allotment management plan, utilization of key forage species should be limited to no greater than 50 percent of current year's growth and a 4-inch or greater stubble height of palatable herbaceous species should be left at the end of the grazing season between greenline and bankfull of stream systems, unless monitoring demonstrates a different utilization use level or stubble height is appropriate.

02 To ensure sustainability and resiliency of ecological conditions, grazing management strategies should be described in allotment management plans. Annual monitoring indicators as well as multi-year vegetation trend data should be used to determine if allotments are meeting desired conditions as described in FW-DC-VEGNF and to inform and modify grazing management strategies such as time, timing, and intensity, when necessary to meet or move toward desired conditions.

Goals (FW-GO-GRAZ)

01 Collaborate with livestock grazing permittees and state, tribal, and local governments to develop contingency plans that address wildfires, droughts, annual precipitation, and other events affecting the ability to graze allotments according to the terms and conditions of the permit.

02 Collaborate with livestock grazing permittees and state, tribal, and local governments to develop monitoring methods and strategies and provide grazing management resources to permittees.

Energy and Minerals

The Ashley National Forest contains a variety of energy and mineral resources, including crude oil and natural gas, limestone, phosphate, and trona. People have been using and benefitting from these resources for many years. There are currently about 163 active oil and gas wells on the Ashley National Forest, with numerous additional wells either proposed or approved for development but not yet drilled. All currently active or proposed oil and gas wells on the Ashley National Forest are in the south unit administrative area. Smaller hard-rock mining operations on the Ashley National Forest currently or intermittently produce chemical-grade limestone and decorative calcite, with sporadic small-scale exploration for other valuable minerals, including lead-silver, copper, and gold. Renewable energy is also produced at the Flaming Gorge Dam.

Energy and mineral resources provide the raw materials that support and contribute to all aspects of modern society and technology. Part of the Forest Service's mission is to encourage, facilitate, and administer the orderly exploration, development, and production of mineral and energy resources on National Forest System lands to help meet the present and future needs of the Nation. Existing Federal and local laws, regulations, and legal decisions guide much of how or if particular minerals and energy management actions should take place. The energy and minerals plan components in this document do not need to reiterate overarching Federal and local laws, regulations, and policies, which must already be implemented.

Energy resources are classified either as renewable, such as solar power, hydropower, wind energy, biomass, and geothermal energy, or as nonrenewable, such as crude oil, natural gas, coal, tar sand, and oil shale. The nonrenewable energy resources are managed as leasable minerals. Mineral resources are grouped into three types based on different laws and regulations that apply to each type—leasable minerals, locatable minerals, and salable minerals—described in more detail below.

Leasable minerals are specific mineral commodities, such as crude oil, natural gas, coal, geothermal energy, potassium, sodium (including trona), phosphates, oil shale, and sulfur, as well as solid leasable minerals on acquired lands. Following consent to lease by the Forest Service, the actual leasing of mineral resources on National Forest System lands is managed by the Bureau of Land Management. The Forest Service has discretion to decide what lands can be made available for mineral leasing and what stipulations, such as timing restrictions or no surface occupancy, should be applied to future leases; however, once lands are leased, the development and production of mineral resources from those leases become a nondiscretionary right of the lease holder.

For leasable minerals, the Forest Service would have to complete a leasing analysis before any new mineral leases could be issued on the Ashley National Forest. The leasing analysis process is used to determine what areas of the Ashley should be made available for future mineral leasing and what lease stipulations would be appropriate for those areas. Any future suitability determinations for mineral leases would follow existing laws and regulations and would include a leasing analysis with review and input from tribes, county governments, state governments, and the public. Some areas of the Ashley are already unavailable for mineral leasing because they have been formally withdrawn from future mineral leasing. Such areas include the High Uintas Wilderness, Ashley Karst National Recreation and Geologic Area, various power site withdrawals in large south-slope canyons, and a few smaller areas scattered across the Ashley National Forest.

When the Flaming Gorge National Recreation Area was created, it was deliberately not closed to or withdrawn from future mineral leasing; however, various restrictions were imposed on future mineral leasing to ensure that any future leases or lease developments would be consistent with the purposes for which the recreation area was created. Any mineral leasing in the Flaming Gorge area would first require a formal leasing analysis to determine appropriate areas and stipulations for such leasing.

Locatable minerals are rare and valuable commodities, such as gold, silver, copper, zinc, nickel, lead, and platinum, and some nonmetallic minerals, such as gypsum and gemstones. Under the Mining Law of 1872 and per Forest Service locatable minerals regulations (36 CFR 228), U.S. citizens are guaranteed the right to prospect and explore lands reserved from the public domain and open to mineral entry. On valid Federal mining claims, the development and production of these mineral commodities is a nondiscretionary right of the claim holder.

Locatable minerals on the Ashley National Forest are currently available for mining claims, exploration, and extraction on public domain lands that have not been formally withdrawn from mineral entry. Areas currently withdrawn from mineral entry, and therefore unavailable for exploration or extraction of locatable minerals, are the High Uintas Wilderness, Flaming Gorge National Recreation Area, Ashley Karst National Recreation and Geologic Area, Stillwater Reservoir, Stillwater Diversion Tunnel, various power site withdrawals in large south slope canyons, and a few smaller areas scattered across the Ashley National Forest.

Salable minerals are sometimes known as common variety minerals or mineral materials, such as sand, common stone, gravel, clay, and landscaping boulders. The Forest Service has the authority to dispose of salable minerals on National Forest System lands through a variety of methods, including both sales and free-use permits. The development and production of these materials is discretionary for the Forest Service, on a case-by-case basis.

Management and development of locatable, leasable, and salable minerals and energy on the Ashley National Forest is primarily responsive to industry proposals and mineral rights. All mineral and energy management activities on National Forest System lands are required to meet applicable environmental protection measures required by law, regulation, and policy. Proposed mineral and energy activities are subject to review and approval as well as to environmental analysis, review, reclamation, and monitoring. Management of each type of resource requires consideration of applicable laws and regulations, jurisdiction of other Federal, state, or local agencies, and recognition of valid existing mining claims, mineral leases, and private mineral rights. Ownership of valid Federal mining claims and mineral leases grants legal property rights for exploration, development, and removal of the respective mineral resources.

Lost or buried treasures are not locatable or leasable minerals and are not managed or regulated by the Forest Service as energy or mineral resources. Seeking or recovering lost or buried treasures on National Forest System lands requires a special-use permit and is considered a recreational activity. Forest Service approval of such activities is discretionary on a case-by-case basis and must take into account several Federal laws, including the Archaeological Resources Protection Act. Treasure hunting conducted under the guise or pretense of valid mineral prospecting or mining activity is considered trespass, even where valid mining claims exist.

Some minerals-related activities, such as tribes collecting minerals for traditional or ceremonial purposes and recreational rock hounding or gold panning, do not require prior Forest Service approval. Such activities can only involve hand tools and can only allow for removal of trivial quantities of minerals or materials and cannot create nontrivial surface or environmental disturbances or be commercial in nature or purpose. Otherwise, prior Forest Service approvals or authorizations are needed.

Future mineral and energy actions that may take place over the life of the forest plan are proposed and carried out by the energy and minerals industries. Via existing law, regulation, and policy, the task of the Forest Service is to accept, review, evaluate, approve, and administer these development proposals and actions and then to ensure appropriate site reclamation when operations are complete. The timing, amount, and scope of proposed and possible energy and mineral actions is largely determined by industry based on commodity prices, environmental constraints, available technology, and public and industry demand.

Desired Conditions (FW-DC-MINL)

01 Exploration and development of energy and mineral resources continue to contribute jobs, income, and raw materials to the local and national economy.

02 Environmental impacts from energy and mineral exploration and development activities are effectively avoided, minimized, or mitigated, consistent with valid existing rights, to protect ecosystem integrity.

03 Areas with renewable energy generation from hydropower, solar, and wind energy potential are available for consideration for energy development where such development is not already or otherwise precluded.

04 Locatable minerals are available for exploration, development, and production on the Ashley National Forest where not withdrawn from mineral entry.

05 Leasable minerals are available for leasing, exploration, development, and production on the Ashley National Forest where not withdrawn from mineral leasing.

06 Salable materials are available based on public interest, in-service needs, material availability, and valid existing rights where consistent with desired conditions for other resources.

07 Lands developed for mineral or energy resources such as locatable, leasable, and salable materials and renewable energy resources are reclaimed and monitored in an appropriate manner when those lands are no longer needed for exploration, development, or production of mineral or energy resources.

08 Abandoned mineral or energy development sites are identified and returned to or progressing toward environmental conditions comparable to the surrounding area or conditions that existed before development.

09 Opportunities for rock hounding and other types of noncommercial mineral collecting, such as for scientific research or education, are available.

10 The Ashley National Forest is responsive to requests for exploration and development of energy and mineral resources. It encourages responsible mineral and energy exploration, development, and reclamation, in accordance with applicable mining and leasing laws and regulations.

11 Where minerals projects have valid existing rights, the Ashley National Forest works with operators to develop and achieve appropriate voluntary protection measures for sensitive resources.

12 Areas disturbed by mineral developments are reclaimed when no longer needed for approved, proposed, or reasonably foreseeable mineral operations.

Standards (FW-ST-MINL)

01 Include lease stipulations identified by the 1997 Western Uinta Basin Oil and Gas Leasing Record of Decision[11] in new oil and gas leases until or unless a new leasing analysis has been completed

02 Include lease stipulations required by other regulations or decisions, which post-date the 1997 Western Uinta Basin Oil and Gas Leasing Record of Decision, in new oil and gas leases as appropriate, until or unless a new leasing analysis has been completed for any new lease areas under consideration.

Guidelines (FW-GD-MINL)

01 New mineral material disposals or developments for discretionary salable minerals such as sand, stone, gravel, and clay should not be authorized in the following areas to protect the values for which those areas were created, except as needed for appropriate internal Forest Service use:

- Designated areas
- Research natural areas
- Within 500 feet of developed recreation or administrative sites

02 Oil and gas operations should use closed-loop drilling methods to avoid the need for storage or reserve pits.

03 Mineral and energy exploration, development, or production activities on National Forest System lands—where feasible and subject to existing rights—should avoid, minimize, or mitigate adverse environmental impacts.

04 New energy or mineral operations should avoid ground-disturbing activities in RMZs. If RMZs cannot be avoided, authorizations should require all practicable measures to maintain, protect, or restore desired conditions for water quality and aquatic and riparian habitat that may be affected by the operations.

05 Authorization of energy or minerals activities and operations should include timing restrictions, as needed, to avoid or minimize disturbance and displacement of wildlife during sensitive times.

06 Mineral and energy exploration, development, or production on National Forest System lands should avoid or minimize adverse effects on the scenic, visual, atmospheric, and audible integrity of cultural resources and areas of tribal importance, as follows:

- When those aspects of integrity are a significant or essential component of the resource
- Where such resources or areas have been clearly identified
- Where feasible and subject to existing rights

Goals (FW-GO-MINL)

01 Be responsive to requests for exploration and development of energy and mineral resources. This encourages responsible mineral and energy exploration, development, and reclamation, in accordance with applicable mining and leasing laws and regulations.

[11] USDA (1997).

02 Where minerals projects have valid existing rights, work with operators to develop and implement appropriate voluntary protection measures for sensitive resources.

03 Reclaim areas disturbed by mineral developments when no longer needed for approved, proposed, or reasonably foreseeable mineral operations.

Geologic Resources and Hazards

The Ashley National Forest has a variety of geologic resources and hazards. Geologic hazards on the Ashley National Forest include landslides, rockfall, flooding, debris flows, earthquakes, and sinkholes. Geologic resources on the Ashley National Forest include many types and ages of fossils, natural caves and karst (cave-related) resources, and areas with scenic or scientifically important rock layers or features. Significant fossils, natural caves, and related resources are protected by Federal laws and regulations. Fossil and cave resources are both fragile and nonrenewable, and special considerations are required to provide for resource protection, recreation, and scientific opportunities. Locations and details of significant fossil sites and natural caves are considered sensitive information and should be protected from inappropriate public disclosure.

Desired Conditions (FW-DC-GEOL)

01 Geologic hazards—landslides, floods, sinkholes—and associated risks to public safety and infrastructure are recognized. Where feasible, adverse impacts from these hazards are avoided, minimized, or mitigated.

02 Geologic resources are intact and available to provide appropriate ecological, scientific, educational, interpretative, scenic, recreational, and paleontological benefits to the public and academia.

03 Cave and karst resources are available for scientific and recreational uses where such uses do not adversely affect sensitive resources such as cultural, biological, geological, hydrological, paleontological, or scenic resources or naturally occurring air or water flows.

04 Cave and karst groundwater systems, ecosystems, and microclimates are recognized, intact, and functioning.

05 Caves and other underground areas provide undisturbed habitat for native bat species during the critical periods of maternity and hibernation. Caves and other underground habitats also provide undisturbed habitat for other cave-dependent terrestrial or aquatic species. The threats of white-nose syndrome to bats are low.

06 Natural caves on National Forest System lands containing or exhibiting sensitive or significant resources, per the Federal Cave Resources Protection Act, are identified, nominated, and designated as significant caves.

07 The Forest considers the function and biological significance of the entire karst landscape and underground drainage systems when integrating and coordinating cave and karst management with the management of other national forest resources and activities.

08 Known caves on the Ashley National Forest are nominated and evaluated to determine whether they should be designated as significant Federal caves. Caves not yet nominated or designated are managed as though they are significant until an evaluation and determination of significance has been made.

Guidelines (FW-GD-GEOL)

01 Ground-disturbing activities should not be authorized in areas susceptible to landslides or other geologic hazards unless those hazards have been considered and minimized or mitigated.

02 Information and locations for significant cave and fossil sites should not be publicly disclosed or promoted, advertised as available for public use, or shown on maps, signs, or brochures unless measures are developed to manage recreational use and adequately protect the associated cave or fossil resources.

03 Ground-disturbing activities should not be allowed in or next to significant caves or sensitive karst areas unless measures are in place to avoid or mitigate adverse impacts and to maintain conditions of the cave resources. Such resources include natural air and water flow, water quality, cave-loving or cave-dependent biota and their underground habitats and access, and known or suspected scenic, mineral, recreational, paleontological, or scientific resources.

04 If needed, cave gates should not restrict appropriate wildlife access, such as for bats, rodents, and invertebrates, or restrict naturally occurring air and water exchange. Cave gates should allow for periodic human access as may be needed for appropriate management, scientific research, or permitted recreation.

05 Logging slash, construction debris, waste products, road gravel, and similar material should not be deposited into or next to cave entrances or active sinkholes unless measures are in place to protect and avoid or mitigate adverse impacts to cave and karst resources.

06 Toxic chemicals, such as pesticides, herbicides, and piscicides such as rotenone, should not be used or applied in or next to significant caves, active sinkholes, or sinking streams unless measures are in place to protect and avoid or mitigate adverse impacts to the cave and karst resources.

Goals (FW-GO-GEOL)

01 Foster cooperation and the exchange of appropriate information between government authorities and those who research, manage, or use fossils and caves on Federal lands for scientific research, educational purposes, rescues, or recreation.

02 Manage cave locations, names, and resources on National Forest System lands as confidential information, in accordance with Forest Service cave management regulations. Make such information available only on a need-to-know basis to qualified researchers, appropriate Forest Service or other agency staff, or members of the public.

03 Consider the function and biological significance of the entire karst landscape and underground drainage systems when integrating and coordinating cave and karst management with the management of other national forest resources and activities.

04 Nominate and evaluate known caves on the Ashley National Forest to determine whether they should be designated as significant federal caves. Manage caves not yet nominated or designated as though they are significant until an evaluation and determination of significance has been made.

Transportation Infrastructure—Roads

The Forest Service manages a 1,450-mile open public road system on the Ashley National Forest, including 50 road bridges. These roads support land management activities, recreationists, access to private land inholdings and commercial ventures, and Forest Service administrative needs. Roads include

the roadway and any constructed features such as bridges, ditches, culverts, signs, and retaining walls that support the users and minimize the effects on other resource values. The road system consists of National Forest System roads and is part of the National Forest Road System atlas.

For the authorized Forest Service Road System routes that are open to public use, there are defined distances for off-route motorized travel to dispersed camping areas. These routes and notices of seasonal closures are displayed on appropriate media, which include maps, gates, signs or markers, and other accessible sources of information for the public.

Desired Conditions (FW-DC-ROAD)

01 A transportation system provides safe and efficient public and administrative access to the Ashley National Forest for recreation, special uses, and forest resource and fire management. The transportation system is connected to state, county, local, public, tribal, and other Federal roads and trails. The transportation system provides reasonable access to facilities, private inholdings, and infrastructure, such as buildings, recreation facilities, water systems, dams, reservoirs, range improvements, electronic and communication sites, and utility lines.

02 The transportation system and its use have minimal adverse impacts on resources, including threatened and endangered species, species of conservation concern, heritage and cultural sites, watersheds, water quality, and aquatic species. Newly constructed or reconstructed roads do not encroach on streams and riparian areas in ways that affect channel function, geometry, or sediment delivery. Administratively closed roads pose minimal risks to water quality and aquatic ecosystems. Stream crossings provide for passage of aquatic organisms except where barriers are desired to prevent passage.

03 The Forest Service roads are part of a coordinated multi-jurisdictional transportation system. The National Forest Road System conforms to the Ashley National Forest travel plan while connecting with the transportation systems of other Federal, state, and local jurisdictions.

04 The transportation system accommodates current and reasonably foreseeable demands.

05 The transportation system includes only those roads that are needed to serve administrative, multiple use, and public needs.

06 Roads and bridges preserve access in a cost-effective manner while protecting the public health and safety of travelers and the natural, cultural, and scenic values in the roadway corridor.

07 Unauthorized roads are not present.

08 Road transportation infrastructure maps are available to the public and are updated when necessary and feasible.

Standards (FW-ST-ROAD)

01 Construct temporary roads only when needed for specific projects and decommission them on project completion.

02 Consider impacts on streams when constructing, reconstructing, or maintaining roads. Where practical, carry out mitigation that reduces sediment delivery to streams.

Guidelines (FW-GD-ROAD)

01 Road maintenance activities should protect the existing road prism and maintain drainage features to prevent resource damage while minimizing safety issues in accommodating public traffic.

01 Wetlands and unstable areas should be avoided when reconstructing roads or constructing new roads and landings. Impacts should be mitigated where necessary when avoidance is not practical.

02 In fish-bearing streams, construction, reconstruction, or replacement of stream crossings should provide and maintain passage for all life stages of native aquatic organisms unless barriers are created or maintained to prevent the spread or invasion of nonnative species.

Goals (FW-GO-ROAD)

01 The road system is part of a broader public road system that is under the jurisdiction of multiple road agencies. Cooperate routinely with road agencies to reduce conflicts, ensure cost-effective partnering, and provide a seamless transportation system to the public.

02 Share road maintenance with users on a commensurate basis. Residential subdivisions, commercial enterprises, and utility companies using a National Forest System road are expected to provide their fair share of road maintenance, based on volume, type of traffic, and timing of use.

Transportation Infrastructure—Trails

The Forest Service manages a 1,263-mile system of summer- and winter-use trails on the Ashley National Forest, including 38 trail bridges. These trails are managed for a variety of recreational uses, including hiking, horseback riding, bicycling, running, skiing, snowshoeing, motorcycle riding, all-terrain vehicle riding, off-highway vehicle riding, and snowmobiling. In addition to recreation, the trail system supports commercial ventures such as outfitter and guide services. Trails include the trail itself and any structures, such as bridges, ditches, culverts, signs, and retaining walls, that support users and minimize effects on other resource values.

The authorized Forest Service Trail System motorized routes that are open to public use have defined distances for off route motorized travel to dispersed camping areas. These routes and notices of seasonal closures are displayed on the appropriate media, which include maps, gates, signs or markers, and other accessible and informative guidance for the public.

Desired Conditions (FW-DC-TRAIL)

01 A trail system provides safe and efficient public and administrative access to the Ashley National Forest for recreation, special uses, and forest resource and fire management. The trail system is connected to access points on Forest Service System roads and to roads and trails on lands of other ownership. The trail system provides reasonable access to Ashley National Forest lands.

02 The trail system and its use have minimal adverse impacts on resources, including threatened and endangered species, species of conservation concern, heritage and cultural sites, watersheds, water quality, and aquatic species. Newly constructed or reconstructed trails do not encroach on streams and riparian areas in ways that affect channel function, geometry, or sediment delivery. Stream crossings provide for passage of aquatic organisms except where barriers are desired to prevent passage.

03 The Forest Service trails are part of a coordinated multi-jurisdictional transportation system. The national forest trail system conforms to the Ashley National Forest travel management plan while connecting with the transportation systems of other Federal, state, and local jurisdictions.

04 The trail system accommodates current and reasonably foreseeable demands.

05 The trail system includes trails that are needed to serve administrative, multiple use, and public needs. Temporary trails are constructed only when needed for specific projects and are decommissioned on project completion.

06 Unauthorized trails are not present.

07 Year-round nonmotorized experiences are available in remote settings. Nonmotorized areas are large enough and configured to minimize disturbances from other uses. Nonmotorized use is also available in more developed areas but provides less solitude than in the more remote settings.

08 Nonmotorized single-track trails are available for mountain biking, horseback riding, and hiking.

09 Trail transportation infrastructure maps are available to the public and are updated when necessary and feasible.

Objectives (FW-OB-TRAIL)

01 To annually maintain 40 percent of the class 2, 3, and 4 National Forest System trails, emphasizing areas of higher use.

02 To annually maintain 90 percent of class 5 National Forest System trails.

Guidelines (FW-GD-TRAIL)

01 Trail maintenance activities should protect the existing trail prism and maintain drainage features to prevent resource damage while minimizing safety issues in accommodating public traffic.

02 Wetlands and unstable areas should be avoided when reconstructing trails or constructing new trails. Impacts should be mitigated where necessary when avoidance is not practical.

03 In perennial streams, construction, reconstruction, or replacement of stream crossings should provide and maintain passage for all life stages of native aquatic organisms unless barriers are created or maintained to prevent the spread or invasion of nonnative species, in alignment with native species conservation.

Goal (FW-GO-TRAIL)

01 Develop and carry out strategies to significantly increase the roles of communities, partners, and volunteers in planning, developing, and maintaining motorized and nonmotorized trails.

02 Coordinate with the Ute Indian Tribe to restrict off-highway vehicles crossing the Forest boundary onto tribal lands.

Facilities

The Ashley National Forest manages a variety of buildings and other infrastructure, including administrative facilities and public recreation facilities, associated water and wastewater treatment

systems, dams, and communication towers. These improvements are for a variety of purposes and enable the Forest Service to fulfill its mission.

This infrastructure should be managed and maintained to meet the needs of the intended purposes and users and provide long-term sustainability of the resources. Administrative infrastructure should function to provide employees with a safe and mission-oriented working environment. Recreational infrastructure should align with the recreational uses designated for that area. In all cases, the infrastructure should be maintained to a standard that protects the users and the integrity of the asset.

The Ashley National Forest has facilities that are being used for purposes not originally intended. Some facilities and areas have been converted from one use type to another, and even multiple use types, to meet the current needs of the Forest Service. The maintenance requirements of the facilities and infrastructure are increasing, with much of the annual and cyclic preventative maintenance being deferred. The accumulation of deferred maintenance leads to deterioration of performance, increased repair costs, and a decrease in asset values.

As the workforce and mission services continue to evolve, the existing infrastructure may become obsolete based on the originally designed purposes and will require the Forest Service to look at adaptive reuses, multiple uses, and other ways to address the accumulating deferred maintenance. The facilities master plan, sustainable recreation plan, recreation site analysis, and other long-term planning documents will dictate how infrastructure will be maintained, modified, or removed from service.

Desired Conditions (FW-DC-FAC)

01 Historic characteristics are retained when structures eligible for or listed in the National Register of Historic Places are converted for adaptive reuse.

02 All facilities are safe and well maintained, function as intended, or are adapted to accommodate current and anticipated demands. The facilities provide an environment free from recognized hazards for people while avoiding or minimizing negative impacts on natural, cultural, and social resources.

03 All facilities that do not serve a need or intent of the Ashley National Forest are conveyed to other owners or disposed of, as appropriate. Structures that are eligible for listing in the National Register of Historic Places serve other uses when possible.

04 All developed potable water systems serve needs. Sites where developed potable water systems have been decommissioned are in their natural state.

05 Existing facilities comply with applicable accessibility guidelines and current building or occupancy standards.

06 Where appropriate, existing highly developed campgrounds accommodate modern, large recreational vehicles and integrate off-highway vehicle use into the design and circulation.

Goal (FW-GO-FAC)

01 Pursue partnerships to assist in completing necessary facility improvements.

Sustainable Recreation Settings and Opportunities

The Ashley National Forest manages recreation settings and opportunities for a variety of developed and dispersed recreation activities. Campgrounds, trails, marinas, water systems, parking lots, and restrooms contribute to the settings and opportunities across the Ashley National Forest.

The Flaming Gorge National Recreation Area is a popular attraction. It offers boating and fishing on the Flaming Gorge Reservoir and on the Green River, which is a blue-ribbon trout fishery. The High Uintas Wilderness is popular for backpacking and horse packing to explore the many lake basins and alpine areas. The Highline Trail spans the wilderness from west to east along the crest of the Uinta Mountains and passes by Kings Peak, the highest point in Utah. The areas of the Ashley National Forest outside of the High Uintas Wilderness and Flaming Gorge National Recreation Area offer opportunities for many diverse recreation opportunities, such as off-highway vehicle use, dispersed and developed camping, backpacking, hiking, and scenery and wildlife viewing.

Recreation Opportunity Spectrum

The recreation opportunity spectrum is a classification tool used by the Forest Service to provide visitors with varying challenges and outdoor experiences. It classifies National Forest System lands into six management classes: urban, rural, roaded natural, semiprimitive motorized, semiprimitive nonmotorized, and primitive (Forest Service 1982). The categories are defined by settings and the probable recreation experiences and activities they afford.

Table 14 identifies the acres and percentages of the identified recreation opportunity spectrum classifications on the Ashley National Forest. The Forest does not contain any lands in the urban recreation opportunity spectrum classification. See Figure 1-3 for a map of recreation opportunity spectrum settings in summer.

Table 14. Recreation opportunity spectrum class categories on the Ashley National Forest

Spectrum class	Summer (acres)	Summer Percent of Forest	Winter (acres)	Winter Percent of Forest
Primitive	276,400	20	N/A	N/A
Semiprimitive nonmotorized	362,300	26	N/A	N/A
Semiprimitive motorized	289,000	21	N/A	N/A
Roaded natural	438,200	32	N/A	N/A
Rural	10,600	1	N/A	N/A

Source: Forest Service 2018

N/A = not applicable; winter classifications have not been completed.

Sustainable recreation is the set of recreation settings and opportunities on national forests that is ecologically, economically, and socially sustainable for present and future generations. The recreation opportunity spectrum for summer and winter is used in each phase of planning to assess, integrate, convey, and monitor the plan area's social, managerial, and physical settings, including seasonal variations and associated benefits. The summer recreation opportunity spectrum includes recreation settings in the fall and spring that do not involve snow- or ice-based recreation.

Desired Conditions (FW-DC-ROS)

01 Forestwide recreation opportunity spectrum settings are distributed as described in Table 14. Specific locations and distributions of desired recreation opportunity spectrum settings are mapped

in Figure 1-3. The Ashley National Forest uses the recreation opportunity spectrum to manage opportunities and settings on recreation management areas for a wide range of recreational uses.

02 Outdoor recreation settings, opportunities, and experiences are provided year-round on the Ashley National Forest and reflect healthy resilient landscapes, provide a diverse sense of place for community residents and visitors, and enhance high-quality sustainable recreation opportunities.

03 A variety of developed and dispersed recreation and tourism opportunities, such as camping, picnicking, hiking, mountain biking, hunting, fishing, wildlife viewing, horseback riding, pleasure driving, and motorized recreation, are available for a diverse group of users. Recreation opportunities are based on settings and other resource values.

04 Recreation opportunities enhance the economic, cultural, and social vitality and well-being of surrounding communities.

05 Primitive summer recreation settings encompass large, wild, remote, and predominantly unmodified landscapes. These settings often coincide with designated wilderness. Primitive summer settings contain no motorized recreation. The settings provide quiet solitude away from roads and people, are generally free of human development, and facilitate self-reliance and discovery. The presence of signs and other infrastructure is minimal, and they are constructed of rustic native materials.

06 Primitive winter recreation settings are large, remote, wild, and predominantly unmodified landscapes. Winter primitive recreation opportunity spectrum settings provide quiet solitude away from roads and people. There is no motorized activity and little probability of seeing other people. Constructed trails that are evident in summer are covered by snow in winter, making these settings appear even more natural and untouched by human management.

07 Semiprimitive nonmotorized summer settings provide opportunities for exploration, challenge, and self-reliance. Rustic structures such as signs and footbridges are occasionally present to direct use and protect the setting's natural and cultural resources. These rustic features are built from native materials or materials that mimic native materials. These settings are free of motorized recreation travel, but mechanized travel may be present.

08 Semiprimitive nonmotorized winter settings provide backcountry skiing, snowboarding, and snowshoeing opportunities. Trails are ungroomed and often unmarked.

09 Semiprimitive motorized summer settings provide motorized recreation opportunities in backcountry settings. Routes are designed for off-highway and high-clearance vehicles and access key destinations and vantage points, provide short day trips on scenic loops, or facilitate longer and even overnight expeditions. Visitors challenge themselves as they explore vast, rugged landscapes. Mountain bikes and other mechanized equipment may also be present. Facilities are rustic and are used to preserve the setting's natural and cultural resources. Bridges are sometimes present to accommodate foot, horse, and all-terrain vehicle traffic but are built from native or natural-appearing materials that blend with the surrounding landscape and maintain the semiprimitive character of the setting.

10 Semiprimitive motorized winter settings provide backcountry skiing and snowmobiling opportunities. Routes are typically ungroomed but are often signed and marked. There are vast areas to travel cross-country, offering visitors an opportunity for exploration and challenge. Occasionally, historic cabins or yurts are available for short breaks or overnight use.

11 Roaded natural summer settings are natural appearing, with nodes and corridors of development that support higher concentrations of use, user comfort, and social interaction. The road system is well defined and can typically accommodate passenger car travel. Sanitation, interpretive signing, and other amenities are strategically placed to serve as destination points or portals to adjacent backcountry settings. Signing, facilities, bridges, and other infrastructure are constructed of native materials or natural-appearing materials that blend with and complement the surrounding natural setting.

12 Roaded natural winter settings support higher concentrations of use, user comfort, and social interaction than semiprimitive motorized and nonmotorized and primitive recreation opportunity spectrum classifications. The road system is plowed and accommodates passenger car travel. Winter trails are groomed and may have ancillary facilities such as restrooms. System roads and trails often provide staging to adjacent backcountry settings (primitive, semiprimitive nonmotorized, and semiprimitive motorized).

13 Rural settings often serve as a recreation destination and sometimes provide access to adjacent roaded natural and semiprimitive settings and opportunities. These areas are accessed from roads that are generally close to communities. Developed recreation facilities are designed for various group sizes and provide opportunities to socialize in both day-use and overnight sites.

14 Rural winter settings provide staging to adjacent winter settings and opportunities. These areas are accessed from roads that are generally close to communities. Sanitation facilities are commonly present and are well located for public demand, information, and education. Parking areas are appropriately sized and maintained for designated season of use. Entry points and routes are signed and lead snowmobilers to adjacent roaded natural and semiprimitive motorized settings. Nonmotorized trails may be groomed for cross-country skiing.

Guideline (FW-GD-ROS)

01 New and reconstructed recreation facilities should be appropriate for the assigned recreation opportunity spectrum class in terms of materials; development scale; on-site information, control, and direction signage; and density of sites. New facilities should also be consistent with the architectural character principles of the Forest Service Built Environment Image Guide (USDA 2001).

Goal (FW-GO-ROS)

01 Involve local communities in partnerships and foster long-term relationships with interested parties to facilitate and allow participation in sustainable recreation on the Ashley National Forest.

Developed Recreation Sites

Developed recreation sites include developed campgrounds, picnic areas, interpretive sites, cabin and lookout rentals, trailheads, and visitor centers.

Desired Conditions (FW-DC-RECDEV)

01 Quality, well-maintained recreation facilities at key locations accommodate use, enhance the visitor's experience, protect the natural resources of the area, and contribute to state and county outdoor recreation plans.

02 Recreation rental cabins and yurts provide a range of settings and opportunities. Historic rental facilities maintain their historic character and offer visitors a window to the past.

03 Developed recreation site locations and seasons of use are adapted in response to climate change effects, including increases in predicted temperatures and extreme weather events. The changes may affect the timing, quantity, and duration of water flows; snow levels and snow elevation; terrestrial and aquatic wildlife habitat; vegetation conditions; and shifts and other changes in seasonal recreation use.

04 Developed campgrounds accommodate both tent and recreational vehicle camping, have structures or vegetation that provide adequate shade for picnic tables, and are maintained and improved to meet user demands.

05 Developed recreation facilities provide amenities for mobility-impaired visitors where possible.

Objective (FW-OB-RECDEV)

01 In accordance with the Architectural Barriers Act (ABA), to provide accessibility on five developed recreation facilities every 5 years if improvements are needed.

Guideline (FW-GD-RECDEV)

01 Vegetation management activities in developed recreation sites should mitigate hazard trees to promote recreational values and to protect public safety and scenic value.

Goal (FW-GO-RECDEV)

01 Use partners, concessionaires, and volunteers to expand the Ashley National Forest's capacity to manage recreation facilities and programs and to help meet future recreation demands.

Dispersed Recreation

Dispersed recreation activities generally occur outside of facilities provided by the Ashley National Forest, expressing a sense of freedom and unconfined recreation. The main dispersed recreation activities on the Ashley National Forest are boating, hiking, biking, hunting, driving for pleasure, fishing, using off-highway vehicles, and camping outside of developed campgrounds. Some dispersed recreation locations and activities are popular destinations for travelers from other states. These locations include boating on the Flaming Gorge Reservoir, fly fishing on the Green River below the Flaming Gorge Dam, and backpacking in the High Uintas Wilderness. Other locations are visited predominantly by residents from the surrounding local areas or states.

Desired Conditions (FW-DC-RECDIS)

01 Dispersed recreation opportunities are available across the Ashley National Forest for a variety of users, where they are compatible with environmental resources and opportunities are managed so that user conflicts do not occur.

02 Dispersed recreation is compatible with ecological values, other multiple uses, and recreation settings.

Recreation Special Uses

The Ashley National Forest provides opportunities for a variety of recreation special uses. These include outfitter and guiding services, resorts and lodging, recreation events, marinas, recreation residences, and camps used by organizations. Recreation facilities are owned and opportunities are provided by private individuals, businesses, institutions, and other organizations that are permitted to operate and be located on the Ashley National Forest.

Desired Conditions (FW-DC-RECSU)

01 Recreation special uses provide unique opportunities, services, and experiences for the public on National Forest System lands or address a demonstrated demand for a specific recreation opportunity.

02 Services provided by recreation special uses enhance the recreation experiences of national forest visitors, enhance public health and safety, protect natural resources, and protect historic resources.

03 The vegetation in recreation special use areas is healthy and resilient and does not create health or safety hazards for visitors.

04 Recreation special uses contribute to economic sustainability and are compatible with ecological and social capacity thresholds.

Guideline (FW-GD-RECSU)

01 Modifications to historic structures authorized under special use authorizations should not result in adverse effects on historic properties.

Outfitters and Guides

Thousands of visitors use outfitter and guide services that operate on the Ashley National Forest. Guided fly-fishing trips on the Green River are the most popular outfitted and guided activity. Environmental education, backpacking, fishing, hunting, and horseback trail riding are among the other outfitted and guided activities. Many river-based outfitters and guides and other recreation-based companies depend on the Ashley National Forest for their livelihood.

Desired Conditions (FW-DC-RECOG)

01 Outfitters and guides offer services that the Forest Service and public need, and they increase the diversity of recreation opportunities.

02 Outfitter and guide recreation special uses provide services to the extent necessary for realizing the recreation opportunities of the Ashley National Forest.

03 Outfitter and guide services are appropriate for the recreation opportunity spectrum class of the area in which they operate.

04 Outfitter and guide activities do not degrade the experiences of other recreation visitors.

Goal (FW-GO-RECOG)

01 Work with outfitters and guides, partners, and other permittees to deliver interpretation and education messages that instill an appreciation of the natural and cultural resources of the national forest and promote conservation and stewardship.

Recreation Residences

Recreation residences are privately owned cabins on National Forest System land that are authorized by special-use permits. Permit holders pay an annual fee for their use. On the Ashley National Forest, there are an average of 55 recreation residences, which are administered to ensure compliance with direction in the special-use permit sections of the Forest Service Manual and Handbook. Permits are terminated only in rare circumstances and in accordance with the conditions and protocols specified in the permit, the Forest Service Manual and Handbook, and regulations and laws.

Desired Condition (FW-DC-RECRES)

01 Recreation residences continue to provide rustic, vacation-style facilities that are visually appropriate to their natural-appearing forest settings. The residences allow cabin owners, their families, and their guests the ability to enjoy the Ashley National Forest and its recreation opportunities.

Standards (FW-ST-RECRES)

01 Do not make available or assign new recreation residence lots, but the owner of an existing cabin may apply to use an unoccupied lot in their tract, pursuant to national policy and the permit itself.

02 Do not exceed the square footage limitations for new or reconstructed recreation residences outlined in the Recreation Residence Management Administrative Guidelines. Allow these residences only on approval of the authorizing officer.

Emerging Recreation Technologies

New recreational products are likely to emerge over the lifetime of the forest plan. Some of these products will likely be prohibited under existing regulations, while others may require additional regulations or direction when they appear.

Desired Condition (FW-DC-RECTEC)

01 New recreation technologies contribute to visitor enjoyment and experiences, are consistent with recreation settings, still allow for the enjoyment of other existing recreation opportunities, and minimally affect wildlife and other natural resources.

Guidelines (FW-GD-RECTEC)

01 New and emerging recreation technologies and equipment should not create adverse effects on existing recreation uses and activities.

02 New and emerging recreation technologies and equipment should not be allowed or should be limited to appropriate sites if safety issues and environmental effects cannot be addressed through mitigation measures.

Recreation Events

The Ashley National Forest has a number of recreation special-use permittees, including permittees hosting recreation events that help provide opportunities for visitors. These permits are issued for activities such as summer trail races, fishing derbies, horseback trail ride benefits, and off-highway vehicle jamborees.

Desired Condition (FW-DC-RECEV)

01 Recreation events are consistent with recreation settings, protect natural resources and cultural resources, and contribute to the economic sustainability of local communities. They provide opportunities to participate in competitions or highlight special occasions.

Guideline (FW-GD-RECEV)

01 Permitted recreation events should not displace or conflict with 90 percent of other users, activities, events, or access during the time period when they occur.

Noncommercial Group Use

The Forest Service issues group use permits for organized, noncommercial activities where those activities will not unreasonably conflict with other uses, will not adversely affect forest resources, and will not create unsafe conditions. Such activities may include weddings, family reunions, and special interest events or club outings.

Desired Condition (FW-DC-RECGP)

01 The Ashley National Forest provides opportunities for noncommercial, organized group activities. Noncommercial, organized group activities provide for public health and safety and do not conflict with other uses. Areas used for these activities continue to maintain or progress toward desired conditions for soils, watersheds, aquatics, riparian management zones, wildlife, and terrestrial vegetation.

Guideline (FW-GD-RECGP)

01 The Forest Service should approve new permits for noncommercial group use of more than 75 people that are requested for dispersed areas only if developed recreation sites designed to accommodate that level of use are not available or feasible.

Visitor Education and Interpretation

The Ashley National Forest offers opportunities for connecting people to their environment and to the natural and cultural history of the area. These connections provide opportunities for the development of strong stewardship ethics in the form of personally delivered talks and programs, brochures and booklets, and interpretive wayside exhibits using digital and other formats. These connections contribute to visitor appreciation for the natural and cultural history across these landscapes. There are opportunities for other organizations and partners to join the Forest Service in achieving mutual goals for education and interpretation.

Desired Conditions (FW-DC-VISEDU)

01 Interpretation and education programs help enhance visitors' understanding and appreciation for the rich natural and cultural resources of the Ashley National Forest and surrounding area and build support for public lands.

02 Visitor information is readily available for pre-visit information gathering in a variety of forums. The information is up to date so the public may be informed and educated through modern technology about current Forest Service-related policies, activities, services, and issues.

03 Education efforts are provided in a variety of media about national forest stewardship and responsible use to educate visitors and achieve visitor compliance with regulations.

04 Red Canyon Visitor Center serves as a hub for visitors, which enhances interpretation and education regarding the surrounding geologic and cultural areas.

05 The Swett Ranch Historic Site and the historic Ute Mountain Fire Lookout Tower provide opportunities for visitors to learn about the past and to gain a greater appreciation of the history of the Ashley National Forest.

06 Conservation education, visitor information, and interpretation inform and engage visitors and local communities. These resources are readily available and encourage increased national forest stewardship, ecological awareness, visitor orientation, and knowledge of recreation opportunities.

07 Forest Service projects and management actions, as well as the importance of ecosystem services, are communicated to the public in an understandable fashion to increase public awareness of Forest management and ecosystems. Innovative approaches are used to overcome cultural, economic, or historical barriers to participation in outreach and planning efforts.

Objectives (FW-OB-VISEDU)

01 To annually conduct 30 interpretation and conservation education opportunities for the public.

02 To develop or update one recreation guide or interpretive material every 3 years.

03 To identify areas where recreational uses such as motorized vehicles and nonmotorized recreation and livestock grazing overlap or where other uses overlap; to develop and provide information on the multiple-use mission of the Ashley National Forest at one trailhead or other developed recreation site every 3 years.

Goals (FW-GO-VISEDU)

01 Seek partners and volunteers to assist in the delivery of public information, natural and historic interpretation, conservation education, and stewardship services.

02 Collaborate with universities and local schools on research projects when feasible.

03 Work with Wyoming and Utah wildlife agencies to educate water-based recreationists on ways to mitigate the threat of aquatic invasive species.

Scenic Resources

Scenery is a resource that Ashley National Forest visitors value and enjoy. It also provides an integral and important sense-of-place backdrop, setting, and character-defining element for adjacent communities, residential areas, and travelways. The scenic resource experience also represents a key ecosystem service. The spectacular scenery of the Ashley National Forest, especially in the Flaming Gorge National Recreation Area and the High Uintas Wilderness, is a national and regional driver for tourism, recreation, the economy, and the growth of communities. Scenic attractiveness as defined in the Forest Service Scenery Management System has three levels: distinctive, typical, and indistinct. Distinctive scenic attractiveness is defined by areas where landforms, vegetation patterns, water characteristics, and cultural features combine to provide unusual and outstanding scenic qualities. Over half of the Ashley National Forest landscape is classified as having a scenic attractiveness of Class A–Distinctive. Refer to Appendix 5. Desired Scenic Character, for additional information.

Scenic character is a combination of the physical, biological, and cultural images that give an area its scenic identity and contribute to its sense of place. Desired scenic character is the appearance of the landscape as having been retained or created over time, recognizing the dynamic nature of landscapes and that scenery changes over time as the landscape mosaic changes. Ashley National Forest ecological landscapes change over time from natural disturbances or management activities. Management activities, such as timber or fuels management activities, may have short-term impacts on desired scenic character but may be used to achieve long-term desired outcomes for scenery expressed through desired scenic character and assigned scenic integrity objectives.

Scenery management on National Forest System lands of the Ashley National Forest is guided by assigned scenic integrity objectives developed according to the Forest Service Scenery Management System process, which specifies four levels ranging from “very high” to “low.” The scenic integrity objectives are used for project planning, analysis, implementation, and monitoring work. Table 15, below,

identifies the assigned acres and percentages of the Ashley National Forest scenic integrity objectives. Figure 1-4 shows scenic integrity objective locations.

Table 15. Acres of each scenic integrity objective for the Ashley National Forest

Scenic Integrity Objective Level	Acres	Percent of Forest
Very High	273,600	20
High	436,100	32
Moderate	425,800	31
Low	240,700	17

The desired scenic character and landscape characteristics for the different subareas on the Ashley National Forest are provided in appendix 5 and are described by ranger district. The Flaming Gorge and Duchesne/Roosevelt Ranger Districts are divided into two subareas.

Desired Conditions (FW-DC-SCENIC)

01 The Ashley National Forest's scenery provides public enjoyment of the Ashley's varied ecological landscapes, which range from the Uinta Mountains to the Green River Basin and the Tavaputs Plateau.

02 The condition of the Ashley National Forest scenery reflects a relative range that balances social and economic values, ecosystem health, and sustainability and diversity; it contributes to the quality of life of local residents and Ashley National Forest visitors. The assigned scenic integrity objectives, as shown in Figure 1-4, are the desired conditions for scenery across the plan area.

03 Scenic deviations visible on the Ashley National Forest are generally subordinate to the surrounding natural landscape and diminish over time to blend with the desired scenic character. Vegetation management projects that benefit long-term ecosystem health and desired scenic character affect the scenic integrity for short periods.

Guidelines (FW-GD-SCENIC)

01 Rehabilitation of temporary roads, burning slash piles, or reseeding and planting associated with vegetation management activities should be accomplished within 5 years after completion of the project to reduce visual deviations from the surrounding landscape and achieve the assigned scenic integrity objectives.

02. Components of new projects other than vegetation management, such as facility installation or road construction, should meet the assigned scenic integrity objectives within two years after completion of all activities associated with the project to reduce visual deviations from the surrounding landscape and achieve desired scenic character.

03 New landscape modifications, such as timber harvesting on lands not suitable for timber production or construction of facilities, should meet or exceed the assigned scenic integrity objectives as seen from anywhere within areas assigned as having a scenic integrity objective of very high or high. The scenic integrity objectives serve as thresholds of allowable visual dominance by landscape modifications over the valued scenic character and the allowable deviation from the desired scenic character.

04 Visual impacts on cultural resources that are eligible for inclusion in the National Register of Historic Places should be avoided, minimized, or mitigated when scenery or visuals is a characteristic that qualifies the resource for the National Register.

Land Status and Ownership

Landownership is the basic pattern of public and private ownership of surface and subsurface estates. It refers to the ownership of land and interest in land. Land status is defined as the ownership record of title to lands, including withdrawals, rights, and privileges affecting or influencing the use and management of National Forest System lands. Landownership status on National Forest System lands can be changed through land adjustments. Through land adjustments, the Forest Service acquires and consolidates key tracts of non-Federal land to conserve valuable natural habitat, reduce the risk of permanent development in sensitive areas, and enhance public recreation opportunities. Land adjustments also provide the Forest Service an opportunity to secure permanent road and trail right-of-way easements that ensure the protection, administration, access, and use of National Forest System lands and resources.

National Forest System lands are generally retained in Federal ownership to provide long-term values. The vision for the Ashley National Forest is to retain in public ownership all lands currently under its administration that meet the long-term needs of maintaining the integrity of contiguous natural ecosystems, riparian areas and wetland ecosystems, recreation and open space, scenery, clean air and water, and habitat for plant and animal populations. Through the methods available to the agency, the Forest Service would acquire lands or mineral rights that enhance this vision. The Forest Service would dispose of lands or mineral rights that do not meet these needs. In all such cases, the primary guiding principle would be the greater public benefit.

Management of National Forest System lands on the Ashley National Forest is important to protect the public's estate interest in its national forest. Surveying national forest boundaries, maintaining posted property lines, and defending public lands from trespass or encroachment are activities that maintain the integrity of the National Forest System. The Ashley National Forest has some instances of inholdings (private lands completely surrounded by National Forest Systems lands) or near inholdings (private lands not completely surrounded by National Forest Systems lands) within the confines of the national forest boundaries. These private properties came about through patented mining claims and the Homestead Act and provide management challenges unique to the area.

Desired Conditions (FW-DC-LAND)

01 The landownership pattern of the plan area provides for simplified and improved national forest management.

02 Encroachment and trespass of National Forest System lands does not occur.

03 Existing road and trail easements are maintained to provide access to National Forest System lands.

04 New road and trail easements are acquired where appropriate to provide access to National Forest System lands.

Guideline (FW-GD-LAND)

01 To provide public and administrative access to National Forest System lands, land adjustments should include reciprocal right-of-way acquisitions when feasible.

Goal (FW-GO-LAND)

01 Work with local, county, and state governments, adjacent land management agencies, and landowners to identify and acquire road and trail easements as necessary.

Lands Special Uses

Special-use authorizations authorize the occupancy and use of National Forest System lands by private individuals, organizations, companies, governmental entities, educational institutions, etc., for a wide variety of uses. Such uses include roads, dams, water systems, utility corridors, communication sites, and other private or commercial uses that cannot be accommodated off National Forest System lands and that conform to management direction for the area.

Requests for occupancy and use of National Forest System lands must be submitted as a proposal, which is a request to use National Forest System lands. The proposal must pass a two-level screening process to determine if the proposed use is consistent with Forest Service policy before it can be accepted as a formal application (36 CFR 251.54 (e)(1)).

For proposals that have passed the screening criteria and have the potential to disturb land and resources, a project design is required and is subject to environmental analysis, review, and monitoring. All authorized uses on public lands are required by law to meet applicable environmental protection measures.

The Central Utah Project[12] (CUP) is a Federal water resources development project that diverts water via a system of reservoirs, tunnels, aqueducts, and other control features. The largest unit of the CUP, the Bonneville Unit, collects and distributes water in both the Uinta Basin of eastern Utah and the Bonneville Basin of central Utah. Other units of the CUP collect and distribute water solely within the Uinta Basin. CUP infrastructure on the Ashley National Forest is operated through special-use permitting. The CUP provides water for irrigation, municipal and industrial uses with secondary benefits for aquatic habitat, open water recreation, and flood control. See the relevant guideline and goal below, the glossary, and management approaches for additional information.

Desired Conditions (FW-DC-LANDSU)

01 Opportunities are available for a wide variety of non-recreation lands special uses. These uses include, but are not limited to, roads, dams, water systems, utilities, energy transmission rights-of-way, and other public or private services on lands that are suitable for these activities and that cannot be accommodated on other lands.

02 Emerging technology, communication sites, energy corridors, and other permitted infrastructure minimally affect environmental and visual resources.

03 Utility corridors and communication sites meet safety standards and permittee needs as well as resource considerations.

04 Utility corridors and communication sites are located primarily in existing facilities or on existing administrative sites. New sites and corridors are established only to achieve social, economic, and

[12] CUP withdrawn lands are reserved lands that establish the paramount authority of the Secretary of the Interior to so deal with such lands in all cases where they are needed for the protection or operation of any reservoir or other works constructed under reclamation law. Reclamation withdrawals within the national forests are dominant. All leases should be subject to the prior approval of the Secretary of the Interior. Lease includes any authorized use or occupancy. See Figure 1-5.

ecological benefits. Local distribution lines and smaller pipelines occur within existing road rights-of-way or other previously disturbed areas, where technically feasible.

05 Special uses contribute to ecological, social, and economic desired conditions consistent with law, regulation, and policy.

Guidelines (FW-GD-LANDSU)

01 Vegetation treatment in corridors and along linear transmission facilities should meet facility safety requirements, provide for control of invasive species, and provide for revegetation to reduce visual impacts.

02 Utilities should be buried instead of overhead to avoid potential conflicts with resources such as scenic integrity, wildlife, or wildfire.

03 If lands previously withdrawn for Bureau of Reclamation purposes are revoked back to the Forest Service, management of these National Forest System lands should continue in accordance with applicable forestwide and area management direction.

Goals (FW-GO-LANDSU)

01 Encourage the formation of user associations in lieu of individual special-use permits and rights-of-way in common-use facilities, uses, or areas. Incorporate multiple permits to the same organization into one permit if this facilitates permit administration.

02 Work with tribal and county road authorities to provide access to National Forest System lands that serve the public.

03 Coordinate with the Department of the Interior's Central Utah Project Completion Act Office and Bureau of Reclamation regarding lands withdrawn for Reclamation purposes within or adjacent to National Forest System lands (see management approach 12 under Working and Coordinating with Tribes, Partners, and Cooperators and Figure 1-5).

Chapter 3. Area Direction

Introduction

The Ashley National Forest has areas that contain special, exceptional, or unique values that provide important ecosystem services. Many of these areas meet the criteria for special places that people associate with the Ashley National Forest. Such an area is identified as a designated area or a management area for a specific purpose (see Figure 1-6). The plan components for these two types of areas are specific, providing management direction for those specific values. The designation protects the special values of the area and the ecosystem services those values provide. Lands with dual (overlapping) or multiple designated and management area allocations are managed in accordance with all area plan direction and must comply with the most restrictive plan direction. For example, inventoried roadless areas may also be designated as a recreation management area; the area direction for both inventoried roadless areas and recreation management areas would be applied during project planning.

Suitability

Specific lands within the Forest are identified as suitable for various multiple uses or activities based on the desired conditions applicable to those lands. The plan also identifies lands within the Forest as not suitable for uses that are not compatible with desired conditions for those lands. The suitability of lands need not be identified for every use or activity (36 CFR § 219.7 (e)(1)(v)).

Identifying suitability of lands for a use in the plan indicates that the use may be appropriate but does not make a specific commitment to authorize that use. If certain lands are identified as not suitable for a use, then that use or activity may not be authorized without a site-specific amendment to the forest plan. Prohibiting an existing or authorizing a new use requires subsequent site-specific National Environmental Policy Act (NEPA) analysis. Generally, the lands on the Forest are suitable for uses and management activities appropriate for national forests, such as outdoor recreation, livestock grazing, and timber harvest and/or timber production, unless identified as not suitable.

Designated Areas

A designated area is defined as an area or feature congressionally or administratively identified and managed to maintain its unique special character or purpose. Examples of congressionally designated areas include but are not limited to designated wilderness areas, wild and scenic rivers, and national scenic trails. Examples of administratively designated areas include but are not limited to research natural areas, scenic byways, and special areas with unique values. Table 16 lists designated areas on the Ashley National Forest. See Figure 1-7 for designated areas.

Some of the designated areas require specific management plans with additional requirements than those of this plan. Specific management plans for designated areas must be consistent with forestwide and area plan components (36 CFR 219.15(e)). Table 16 indicates the designated areas with associated management plans and year developed. Some management planning processes are in progress, as noted under sections of this chapter, and other plans may be updated during the life of this plan. The potential management approaches in appendix 3 refer to the use of management plans for specific designated areas.

Table 16. Designated Areas on the Ashley National Forest

Designated Area	Year Designated	Management Plan (Year)	Acres or Linear Miles	Features
Ashley Karst National Recreation and Geologic Area	2019	2023	173,699 acres	The Ashley Karst National Recreation and Geologic Area is part of the "vast backyard" of the Uintah Basin. The area contains unique geologic formations and karst features. The karst features capture surface water and transport it through a series of underground cave systems to the Ashley Valley below; this is the source of the municipal and irrigation water of the Ashley Valley.
Flaming Gorge National Recreation Area	1968	Green River below the dam, 1996; Flaming Gorge National Recreation Area, in progress	207,363 acres	The Flaming Gorge National Recreation Area is a mixture of climate, topography, and recreation opportunities for summer and winter recreation, ranging from waterskiing and fishing on the centerpiece of the Flaming Gorge National Recreation Area, the Flaming Gorge Reservoir, to rafting and fly fishing the Green River below the Flaming Gorge Dam, to camping, hiking, mountain biking, and wildlife viewing, from the high-elevation forested Greendale plateau to the wide-open vistas of the rolling sagebrush terrain in Wyoming.
High Uintas Wilderness	1984	1996	274,218 acres	The High Uintas Wilderness is the wild core of the Uinta Mountains. The main crest of the Uinta Mountains run west to east with massive secondary ridges extending north and south from the crest of the range. This rugged expanse of peaks, flat-top mountains, and high-elevation basins and valleys forms the largest alpine area in the Intermountain West and is the setting for Kings Peak, the highest point in Utah. Hundreds of lakes, streams, and meadows are within the glacial basin and are the headwaters of many of Utah's major rivers. Note that total acreage is 456,705; a portion of the wilderness is managed by the adjacent Uinta-Wasatch-Cache National Forest.
Sheep Creek Canyon Geologic Area	1962		3,600 acres	The Sheep Creek Canyon Geologic Area depicts almost 800 million years of geologic history. The loop road through the area offers views of tilted and folder rock layers, rock pillars, and other dramatic geologic features.
Flaming Gorge-Uintas Scenic Byway	1988		97 miles	Also known as the "drive through the ages," the Flaming Gorge-Uintas Scenic Byway climbs foothills and major geological formations, reaching the one-billion-year-old exposed core of the Uinta Mountains near the Flaming Gorge National Recreation Area. Interpretive sites and nature trails along the byway provide information on the area's geology and wildlife both past and present.
Dinosaur Diamond Scenic Byway	2002		512 miles	The Dinosaur Diamond Scenic Byway passes through the Ashley National Forest on the south unit of the Duchesne/Roosevelt Ranger District. The byway travels through Indian Canyon, with scenic views of meadows of sagebrush and streambanks of cottonwoods. The hillsides and ridges are covered with forests of spruce, aspen, and fir.

Designated Area	Year Designated	Management Plan (Year)	Acres or Linear Miles	Features
Flaming Gorge-Green River Basin Scenic Byway	1991		150 miles	The Flaming Gorge-Green River Basin Scenic Byway winds through the high desert in Wyoming. The vast open country is home to large herds of mule deer and pronghorn antelope and bands of wild horses. The Flaming Gorge National Recreation Area is the scenic viewshed for much of the route, although the byway only passes through the Ashley National Forest in three short segments.
Inventoried roadless areas	2001		794,590 acres	Inventoried roadless areas (36 areas) on the Ashley National Forest include habitat for species dependent on large, undisturbed areas of land; sources of public drinking water; high-quality or undisturbed soil, water, or air; a diversity of plant and animal communities; natural-appearing landscapes with high scenic quality; and traditional cultural properties and sacred sites.
Ashley Gorge Research Natural Area	1996		1,200 acres	Blue spruce, lodgepole pine, and aspen woodlands; shrublands with mountain mahogany and snowberry; moderate-gradient perennial stream; rare plants.
Gates of Birch Creek Research Natural Area	1988		200 acres	Steeply sloped forests of Douglas-fir and lodgepole pine; hogback and water gap landforms.
Lance Canyon Research Natural Area	1996		300 acres	Douglas-fir and pinyon pine woodlands; outstanding occurrence of a Salina wildrye grassland community; big sagebrush shrubland with bluebunch wheatgrass.
Pollen Lake Research Natural Area	1987		1,100 acres	Subalpine fir and Engelmann spruce forest and krummholz; alpine turf communities on shallow rocky soil; lake and wetlands in a cirque basin; rare plants.
Sims Peak Potholes Research Natural Area	1991		700 acres	Seral lodgepole pine with subalpine fir and Engelmann spruce understory; sedge-dominated pothole wetlands; rare plants.
Timber-Cow Ridge Research Natural Area	1996		1,200 acres	Open Douglas-fir and ponderosa pine woodlands with abundant curl-leaf mountain mahogany; pinyon-juniper woodlands.
Uinta Shale Creek Research Natural Area	1996		3,000 acres	Subalpine fir and Engelmann spruce forest and krummholz; alpine turf communities; cirque basins draining into moist forest-meadow complexes.
Little Hole National Recreation Trail	1979	Green River below the dam, 1996	7 miles	The scenic trail follows the Green River from the Flaming Gorge Dam to the Little Hole day-use area. The trail winds through the bottom of Red Canyon along a premier sport fishing area through stately ponderosa pine.

Flaming Gorge National Recreation Area

The Flaming Gorge National Recreation Area is located in Daggett County in northeastern Utah and Sweetwater County in southwestern Wyoming (see Figure 1-7). Congress designated the area in 1968 by the enactment of Public Law 90-540 for the purpose of the Colorado River storage project, public outdoor recreation and enjoyment of the Flaming Gorge Reservoir and surrounding lands in the States of Utah and Wyoming, and the conservation of scenic, scientific, historic, and other values contributing to public

enjoyment of the lands and waters. The legislation establishing the national recreation area specifies three broad missions and management goals. Specifically, the Secretary of Agriculture is directed to "administer, protect, and develop the Flaming Gorge National Recreation Area in a manner to best provide for (1) public outdoor recreation benefits; (2) conservation of scenic, scientific, historic, and other values contributing to public enjoyment; and (3) such management, utilization, and disposal of natural resources as in his judgment will promote or are compatible with, and do not significantly impair the purpose for which the recreation area is established."

The Flaming Gorge National Recreation Area covers 207,363 acres and includes 91 water miles, encompassing the 42,020-acre reservoir. The area is divided by the Utah/Wyoming state line. The Utah side contains approximately 43 reservoir water miles, 111,213 acres of the national recreation area, and 12 miles of the Green River below the Flaming Gorge Dam. The Wyoming side contains approximately 48 reservoir and river water miles and 96,149 acres of the Flaming Gorge National Recreation Area. The national recreation area is most known for its scenery, geology, and recreation opportunities. The recreation opportunities include fishing on the Flaming Gorge Reservoir and the Green River, which attracts visitors from across the United States. Overall, the national recreation area has the greatest development of recreation facilities on the Ashley National Forest. These facilities support water- and road-based recreation opportunities.

The national recreation area also includes the Green River corridor below the Flaming Gorge Dam, Red Canyon, Firehole Canyon, Antelope Flat, Sheep Creek Bay, Hideout Canyon, Kingfisher Island, and many other unique areas and opportunities for motorized and nonmotorized recreation. Multiple developed and dispersed camping settings and opportunities are available as well. These opportunities include lake and river fishing, boating, sailing, waterskiing, mountain biking, hiking, ice fishing, rafting, hunting, and traveling on scenic byways and backways.

Two management challenges are likely to persist in the national recreation area lands flanking the Flaming Gorge Reservoir. The first challenge stems from the need to maintain and expand recreation opportunities around the reservoir to support local economies. The Flaming Gorge National Recreation Area is an important economic driver for Utah and Wyoming and needs to be managed to maintain its natural setting and scenic beauty while accommodating growing recreational demands and its increasing economic importance to the region. The public and local governments advocate for the use of public lands to continue and for the expansion of developed and dispersed recreation sites and motorized access.

Unmanaged recreation can leave increasing and persistent footprints in fragile desert ecosystems, with the highest impacts resulting from dispersed camping and off-road or "open use" of off-highway vehicles. Vegetation, soil, wildlife, and watershed resources can be affected. Damage to natural resources around the Flaming Gorge Reservoir includes loss of vegetation, wildlife habitat impacts, compaction and displacement of soils, reduced water infiltration, and increased erosion. The low-lying areas surrounding the reservoir are in an arid environment with an annual precipitation of approximately 6 to 9 inches. These conditions reduce the landscape's ability to recover from land disturbance.

The Ashley National Forest land surrounding the reservoir is also affected by two invasive species that displace native plant communities. Cheatgrass and halogeton, aggressive annuals, have reduced native areas of desert-shrub, sagebrush, and grassland communities. The expansion of these plants on the landscape alters the physical and chemical properties of soil, reduces effective ground cover, and reduces available forage for livestock and wildlife. Factors that have contributed to the spread of these invasive species include drought cycles (as documented in 2002) and soil disturbance from roads, trails, and off-highway vehicle use. These infested land areas create a risk of spreading cheatgrass and halogeton elsewhere in the national recreation area.

Desired Conditions (DA-DC-FGNRA)

01 The Flaming Gorge National Recreation Area provides public outdoor recreation benefits and conservation of scenic, scientific, historic, and other values contributing to public enjoyment.

02 Management, utilization, and disposal of natural resources promote, are compatible with and do not significantly impair the purposes for which the Flaming Gorge National Recreation Area was established.

03 The sanitation needs of boaters and other water-oriented recreation users are adequate for the level of use.

04 Open spaces and undeveloped areas are maintained throughout the Flaming Gorge National Recreation Area and developed recreation facilities are clustered for high public use.

05 A variety of motorized and nonmotorized recreation opportunities are available.

06 Forested stands are generally uneven-aged, contributing to recreational and scenic values by offering continuous and diverse tree cover in a mosaic of tree sizes ranging from young to very old.

07 Conflicts between resources are resolved in favor of the purposes for which the Flaming Gorge National Recreation Area was established.

08 Recreational improvements maintain the scenic values of the immediate area.

09 Timber stands provide recreation, wildlife, and esthetic benefits consistent with maintaining satisfactory watershed conditions.

Objective (DA-OB-FGNRA)

01 To develop a management plan for the Flaming Gorge National Recreation Area within 2 years of plan approval that is separate from the forest plan and ensure it provides area-specific direction that fulfills legislative direction.

Standard (DA-ST-FGNRA)

01 Follow the intent of the legislation that established the Flaming Gorge National Recreation Area with regard to mineral exploration and no surface occupancy for land within the designated area.

Guidelines (DA-GD-FGNRA)

01 Planning for ground-disturbing activities in Wyoming should consider impacts on the midget-faded rattlesnake, in consultation with the Wyoming Game and Fish Department.

02 Components of new projects other than vegetation management, such as facility installation or road construction, should meet the assigned scenic integrity objectives to reduce visual deviations from the surrounding landscape.

Goals (DA-GO-FGNRA)

01 Continue to work with the Bureau of Reclamation and Wyoming and Utah wildlife agencies to improve the fisheries within the Flaming Gorge National Recreation Area.

02 Work collaboratively with state wildlife agencies, State and Tribal Historic Preservation Offices, and state Offices of Outdoor Recreation to maintain and identify unique habitat, historic sites, and recreation opportunities.

03 Partner with state, county, tribal, and local governments that are affected socially and economically by the Flaming Gorge National Recreation Area to identify the economic costs and benefits of recreation on the Flaming Gorge National Recreation Area.

High Uintas Wilderness

The High Uintas Wilderness in northeastern Utah comprises the wild core of the massive Uinta Mountains and provides a nearly pristine natural setting (see Figure 1-7). Congress designated the area in 1984 by the enactment of Public Law 98-428, Utah Wilderness Act of 1984. At 456,705 acres, the High Uintas Wilderness is the largest wilderness area in the State of Utah, more than three and half times larger than the second-largest wilderness area in the State. The staff of the Ashley National Forest manages 60 percent (274,218 acres) of the wilderness, and the rest is managed by the staff of the Uinta-Wasatch-Cache National Forest. The staffs of these two national forests coordinate management of the wilderness, with the Ashley National Forest's staff as the lead.

The Uinta Mountains were carved by glaciers from an immense uplift of Precambrian rock. The main crest of the Uinta Mountains runs west to east for more than 60 miles. The crest rises more than 6,000 feet above the Wyoming and Uinta Basins, which are to the north and south. Massive secondary ridges extend north and south from the crest of the range, framing glacial basins and canyons far below. This rugged expanse of peaks and flat-topped mountains is the largest alpine area in the Intermountain West and is the setting for Kings Peak, the highest peak in Utah. Hundreds of picturesque lakes, streams, and meadows are nestled in beautiful basins. Cold, clear rivers plunge from the basins to deep canyons that form the headwaters of several of Utah's major rivers.

The Uinta Mountains rise from 7,500 to 13,528 feet at the summit of Kings Peak, offering diverse habitat for plants and animals. Above tree line, tundra plant communities thrive in the harsh climate of the highest altitudes. Thick forests of Engelmann spruce, subalpine fir, and lodgepole pine blanket the land below tree line. These forests are interrupted by park-like meadows and lush wetlands. In the lower elevations, aspen groves and countless mixed species offer contrast to the scene. The Uinta Mountains are home to elk, mule deer, moose, mountain goats, coyotes, black bears, bighorn sheep, ptarmigan, river otters, several species of raptors, pine martens, cougars, and native and desirable nonnative fishes as well as native amphibians and aquatic invertebrates.

Desired Conditions (DA-DC-HUW)

01 The High Uintas Wilderness is essentially unhindered and free from modern human control and manipulation.

02 Natural ecological processes and disturbances (such as succession, wildfire, avalanches, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation. Wilderness areas provide opportunities for visitors to experience natural ecological processes and disturbances with a limited amount of human influence.

03 Soils support naturally occurring vegetation and are not significantly impaired by human activities.

04 The High Uintas Wilderness acts as an area to maintain plant and animal indigenous species presently existing in the area.

05 Terrestrial and aquatic wildlife contribute significantly to overall biodiversity.

06 Natural processes and the forces of natural selection influence the diversity of wildlife and fish habitat and species.

07 The High Uintas Wilderness exhibits an undeveloped quality and is without nonconforming and unnecessary facilities, installations, or human-caused surface disturbances.

08 Cultural and historic sites are recognized as an integral component of the wilderness resource. Past human uses of the landscape are understood.

09 The wilderness area accommodates levels of recreation use that are ecologically sustainable and provides opportunities for solitude and primitive recreation.

10 National Forest System trails that access wilderness are part of a high-quality wilderness experience for visitors.

11 Human-affected areas and associated resource impacts are not expanding into nearby unaffected areas.

12 User-created trails do not negatively affect wilderness character.

13 Commercial uses (outfitting and guiding) of wilderness provide wilderness-appropriate recreation access.

Standards (DA-ST-HUW)

01 Do not design new or reconstructed trails to trail class 5 (most developed) within the wilderness.

02 Limit administrative authorizations for use of motor vehicles, motorized equipment, or mechanical transport to the minimum necessary for the purposes of the 1964 Wilderness Act and the 1984 Utah Wilderness Act.

03 Do not allow energy and utility corridors.

04 Do not allow recreation events requiring a recreation special-use permit.

Guidelines (DA-GD-HUW)

01 Administrative authorizations for prohibited uses, including use of motor vehicles, motorized equipment, and mechanical transport or installations, should be limited to the minimum necessary for the purposes of the 1964 Wilderness Act and the 1984 Utah Wilderness Act.

02 New bridges or structures should use native, rustic, or natural-appearing materials; structures should be designed for resource protection and to preserve wilderness character, not for visitor convenience.

Goal (DA-GO-HUW)

01 Coordinate stewardship and management of the High Uintas Wilderness with the staff of the Uinta-Wasatch-Cache National Forest.

Suitability (DA-SUIT-HUW)

01 Designated wilderness areas are not suitable for timber production or timber harvest.

02 Designated wilderness areas are not suitable for new road construction.

Ashley Karst National Recreation and Geologic Area

Congress designated the Ashley Karst National Recreation and Geologic Area in 2019 as part of the John D. Dingell Jr. Conservation, Management, and Recreation Act to conserve and protect the watershed, geological, recreational, wildlife, scenic, natural, cultural, and historic resources within that area. The designated area consists of approximately 173,699 acres located entirely within the Ashley National Forest and Uintah County. It includes the headwaters of the Ashley Creek drainage along with smaller portions of the Mosby, Whiterocks, and Farm Creek drainages.

The Ashley Karst National Recreation and Geologic Area has two popular campgrounds (Whiterocks and Paradise Park), dispersed recreation sites, hiking trails and trailheads, reservoirs, a large proportion of the popular Red Cloud Loop Road, and a variety of other recreation opportunities. Several areas of Ashley Creek have sinking streams and other features demonstrating the presence of subsurface (karst-type) groundwater systems, which are often fast moving and can be susceptible to rapid contamination from surface activities. Karst groundwater systems within the Ashley Creek drainage appear to supply much of the water to Ashley Spring, which subsequently supplies drinking water to many residents of Uintah County.

The Forest Service is responsible for managing the forest and recreation resources in the Ashley Karst National Recreation and Geologic Area, within the limits described by Congress. Management of forest and recreation resources in the area will follow the guidance provided by the area's management plan.

When designated, the Ashley Karst National Recreation and Geologic Area was formally withdrawn from mineral entry, mineral leasing, and geothermal leasing, thereby making the area legally unavailable for future mineral or geothermal exploration and developments. Some other potential uses, activities, or improvements, such as new roads, were also restricted or limited when Congress designated the area.

Desired Conditions (DA-DC-AKNRGA)

01 The Forest Service conserves and protects the watershed, geological, recreational, wildlife, scenic, natural, cultural, and historic resources of the Ashley Karst National Recreation and Geologic Area.

02 The Forest Service manages the Ashley Karst National Recreation and Geologic Area primarily for long-term protection of the watershed and underground karst groundwater systems of the area.

Standards (DA-ST-AKNRGA)

01 Except as needed for emergency response or administrative purposes, permit the use of motorized vehicles in the Ashley Karst National Recreation and Geologic Area only on roads and motorized routes designated for the use of motorized vehicles.

02 Do not construct new permanent or temporary roads or other motorized vehicle routes in the Ashley Karst National Recreation and Geologic Area. Existing roads and trails may be rerouted to protect resources from degradation or to protect public safety.

Sheep Creek Canyon Geologic Area

The Sheep Creek Canyon Geologic Area was designated by the Forest Service Intermountain Region on May 13, 1962, to recognize and preserve its spectacular geology and geologic scenery for future generations. The designated area includes approximately 3,600 acres of the Ashley National Forest and is located along portions of the Sheep Creek drainage west of Flaming Gorge Reservoir in Daggett County, Utah. The Sheep Creek Geological Area promotes viewing and studying geology and attracts students, researchers, and tourists.

Developments within the Sheep Creek Canyon Geologic Area include the Sheep Creek Geologic Loop, a paved loop road passing through the area, and the Palisades Memorial Park, a small day-use picnic area commemorating the deaths of seven people in 1965 due to a debris flow in Sheep Creek Canyon. Other developments within the geologic area are limited by the rugged terrain and associated geologic hazards as well as the need to protect the scenic and geologic features for which the area was designated.

The Sheep Creek Canyon Geologic Area includes well-exposed geologic rock units, a large geologic fault (Uinta Fault Zone), steeply folded rock layers, and part of a large karst-type groundwater system and spring (Big Spring). Nine different rock units are exposed in the canyon walls, spanning more than a billion years of geologic history. These rock units represent a wide variety of past geologic environments, ranging from tropical marine sediments to desert sand dunes as well as phosphate-bearing shales.

Shortly after being designated, the Sheep Creek Canyon Geologic Area was formally withdrawn from mineral entry, thereby making the area legally unavailable for future mineral exploration and development.

Desired Condition (DA-DC-SCCGA)

01 The Forest Service protects and manages the geologic and scenic resources for which the Sheep Creek Canyon Geologic Area was designated.

Suitability (DA-SUIT-SCCGA)

01 The Sheep Creek Canyon Geologic Area is not suitable for livestock grazing.

National Scenic Byways

The Ashley National Forest contains segments of three national scenic byways: Flaming Gorge-Uintas Scenic Byway, Dinosaur Diamond Scenic Byway, and Flaming Gorge-Green River Basin Scenic Byway. Scenic byways are designated to recognize one or more of six intrinsic qualities of the roadway or the corridor's landscape: archeological, cultural, historic, natural, recreational, and scenic.

Desired Condition (DA-DC-BYWAY)

01 National scenic byways retain the intrinsic qualities for which they were designated.

Goal (DA-GO-BYWAY)

01 Coordinate scenic byway management with Federal agencies, counties, states, and other interested parties when appropriate.

National Recreation Trail

The purpose of the National Trails System is to provide for the ever-increasing outdoor recreation needs of an expanding population and promote the enjoyment and appreciation of areas and resources of the Nation. These trails provide for outdoor recreation needs; promote the enjoyment, appreciation, and preservation of open-air, outdoor areas and historic resources; and encourage public access and citizen involvement. These trails are generally single-track linear features that pass through a great variety of physical features, ranging from natural-appearing settings to locations where developments are noticeable. The Ashley National Forest has one national trail, the Little Hole National Recreation Trail, designated in 1979 by the Secretary of Agriculture. The trail follows the Green River from the Flaming Gorge Dam to the Little Hole day-use area, winding through stately ponderosa pine along the bottom of Red Canyon, a premier sport fishing area.

Desired Conditions (DA-DC-NRTRAIL)

01 National trails outside wilderness are clearly marked and identified for users with the appropriate trail symbol. Access to the trail and travel on the trail are preserved and the resources along the trail are interpreted in a manner that does not impair the feature(s) for which the individual trail was established.

02 The Little Hole National Recreation Trail provides outstanding scenery as well as conservation of the nationally significant scenic, historic, natural, and cultural qualities of the area it passes through. Users have opportunities for inspiration, challenge, and solitude as well as kinship with other trail users and interactions with people past and present who have shaped these places along the trail.

Inventoried Roadless Areas

The 2001 Roadless Area Conservation Rule (Roadless Rule) established prohibitions and exceptions on road construction, road reconstruction, and timber harvesting on 58.5 million acres of National Forest System lands across the United States. This includes approximately 794,590 acres of inventoried roadless areas on the Ashley National Forest. The intent of the Roadless Rule is to provide lasting protection for inventoried roadless areas within the National Forest System in the context of multiple-use management. Specifically, the Roadless Rule prohibits activities that have the greatest likelihood of altering and fragmenting landscapes. These activities result in immediate, long-term loss of roadless area values and characteristics.

Inventoried roadless areas are identified in a set of inventoried roadless area maps in Forest Service Roadless Area Conservation, Volume 2 (November 2000), which is held at the Forest Service national headquarters office, or in any subsequent update or revisions of these maps.[13] Figure 1-7 shows the inventoried roadless areas. Management activities within these areas follow direction found in the 2001 Roadless Rule. The Ashley National Forest has 36 inventoried roadless areas that range in size from 398 to over 355,000 acres.

Desired Conditions (DA-DC-IRA)

01 Inventoried roadless areas provide remote primitive and semiprimitive recreation opportunities. A diversity of recreation opportunities is available, including both motorized and nonmotorized trail opportunities.

02 Ecological restoration and enhancement activities are encouraged in inventoried roadless areas. These activities include forest health improvements, wildlife habitat enhancements, fuels reductions, trail maintenance and improvements, and range improvements.

Suitability (DA-SUIT-IRA)

01 Inventoried roadless areas are not suitable for timber production. Timber harvest may be allowed for other resource benefits consistent with the 2001 Roadless Area Conservation Rule.

02 Inventoried roadless areas are not suitable for road reconstruction or new road construction unless excepted per the 2001 Roadless Area Conservation Rule.

[13] 36 CFR 294(b), published in 66 FR 3244–3273.

Research Natural Areas

The Ashley National Forest has seven existing research natural areas that total approximately 7,700 acres. These research natural areas are part of a national network of ecological areas. The areas are designated in perpetuity for research, education, or to maintain biological diversity of National Forest System lands. The areas serve as baseline areas for nonmanipulative research, observation, and study. Table 16 lists the research natural areas on the Ashley National Forest, and Figure 1-7 shows their locations.

Forest Service Manual 4063, applicable Forest Service decisions, and research natural area establishment records provide management guidance for these areas. Research natural areas on the Ashley National Forest are cooperatively managed with the Rocky Mountain Research Station. All proposals for research or management activities in research natural areas need to follow direction outlined in Forest Service Manual 4063 and must be approved by the Rocky Mountain Research Station director. All proposals for research in research natural areas in wilderness areas also need to follow direction outlined in Forest Service Manual 2323.

Desired Conditions (DA-DC-RNA)

01 Research natural areas provide opportunities for research, study, observation, and monitoring of naturally occurring ecological processes.

02 Ecological processes that drive the functional and structural patterns of research natural area ecosystems are present and are supporting sustainability and resiliency.

Suitability (DA-SUIT-RNA)

01 Livestock grazing is generally not suitable in research natural areas; however, in research natural areas that are adjacent to active grazing allotments, very light and transient use by livestock may occur as described in the establishment records.

02 Research natural areas are not suitable for timber production. Timber harvest and other vegetation management (such as prescribed fire) may be allowed for study and research purposes and in situations where the values for which the research natural area was designated would be degraded or lost without management.

Management Areas

Management area allocations are specific to areas or features across the Forest with similar management needs and desired conditions to maintain a unique character, purpose, or management emphasis. Refer to Area Management in chapter 1 for additional information.

This section includes a description of the management areas, acres allocated, and management direction in the form of desired conditions, objectives, suitability, guidelines, standards, and goals. Table 17 lists the management areas on the Ashley National Forest. See Figure 1-8 for a map of management areas.

Table 17. Management areas on the Ashley National Forest

Management Area Category	Management Area Name	Acres or Linear Miles
Suitable Wild and Scenic River	Green River	13 miles[a]
Suitable Wild and Scenic River	Upper Uinta River	40 miles[a]
Historic	Swett Ranch	396 acres
Historic	Ute Mountain Fire Lookout Tower	10 acres
Historic	Historic ranger stations	750.5 acres
Historic	Carter Military Road	39 miles/472.7 acres
Recreation	Destination recreation management areas	29,000 acres
Recreation	General recreation management areas	670,000 acres
Recreation	Backcountry recreation management areas	404,200 acres

[a] The management area is a corridor that extends ¼ mile on each side of the river segment.

Eligible and Suitable Wild and Scenic Rivers

A wild and scenic river eligibility study was conducted for the Ashley National Forest in 2005, and a suitability study report was completed in 2008. None of the river segments previously evaluated for eligibility in 2005 and suitability in 2008 was reevaluated as part of the forest plan revision process. Two river segments were identified as suitable in 2008:

- Green River below the Flaming Gorge Dam (13 miles, scenic classification)
- Upper Uinta River, including Gilbert Creek, Center Fork, and Painter Draw (40 miles, wild classification)

The Wild and Scenic Rivers Act requires the identification and evaluation of additional potential rivers for inclusion in the National Wild and Scenic Rivers System during planning (section 5(d)(1) of the act). Since the time of the 2005 Wild and Scenic River eligibility study, the criteria for the river segments for which eligibility studies are conducted changed from any named waterway on a 1:100,000 scale map to named rivers on a 7.5-minute U.S. Geological Survey map. The Forest Service identified 40 river segments that meet the new criteria that were not evaluated in the 2005 study. Of these, 4 have been identified as eligible, none of which were determined to be suitable for inclusion in the National Wild and Scenic Rivers System in the preliminary suitability determination. Suitability determinations made in a NEPA document are draft until the decision record for the NEPA document is signed.

The plan includes interim protection measures for these river segments to protect the characteristics and values for which the river segments were found to be eligible and suitable until Congress can act on recommendations of suitable segments or finds the river segments not to be suitable. The corridor extends one-quarter mile on both sides of the river segment to protect the river-related values. See Figure 1-8 for locations of existing suitable wild and scenic river segments.

Desired Condition (MA-DC-WSR)

01 Eligible and suitable wild, scenic, or recreational rivers retain their free-flowing status and tentative or final classification and the outstandingly remarkable values for which they have been identified.

Standard (MA-ST-WSR)

01 Apply the protection measures described in table 18 to the interim management of eligible or suitable wild, scenic, or recreational rivers until Congress determines whether they should be included in the National Wild and Scenic Rivers System.

Table 18. Interim protection measures for management of eligible or suitable wild, scenic, or recreational rivers

Type of Project or Activity	Interim Protection Measures
Water Resource Projects (dams, diversions, flood control, and activities that affect free flow)	**Wild, Scenic, and Recreational Rivers:** Water resource projects on Forest Service-identified eligible or suitable rivers shall be analyzed as to their effect on a river's free flow, water quality, and outstandingly remarkable values as well as adverse effects on the extent of existing agency authorities (such as special-use authority).
Hydroelectric Power Facilities	**Wild, Scenic, and Recreational Rivers:** Forest Service-identified eligible rivers are to be protected pending a suitability determination. Forest Service-identified suitable rivers are to be protected for their free-flowing condition, water quality, and outstandingly remarkable values pending a designation by Congress.
Locatable Minerals	**Wild, Scenic, and Recreational Rivers:** Existing or new mining activity on a Forest Service-identified eligible or suitable river is subject to regulations in 36 CFR 228 and must be conducted in a manner that minimizes surface disturbance, sedimentation, pollution, and visual impairment.
Leasable Minerals	**For all eligible or suitable rivers:** Leases, licenses, and permits under mineral leasing laws must include conditions necessary to protect the values of the river corridor that make it eligible or suitable for inclusion in the National System.
Salable Minerals	**Wild Rivers:** For all eligible or suitable rivers, disposal of salable mineral materials is prohibited. **Scenic and Recreational Rivers:** For all eligible or suitable rivers, salable mineral material disposal is allowed if the values for which the river may be included in the National Wild and Scenic Rivers System are protected.
Transportation System	**Wild Rivers:** Roads and railroads are generally not compatible. Prevent action related to the road system that would preclude protection of the river as wild. Do not plan roads outside the corridor that would adversely affect the wild classification. New trail construction should generally be designed for nonmotorized uses. New airfields may not be developed. **Scenic Rivers:** Roads and railroads may parallel the river for short segments or bridge the river if such construction protects the river values, including the free-flowing character of the river. Bridge crossings and access points are allowed. New trails construction and new airfield development must be compatible with and fully protect identified values. **Recreational Rivers:** Roads and railroads are permitted to parallel the river if such construction fully protects outstandingly remarkable river values, including the free-flowing character of the river. Bridge crossings and access points are allowed. New trail construction and new airfield development must be compatible and fully protect the river's outstandingly remarkable values.
Utility Facilities	**Wild, Scenic, and Recreational Rivers:** New transmission lines, such as gas lines, water lines, and similar linear features, are not compatible with eligible wild and scenic rivers and are discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way would be necessary for a utility line, the proposed project must be evaluated as to its effect on the river's outstandingly remarkable values and classification. Any portion of a utility

Type of Project or Activity	Interim Protection Measures
	proposal that has the potential to affect the river's free-flowing character must be evaluated as a water resources project.
Recreation Developments	**Wild Rivers:** Major public use areas, such as large campgrounds, interpretive centers, or administrative headquarters, must be located outside the river corridor (typically 0.25 mile on either side of the river). Minimum facilities, such as toilets and refuse containers, may be provided to protect and enhance water quality and other river values. Facilities must be located and designed to harmonize with the primitive character of the river, must protect river values, and must be screened from view from the river to the extent possible. **Scenic Rivers:** Public facilities, such as moderate-sized campgrounds, simple sanitation and convenience facilities, public information centers, administration sites, and river access developments, are allowed. Facilities must be located and designed to harmonize with the natural and cultural settings; must protect river values, including water quality; and must be screened from view from the river to the extent possible. **Recreational Rivers:** Recreation, administration, and river access facilities may be located in close proximity to the river. Facilities must be located and designed to harmonize with the natural and cultural settings; must protect river values, including water quality; and must be screened from view from the river to the extent possible.
Motorized Travel	**Wild Rivers:** Motorized travel on land or water may be permitted but is generally not compatible. Where motorized travel is deemed necessary, uses should be carefully defined and impacts mitigated. **Scenic and Recreational Rivers:** Motorized travel on land or water may be permitted, prohibited, or restricted to protect identified river values.
Wildlife and Fish Projects	**Wild Rivers:** Construction of minor structures and vegetation management to protect and enhance wildlife and fish habitat should harmonize with the area's primitive character and protect identified river values. Any portion of a proposed wildlife or fisheries restoration or enhancement project that has the potential to affect the river's free-flowing character must be evaluated as a water resource project. **Scenic Rivers:** Construction of structures and vegetation management designed to protect and enhance wildlife and fish habitat should harmonize with the area's largely undeveloped character and protect identified river values. Any portion of a proposed wildlife or fisheries restoration or enhancement project that has the potential to affect the river's free-flowing character must be evaluated as a water resource project. **Recreational Rivers:** Construction of structures and vegetation management designed to protect and enhance wildlife and fish habitat should fully protect identified river values. Any portion of a proposed wildlife or fisheries restoration or enhancement project that has the potential to affect the river's free-flowing character must be evaluated as a water resource project.
Vegetation Management	**Wild Rivers:** Cutting of trees and other vegetation is not permitted except when needed in association with a primitive recreation experience, to protect users, or to protect identified outstandingly remarkable values. **Scenic and Recreational Rivers:** A range of vegetation management and timber harvest practices are allowed if these practices are designed to protect users or protect, restore, or enhance the river environment, including its long-term scenic character.
Domestic Livestock Grazing	**Wild Rivers:** Domestic livestock grazing should be managed to protect identified river values. Existing structures may be maintained. New facilities may be developed to facilitate livestock management so long as they maintain the values for which the river was found eligible or suitable, including the area's essentially primitive character. **Scenic Rivers:** Domestic livestock grazing should be managed to protect outstandingly remarkable values. Existing structures may be maintained. New facilities may be developed so long as they maintain the values for which the river was eligible or suitable, including the area's largely undeveloped character. **Recreational Rivers:** Domestic livestock grazing should be managed to protect identified river values. Existing structures may be maintained. New facilities may be developed to facilitate livestock management so long as they maintain the values for which the river was found eligible or suitable.

Historic Management Areas

Several of the areas on the Ashley National Forest are of historic interest and are officially designated on the National Register of Historic Places.

See Figure 1-8 for a map showing the locations of the following historic management areas.

Swett Ranch

Swett Ranch is a homestead farm and ranch built and operated by Oscar and Emma Swett from 1909 to 1969. The ranch serves as an excellent example of a historic homestead that used horse and manual labor prior to the introduction of motorized equipment and vehicles. Swett Ranch is listed in the National Register of Historic Places.

Desired Conditions (MA-DC-SWETT)

01 The Swett Ranch buildings and landscape are intact and safe and provide a historically accurate representation of an early twentieth-century homestead and ranch complex.

02 The Swett Ranch historic site provides opportunities and information for visitors to learn about the past and to gain a greater appreciation of the history of Ashley National Forest.

Ute Mountain Fire Lookout Tower

The Ute Mountain Fire Lookout Tower was built by the Civilian Conservation Corps between 1935 and 1937. It served as a fire lookout for the North Slope of the Uinta Mountains and served as the fire lookout's living quarters (30 feet above the ground with a 14-foot by 14-foot cabin). The Ute Tower is listed in the National Register of Historic Places and is the last standing historic fire tower in Utah.

Desired Conditions (MA-DC-UML)

01 The Ute Mountain Fire Lookout Tower is intact and safe and provides a historically accurate representation of a twentieth-century Civilian Conservation Corps-constructed fire tower.

02 The Ute Mountain Fire Lookout Tower provides opportunities and information for visitors to learn about the past and to gain a greater appreciation of the history of the Ashley National Forest.

Historic Ranger Stations

Forest Service ranger stations were positioned throughout the Ashley National Forest to serve as offices and living quarters for the Ashley National Forest's earliest rangers. The majority of current ranger or guard stations on the Ashley National Forest were built in the 1930s by the Civilian Conservation Corps and replaced earlier buildings and cabins. As automobile roads improved access to the Forest in the 1950s and 1960s, forest rangers moved their offices and headquarters to local communities such as Vernal, Manila, and Duchesne. The ranger and guard station buildings on the Forest were then used for alternative purposes. Today, many of the ranger stations and guard stations have been converted to recreational rental cabins and provide visitors with a comfortable and rustic way to enjoy their visit to the Ashley National Forest. Table 19 lists the historic ranger stations and guard stations on the Ashley National Forest.

Table 19. Historic ranger stations and guard stations, the year each was built, National Register of Historic Places (NRHP) status, Ashley National Forest ranger district, and current use

Name	Year Built	NRHP Status	Ranger District	Current Use
Summit Springs Ranger Station	1935	eligible	Flaming Gorge	recreational cabin
Colton Ranger Station	1933	eligible	Vernal	recreational cabin

Name	Year Built	NRHP Status	Ranger District	Current Use
Trout Creek Guard Station	1934	eligible	Vernal	recreational cabin
Paradise Park Guard Station	1922	eligible	Vernal	recreational cabin
Elkhorn Ranger Station	1935	eligible	Roosevelt	none
Uinta Park Guard Station	1936	eligible	Roosevelt	recreational cabin rental
Yellowstone Ranger Station	1936	eligible	Roosevelt	administrative
Moon Lake/Lake Fork Guard Station	1948	ineligible	Roosevelt	recreational cabin

Desired Conditions (MA-DC-STATN)

01 Historic ranger stations provide historically accurate representations of early Forest Service administrative structures.

02 Historic ranger stations provide opportunities for visitors to learn about the past and to gain a greater appreciation of the history of Ashley National Forest.

Carter Military Road

The Carter Military Road was built in 1881 and 1882 as an Army supply route between Fort Bridger, Wyoming, and Fort Thornburgh in northeastern Utah. The road provided the primary access across the Uinta Mountains until the 1920s, when automobile routes were developed on the eastern flanks of the Uinta Mountains. The Carter Military Road is listed on the National Register of Historic Places. The Ashley National Forest developed the Carter Military Road Management Plan in 2011.

Desired Conditions (MA-DC-CARTER)

01 The Carter Military Road provides a historic representation of a nineteenth-century military-constructed road.

02 The Carter Military Road provides opportunities for visitors to experience and use a historic nineteenth-century military road and to gain a greater appreciation of the history of the Ashley National Forest.

Recreation Management Areas

Recreation management areas are locations on the Ashley National Forest where similar types and levels of recreation occur. National Forest System lands on the Ashley National Forest other than designated wilderness are identified as one of three recreation management areas: destination recreation management areas, general recreation management areas, and backcountry recreation management areas. Recreational use is already occurring in many of these areas, but in some cases the use would be enhanced through an emphasis on trail, road, and facility maintenance; increased visitor contact and education; and/or the development of additional recreation opportunities

Recreation management area desired conditions are indications of the future conditions that would typically be desired in each area. The recreation management areas help clarify the general suitability of various parts of the Forest for different activities and management practices. The recreation management areas' desired conditions, objectives, and suitability address similar recreation opportunities and settings. The recreation management areas assist the Ashley National Forest in identifying road, trail, and recreation facility priorities for improvements, updates, and expansion for the many different types of recreation settings and opportunities that exist or could exist. See Figure 1-8 for a map showing locations of recreation management areas on the Ashley National Forest.

Destination Recreation Management Areas

Destination recreation management areas provide the most intensive recreation development on the Ashley National Forest. Well-known attractions and iconic destinations create a high demand for recreation experiences at specific locations (areas such as the Red Canyon Corridor, Moon Lake, Cedar Springs, Mustang Ridge, and the Lucerne Peninsula). These places, along with their close proximity to other attractions, make these destinations highly desirable to many visitors. The public should expect areas of high-density recreation activity with high use levels. In winter, portions of this area provide facilities for winter uses, such as ice fishing and cross-country skiing. Recreationists are attracted to this setting because of the variety of opportunities. Motorized access and support facilities (roads, parking lots, water access and boating support services, campgrounds, resorts, and marinas) are emphasized. The summer recreation opportunity spectrum setting is primarily rural and roaded natural.

Desired Conditions (MA-DC-RMADEST)

01 The developed recreation facilities' footprint within the destination recreation management area is visually appealing and well maintained.

02 A natural-appearing landscape is retained outside the developed recreation facilities' footprint.

03 National Forest System roads and trails provide users relatively easy access to destinations.

04 The area provides amenities and sustainable infrastructure to support a variety of recreation activities in close proximity to each other.

05 Available infrastructure and amenities are consistent with use capacity.

06 Interpretation and education activities provide learning opportunities to visitors about the natural and cultural environment and responsible visitor behavior.

07 Places of special recreational significance are recognized and managed in a way that protects their unique settings and the sustainable place-based activities they support.

08 Amenities provide access for mobility-impaired individuals where possible.

Objectives (MA-OB-RMADEST)

01 To chip seal or slurry seal 2 miles of roads within the destination recreation management areas every 5 years if road conditions warrant maintenance.

02 To improve facilities and infrastructure in destination recreation management areas at a minimum of five developed campgrounds every 10 years for the life of the plan, emphasizing areas with higher use and in a deteriorated condition.

Suitability (MA-SUIT-RMADEST)

01 Destination recreation management areas are suitable for wheeled motorized travel on designated roads, trails, and areas and on potential new routes that are consistent with the desired recreation opportunity spectrum settings.

General Recreation Management Areas

This recreation management area is where the concept of multiple use is most evident. It is the working landscape where dispersed and developed recreation, fuelwood gathering, vegetation management, livestock grazing, electrical transmission infrastructure, communication sites, and oil and gas production

may occur. People should expect to see a variety of ecosystem-conservation management activities and some lands modified to meet multiple-use objectives. A broad spectrum of landscapes, activities, and uses are included, ranging from relatively unaltered lands to areas of active management for purposes of meeting a variety of social, economic, and ecological objectives. Small pockets of concentrated use may exist, but these do not dominate the landscape. In summer, dispersed recreation, camping outside a developed campground, off-highway vehicle riding, and motorized water recreation are the most popular uses. Popular areas of use in the general recreation management areas include

- dispersed camping on the east side of Highway 191, Taylor Mountain, Iron Springs, Dry Gulch, and Hickerson Park Road;
- off-highway vehicle riding in the east side of the Vernal Ranger District, including the Outlaw Trail, Hickerson Park Road area, Flaming Gorge shoreline, and the Yellowstone all-terrain vehicle trail; and
- motorized water recreation on the Flaming Gorge Reservoir.

Winter uses within this management area include facilities and infrastructure that support winter recreation uses such as snowmobiling, cross-country skiing, and ice fishing. These facilities include trailheads, boat ramps, parking lots, and groomed trails. The summer recreation opportunity spectrum settings are primarily roaded natural and semiprimitive motorized.

Desired Conditions (MA-DC-RMAGENL)

01 General recreation management areas have some developed recreation facilities, but a majority of each area has limited amenities, signs, and developments.

02 Where developed facilities are present in general recreation management areas, they are aesthetically incorporated into the landscape. Scenic integrity is maintained at or enhanced from current conditions.

03 Places for people seeking natural scenery and solitude are available in some general recreation management areas. In other areas, motorized and nonmotorized recreation opportunities are easily accessed by roads and water access, and visitors can expect encounters with others. In other areas, motorized access is challenging and visitors can expect few encounters with others.

04 A mosaic of vegetation conditions is often present, with some areas showing the effects of past management activities and other areas appearing predominantly natural.

05 General recreation management areas offer opportunities for expansion of recreation opportunities.

06 General recreation management areas have a network of motorized routes, from easy to challenging.

07 Conflicts between different uses are infrequent in general recreation management areas.

08 As new forms of recreation emerge, recreation settings in general recreation management areas retain their natural character.

Objectives (MA-OB-RMAGENL)

01 To construct, within 5 years of plan approval, a minimum of 10 miles of trails designed and constructed for mountain bikers as the primary users, dependent on ability of local user groups or partnerships to conduct annual trail maintenance.

02 To improve or maintain a minimum of 1 mile of road to dispersed camping sites every 3 years.

03 To construct two off-highway vehicle loop trails (no more than 60 inches wide) within 10 years of plan approval, dependent on ability of local user groups or partnerships to conduct annual trail maintenance.

04 To widen 10 miles of National Forest System 50-inch-wide or narrower off-highway vehicle trails to no more than 60 inches wide within 5 years of plan approval, through cooperation with local motorized-use groups to identify trails that have the highest use by side-by-side, off-highway vehicles and can be converted without negative impacts on resources.

05 To improve a minimum 2 miles of motorized trails every 3 years if local user groups are available to assist in improvement work.

Goal (MA-GO-RMAGENL)

01 Work with local user groups and volunteers to identify needed maintenance and improvements and maintain and improve motorized and nonmotorized trails in general recreation management areas.

Suitability (MA-SUIT-RMAGENL)

01 General recreation management areas are suitable for wheeled motorized travel consistent within the recreation opportunity settings as assigned and on designated roads, trails, and areas.

Backcountry Recreation Management Areas

This management area provides large, undeveloped landscapes suited for dispersed summer recreation use. These areas include the more remote parts of the Ashley National Forest, and access can be challenging. The public should expect to see natural landscapes with few amenities, limited management, lower visitor use and density levels, and limited Forest Service presence. Nonmotorized recreation is often challenging due to terrain and a low density of trails. Popular recreation locations in the backcountry recreation management area are Dry Fork Canyon, the Green River below the Flaming Gorge Dam, Chepeta Lake area, Leidy Peak area, and the mountain lakes on the north slope of the Uinta Mountains between Browne Lake and Spirit Lake. The summer recreation opportunity spectrum settings in these areas are predominantly semiprimitive nonmotorized and primitive classes to support remote recreation pursuits that require less dependence on development.

Desired Conditions (MA-DC-RMABACK)

01 The landscape of backcountry recreation management areas provides opportunities for challenging and remote recreation experiences.

02 Backcountry recreation management areas contribute to ecosystem and species diversity and sustainability, serve as habitat for fauna and flora, and offer wildlife corridors. The areas provide a diversity of terrestrial and aquatic habitats and support species dependent on large areas of land.

03 A mosaic of vegetation conditions is often present in backcountry recreation management areas, with some areas showing the effects of past management activities and other areas appearing predominantly natural.

04 The need for managing recreation in backcountry recreation management areas is minimal.

05 There is a low density of infrastructure and trails in backcountry recreation management areas.

06 Nonmotorized trails in backcountry recreation management areas accommodate use by hikers, equestrians, and mountain bikes and other nonmotorized activities.

07 Conflicts between different recreation uses in backcountry recreation management areas are infrequent.

08 Backcountry recreation management areas have vast areas for nonmotorized cross-country travel, offering visitors opportunities for exploration and challenge in the summer.

Objective (MA-OB-RMABACK)

01 To improve 5 miles of existing nonmotorized National Forest System trails for mountain bike use every 5 years if user groups or other partnerships are available to assist in improvement work.

Suitability (MA-SUIT-RMABACK)

01 Backcountry recreation management areas are suitable for wheeled motorized travel consistent within the recreation opportunity settings as assigned and on designated roads, trails, and areas, but motorized trails are a minimal part of the trail network.

02 Backcountry recreation management areas are suitable for mechanized transport (such as mountain bikes).

Chapter 4. Plan Monitoring Program

Introduction

The monitoring program includes monitoring, or the collection of data and information, followed by the evaluation of that information. Monitoring and evaluation are separate, sequential activities required by the National Forest Management Act to determine how well objectives have been met and how closely management standards and guidelines have been applied. Effective land management plan monitoring fosters adaptive management and more informed decisions.

Monitoring tests assumptions and evaluates effects of management practices. Monitoring information should enable the Forest Service to determine whether a change in plan components or other plan management guidance may be needed. Monitoring allows adaptive management if changes need to be made. The plan follows adaptive management principles outlined in Forest Service Handbook 1909.12, zero code 06.1 and 06.2:

> The three phases of planning (assessment, planning, and monitoring) in Title 36, Code of Federal Regulations, part 219 (36 CFR 219) are a framework for adaptive management that will facilitate learning and continuous improvement in plans and Agency decision-making. Adaptive management is a structured, cyclical process for planning and decision-making in the face of uncertainty and changing conditions with feedback from monitoring, which includes using the planning process to actively test assumptions, track relevant conditions over time, and measure management effectiveness.

The plan monitoring program addresses the plan components that are most critical for informed management of the Ashley National Forest's resources, within the financial and technical capability of the agency. Every monitoring question links to one or more desired conditions, objectives, standards, or guidelines. However, not every plan component has a corresponding monitoring question.

This monitoring program is not intended to depict all monitoring, inventorying, and data gathering done on the Ashley National Forest or to limit monitoring to just the questions and indicators listed in Table 20 through Table 41. Project and activity monitoring may be used to gather information for plan monitoring if it provides relevant information to inform adaptive management. Consideration of and coordination with broader-scale monitoring strategies adopted by the regional forester, multi-party monitoring collaboration, and cooperation with state and private forestry as well as research and development, as required by § 219.12(a), will increase efficiencies and help track changing conditions beyond the Forest boundaries to improve the effectiveness of the plan monitoring program.

The monitoring program sets out the forest plan's monitoring questions and associated indicators. A monitoring guide is not required plan content and, if developed, would provide detailed information on the monitoring questions, indicators, frequency and reliability, priority, data sources and storage, and cost. A monitoring guide would include methods, including the use of existing corporate databases, national Forest Service inventory and monitoring tools, and Forest Service reference materials (e.g., general technical reports, Forest Service manuals and handbooks, natural range of variation assessments) to provide standard methods and consistency across the agency. Methods may also include external inventory and monitoring, research programs, or monitoring efforts with partners or other efforts where data sets may be available.

The monitoring program will include a biennial monitoring evaluation report developed by an interdisciplinary team. This biennial monitoring report will summarize the results of completed

monitoring, evaluate the data, consider relevant information from broadscale or other monitoring efforts, and make recommendations to the responsible official. The biennial monitoring report is used to determine what changes may be needed to the plan, to management activities, or to the monitoring program. The biennial monitoring report will be used to inform adaptive management of the plan area and will be made available to the public.

Some kinds of monitoring indicators will require longer time frames for thorough evaluation of results, but a biennial review of the information that has been collected will ensure timely evaluation to inform planning. The biennial monitoring report does not need to evaluate all questions or indicators on a biennial basis, but it must focus on new data and results that provide new information, such as management effectiveness; progress toward meeting desired conditions, objectives, and other plan components; changing conditions; or validation (or invalidation) of assumptions.

The following monitoring tables are organized to display the plan components that drive the monitoring question(s) and the indicator(s) used to answering the monitoring question(s). Monitoring questions are used to evaluate whether land management activities are maintaining or moving toward or away from desired conditions. Indicators are the specific resource measures used in answering the monitoring questions. In general, each forest plan component listed is the primary direction addressed by the monitoring question.

Table 20 through Table 41 outline key monitoring questions for select plan components and indicators.

Required monitoring items from 36 CFR 219.12(a)(5) are as follows:

- Status of select watershed conditions
- Status of select ecological conditions, including key characteristics of terrestrial and aquatic ecosystems
- Status of focal species to assess the ecological conditions required under 36 CFR 219.9
- Status of a select set of the ecological conditions required under 36 CFR 219.9 to contribute to the recovery of threatened, endangered, and candidate species and species of conservation concern
- Status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives
- Measurable changes in the plan area related to climate change and other stressors that may be affecting the plan area
- Progress toward meeting the desired conditions and objectives in the plan
- Effects of each management system to determine to ensure they do not substantially and permanently impair the productivity of the land (16 U.S.C. 1604(g)(3)(C))

Ecological Sustainability and Diversity of Plant and Animal Communities

The plan monitoring program contains monitoring questions and indicators addressing the physical and biological elements of the ecosystem (shown in Table 20 through Table 31).

Air quality

Table 20. Plan monitoring questions, relevant plan components, and indicators for air quality

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-AIR-01: Is air quality on the Ashley National Forest being maintained or is it moving toward desired conditions?	FW-DC-AIR-01 through 04; FW-GD-AIR-01; FW-DC-SOCEC-01; FW-DC-SOCEC-01	**IND-AIR-** **01.** Acres on the Ashley National Forest within airsheds not meeting air quality standards **02.** Nitrate and sulfate deposition trends

Soils

Table 21. Plan monitoring questions, relevant plan components, and indicators for soils

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-SOIL-01: Is soil quality, including productivity, being maintained or improved?	FW-DC-SOIL-01 through 05	**IND-SOIL-** **Fuel Reduction and Vegetation Management Projects** **01.** Forest Soil Disturbance Monitoring Protocol (FSDMP) **02.** burn pile scar reclamation needs **Rangeland and Other Non-Forested** **03.** Region 4 Soil Condition Evaluation Form **04.** brief or full soil pedon description **Oil and Gas Leases in South Unit** **05.** interim and final reclamation status

Watershed, aquatic, and riparian ecosystems

Watershed- and groundwater-dependent ecosystems

Table 22. Plan monitoring questions, relevant plan components, and indicators for watershed- and groundwater-dependent ecosystems

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-WATER-01: Are watersheds and water quality being maintained or moved toward desired conditions?	FW-DC-WATER-01-02, 04, 07, 08; FW-OB-WATER-01 through 03; FW-GD-WATER-01; FW-OB-FISH-01, 03; FW-DC-RMZ-01 and 02; FW-GD-RMZ-01 through 05; FW-GD-SOIL-01 through 05	**IND-WATER-** **01.** Watershed Condition Framework indices and trends **02.** Trends in water quality (number of waters impaired vs. fully supporting designated beneficial uses) **03.** Watershed acres improved and number of watersheds with improved condition class **04.** Project monitoring for the implementation and effectiveness of best management practices to protect water quality

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-WATER-02: Are water bodies being maintained or moving toward desired conditions?	FW-DC-WATER-01, 03 through 06, 09 and 10; FW-OB-WATER-02 and 03: FW-GD-WATER-01 and 02; FW-DC-FISH-01 through 04, 06; FW-OB-FISH-01 through 03, FW-GD-FISH-03 and 04; FW-DC-RMZ-01 and 02; FW-GD-RMZ-01 through 05	**IND-WATER-** **05.** Trends in ecological function of aquatic habitat (may include key measures of channel dimension, bank stability, substrate characteristics, habitat complexity, water chemistry, temperature, productivity) **06.** Acres/miles of aquatic habitat restored
MON-WATER-03: Are wetlands and riparian habitats being maintained or moving toward desired conditions?	FW-DC-WATER-01, 03, 06, 09 and 10; FW-OB-WATER-01 through 03; FW-GD-WATER-02; FW-DC-RMZ-01 and 02; FW-GD-RMZ-01 through 04; FW-DC-REHAB-01; FW-ST-REHAB-01; FW-DC-SOIL-01 and 04; FW-GD-SOIL-05	**IND-WATER-** **07.** Stable or positive trends in riparian and wetland surveys (may include greenline monitoring, riparian zone vegetation monitoring, wetland and groundwater-dependent ecosystem surveys, repeat photography study points) **08.** Acres of restoration work within riparian management zones
MON-WATER-04: Is input received from the Ute Indian Tribe and other local communities when planning new or additional priority areas for watershed restoration?	FW-GO-TRIBE-01; FW-GO-GRAZ-02; FW-GO-ROAD-02; FW-GO-01; FW-GO-ROS-01; FW-GO-SOCEC-01	**IND-WATER-** **09.** Documented input or requests for input

Fisheries and aquatic ecosystems

Table 23. Plan monitoring questions, relevant plan components, and indicators for fisheries and aquatic ecosystems

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-FISH-01: Is the amount of occupied stream and lake habitat in the plan area changing?	FW-DC-FISH-01 through 07; FW-OB-FISH-01 through 04; FW-GD-FISH-01 through 04	**IND-FISH-** **01.** Number of perennial fish-bearing stream miles and/or lake acres
MON-FISH-02: Are stream habitats that support Colorado River cutthroat trout being maintained or improved?	FW-DC-FISH-05; FW-OB-FISH-03	**IND-FISH-** **02.** Less than 20% fines in fish spawning beds
MON-FISH-03: Are stream miles and lake acres occupied by Colorado River cutthroat trout stable, decreasing, or increasing?	FW-OB-FISH-03	**IND-FISH-** **03.** Number of Colorado River cutthroat trout-occupied stream miles and/or lake acres is increased by 30 miles in the first 10 years of the plan

Terrestrial vegetation

Table 24. Plan monitoring questions, relevant plan components, and indicators for terrestrial vegetation

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-VEGTER-01: Are invasive or noxious plant species, or both, expanding or decreasing over time?	FW-DC-VEGTER-05; FW-DC-VEGTER-08; FW-DC-VEGNF-01; FW-GD-VEGTER-04; FW-GO-VEGTER-01 through 04	**IND-VEGTER-** **01.** Presence or absence derived from vegetation composition
MON-VEGTER-02: Are invasive or noxious plant species, or both, disrupting ecological processes and diminishing resiliency of native vegetation communities?	FW-DC-VEGTER-01 through 03; 05, 08; FW-DC-VEGNF-01; FW-GD-VEGTER-04; FW-GO-VEGTER-01 and 02	**IND-VEGTER-** **02.** Vegetation composition based on resource values

At-risk plant species

Table 25. Plan monitoring questions, relevant plan components, and indicators for at-risk plant species (threatened, endangered, proposed, and candidate plant species and species of conservation concern)

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-ATRISK-01: Are ecological processes present and functioning in a manner that sustains ecological integrity and resiliency and long-term persistence of at-risk species habitats?	FW-DC-VEGTER-01 through 09; FW-DC-VEGNF-01; FW-DC-ATRISK-01; FW-SD-ATRISK-01; FW-GO-ATRISK-01; FW-GO-VEGTER-01 and 02	**IND-ATRISK-** **01.** Vegetation composition based on resource values **02.** Total ground cover within 85% of potential **03.** Plant species richness within range of variability **04.** Conifer encroachment limited to 10% tree crown cover or less

Forested vegetation

Table 26. Plan monitoring questions and indicators for forested vegetation

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-VEGF-01: To what extent is forested vegetation trending toward desired conditions for vegetation structure and composition?	FW-DC-PJ-01; FW-DC-CONIF-01; FW-DC-CONIF-02	**IND-VEGF-** **01.** Proportion (percentage of total acres) forestwide and by vegetation type (and landtype association where applicable) for each of these indicators: (a) vegetative structural stage distribution and (b) percent composition of early seral species

Aspen—Focal Species

Table 27. Plan monitoring questions, relevant plan components, and indicators for aspen

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-ASPEN-01: Is persistent aspen increasing, maintaining, or decreasing on the landscape?	FW-DC-ASPEN-01 and 02; FW-GD-ASPEN-01 through 04	**IND-ASPEN-** **01.** Acres of persistent aspen

Non-forest vegetation

Table 28. Plan monitoring questions, relevant plan components, and indicators for non-forest vegetation

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-VEGNF-01: Are non-forest vegetation communities meeting or trending toward desired condition?	FW-DC-VEGTER-01 through 09; FW-DC-VEGNF-01; FW-DC-ALPINE-01; FW-DC-SHRUB-01; FW-DC-SAGE-01 and 02; FW-GD-01 through 04; FW-OB-NF-01; FW-OB-SAGE-01	**IND-VEGNF-** **01.** Vegetation composition based on resource values) **02.** Total ground cover within 85% of potential **03.** Plant species richness within range of variability **04.** Conifer encroachment limited to 10% tree crown cover or less

Fire

Table 29. Plan monitoring questions, relevant plan components, and indicators for fire

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-FIRE-01: Is the frequency and severity of wildland fire within the natural range of variation?	FW-DC-FIRE-03	**IND-FIRE-** **01.** Acres burned by wildfire (and large prescribed fire) and by fire regime group and vegetation condition class **02.** Number of natural unplanned ignitions managed to meet resource objectives associated with the vegetation types **03.** Acres treated using wildland fire and other vegetation treatments
MON-FIRE-02: How are changes to vegetation composition and structure affecting fire behavior characteristics?	FW-OB-FIRE-01 and 02; FW-DC-FIRE-03	**IND-FIRE-** **04.** Acres of vegetation succession due to exclusion from wildland fire **05.** Wildfire and fuel-treated acres provide for reduced fuel loadings that allow characteristic natural fire behavior and natural fire regime as appropriate to the site

Protection of highly valued resources or assets

Table 30. Plan monitoring questions, relevant plan components, and indicators for protection of highly valued resources or assets

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-HVRA-01: Are fuel treatments helping to protect highly valued resources or assets and assisting with control or management, or both, of fires?	FW-DC-HVRA-03; FW-OB-HVRA-01; FW-GD-HVRA-03	**IND-HVRA-** **01.** Fuel treatment effectiveness **02.** Acres of prescribed fire and other fuel treatments to protect highly valued resources or assets **03.** Number of fuel treatments helping control or manage fire **04.** Number of fuel treatments that changed fire behavior **05.** Number of treatments strategically located to facilitate control or management of fire, or both

Wildlife

Table 31. Plan monitoring questions, relevant plan components, and indicators for wildlife

Monitoring Question	Plan Component(s)	Indicator(s)
MON-WILDL-01: Are vegetation communities that support species of interest (elk, mule deer, and moose) in the plan area being maintained or improved?	FW-DC-WILDL-01 and 02	**IND-WILDL-** **01**. Vegetation communities that are meeting or trending toward desired condition
MON-WILDL-02: Are vegetation communities that support threatened, endangered, proposed, and candidate species and species of conservation concern in the plan area being maintained or improved?	FW-DC-WILDL-01 through 03; FW-GO-WILDL-02, 07, 11	**IND-WILDL-** **02.** Vegetation communities that are meeting or trending toward desired condition
MON-WILDL-03: Is occupied greater sage-grouse habitat in the plan area being maintained or improved?	FW-DC-WILDL-01 through 03; FW-DC-SAGE-0-02, FW-DC-SHRUB-01	**IND-WILDL-** **03**. Acres of occupied greater sage-grouse habitat (nesting, brood-rearing, winter habitat, etc.)
MON-WILDL-04: Has white-nose syndrome been detected in bat populations within 50 miles of the plan area?	FW-DC-WILDL-01 through 03	**IND-WILDL-** **04**. White-nose syndrome detection in bat hibernacula

Social and Economic Sustainability and Multiple Uses

The plan monitoring program contains monitoring questions and indicators addressing the social and economic elements of the ecosystem (shown in Table 32 through Table 41).

Social and economic sustainability

Table 32. Plan monitoring questions, relevant plan components, and indicators for the social and economic sustainability

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-SOCEC-01: To what extent is the Ashley National Forest providing goods and services (such as wilderness, fish and wildlife, recreation opportunities and access, timber, energy resources, livestock forage, and infrastructure) to support the local and regional economy?	FW-DC-SOCEC-01; FW-DC-SOCEC-02	**IND-SOCEC-** **01** Changes in forest outputs and use level (e.g., timber volume, grazing animal unit months, recreation visitation) that directly influence how the Ashley National Forest contributes to local economic activities.
MON-SOCEC-02: To what extent is the Ashley National Forest contributing to social and economic sustainability for local populations of environmental justice concern, including tribes?	FW-DC-SOCEC-02; FW-GO-SOCEC-01	**IND-SOCEC-** **02.** Number of projects with substantial involvement or potential positive impact for environmental justice populations

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-SOCEC-03: Are there changes in local demographics and economic characteristics that may be influencing the demand for Ashley National Forest ecosystem services and multiple uses?	FW-DC-SOCEC-01; FW-DC-SOCEC-02	**IND-SOCEC-** **03.** Changes in area demographics and composition of local economy, such as percent change in population size (including minority or non-English speaking populations), percent change in poverty rate, percent change in unemployment rate, and percent employment per industrial sector

Areas of tribal importance

Table 33. Plan monitoring questions, relevant plan components, and indicators for areas of tribal importance

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-TRIBE-01: To what extent is the Ashley National Forest staff utilizing tribal perspectives and traditional ecological knowledge in project planning through tribal collaboration?	FW-DC-TRIBE-03; FW-OB-TRIBE-01; FW-GD-TRIBE-02; FW-GO-TRIBE-01; FW-GO-TRIBE-02	**IND-TRIBE-** **01.** Number of times input or traditional ecological knowledge has been received from tribal officers or staff and used in project planning efforts
MON-TRIBE-02: Is project collaboration and coordination occurring between the Ashley National Forest and the Ute Indian Tribe?	FW-GO-TRIBE-01	**IND-TRIBE-** **02.** Number of projects that have included cross-boundary implementation, use of special agreements/authorities, or resource coordination

Cultural and historic resources

Table 34. Plan monitoring questions, relevant plan components, and indicators for cultural and historic resources

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-HIST-01: Are management actions contributing to the sustainability of cultural and historic resources?	FW-DC-HIST-01; FW-DC-HIST-03; FW-DC-HIST-05; FW-OB-HIST-02; FW-OB-HIST-04	**IND-HIST-** **01.** Percentage of heritage resources eligible to the National Register of Historic Places that are in good condition based on the most recent condition assessment **02.** Number of cultural and historic sites that are determined to be eligible to the National Register of Historic Places
MON-HIST-02: To what extent are visitors experiencing developed heritage sites?	FW-DC-HIST-02; MA-DC-SWETT-02; MA-DC-UML-02; MA-DC-STATN-02; MA-DC-CARTER-02	**IND-HIST-** **03.** Number of visitors to developed heritage sites

Timber

Table 35. Plan monitoring questions, relevant plan components, and indicators for timber

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-TIMB-01: Is the harvest level exceeding the sustained yield limit?	FW-DC-TIMB-01; FW-ST-TIMB-07	**IND-TIMB-** **01.** Timber Information Manager data on volume sold via permits and contracts

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-TIMB-02: How are management actions contributing to a sustainable mix of forest products in response to market demands?	FW-DC-TIMB-02; FW-OB-TIMB-01; FS-OB-TIMB-02	**IND-TIMB-** **02.** Million board feet/million cubic feet offered and sold annually.
MON-TIMB-03: How are management actions contributing to the recovery of economic value of dead or dying trees on suitable lands?	FW-DC-TIMB-04	**IND-TIMB-** **03.** Million board feet/million cubic feet offered and sold annually as salvage harvest.

Livestock grazing

Table 36. Plan monitoring questions, relevant plan components, and indicators for livestock grazing

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-GRAZ-01: Are allotments meeting forest plan and allotment management plan utilization guidelines?	FW-DC-GRAZ-01; FW-GD-GRAZ-01; FW-GD-GRAZ-02	**IND-GRAZ-** **01.** Utilization of key forage species (≤ 50 percent or other allowable use level in the allotment management plan),and stubble height (≤ 4 inch or other allowable use level in the allotment management plan) between greenline and bankfull of stream systems.

Sustainable recreation settings and opportunities

Recreation opportunity spectrum

Table 37. Plan monitoring questions, relevant plan components, and indicators for the recreation opportunity spectrum

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-ROS-01: Are the current recreation settings and opportunities meeting or moving toward desired recreation settings and opportunities?	FW-DC-ROS-02 through 14	**IND-ROS-** **01.** Management actions or activities that move toward desired recreation opportunity spectrum class characteristics
MON-ROS-02: What are the trends in visitation forestwide?	FW-DC-ROS-02 and 03	**02.** Visitor number trends over time

Developed recreation sites

Table 38. Plan monitoring questions, relevant plan components, and indicators for developed recreation sites

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-RECDEV-01: Are visitors satisfied with the Ashley National Forest's developed recreation sites and signage?	FW-DC-RECDEV-01	**IND-RECDEV-** **01.** Visitor satisfaction as measured by the National Visitor Use Monitoring program

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-RECDEV-02: To what degree is the Forest Service developing or using partnerships to provide additional capacity for visitor services?	FW-GO-RECDEV-01	**IND-RECDEV-** **02.** Number of agreements with partners, by activity type, that are supporting visitor services **03.** Number and type of projects completed with partners

Scenic resources

Table 39. Plan monitoring questions, relevant plan components, and indicators for scenic resources

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-SCENIC-01: What level of satisfaction do visitors express for scenery associated with the Ashley National Forest developed recreation sites?	FW-DC-SCENIC-01	**IND-SCENIC-** **01.** Visitor satisfaction as measured by National Visitor Use Monitoring program

Land status and ownership

Table 40. Plan monitoring questions, relevant plan components, and indicators for land status and ownership

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-LAND-01: What is the progress toward reducing the potential for encroachment and trespass on Ashley National Forest lands?	FW-DC-LAND-01	**IND-LAND-** **01.** Number of miles of forest boundary surveyed and posted on an annual basis
MON-LAND-02: Are land adjustments (conveyance, purchase, and donation) improving the national forest ownership pattern to increase management efficiency?	FW-GO-LAND-01	**IND-LAND-** **02.** Number of acres conveyed or acquired and the benefitting resource (recreation, wildlife habitat, or wetlands)

Designated Areas

Designated wilderness areas

Table 41. Plan monitoring questions, relevant plan components, and indicators for designated wilderness areas

Monitoring Question(s)	Plan Component(s)	Indicator(s)
MON-HUW-01: Do management activities in designated wilderness areas preserve and protect wilderness character?	DA-DC-HUW-01 and 02; 04, 05, 07 through 09, 11, 13	**IND-HUW-** **01.** Score on National Wilderness Stewardship Performance elements **02.** Limits of acceptable change monitoring measures for the High Uintas Wilderness **03.** Number and type of authorized motorized use and mechanized transport entry **04.** Number and type of unauthorized motorized use and mechanized transport

References

Bevenger, G. 2017. Ashley National Forest assessment: Air, soil, and watershed resources report. Public draft. Vernal, UT: USDA Forest Service, Ashley National Forest.

Bradley, A. F., N. V. Noste, and W. C. Fischer. 1992. Fire ecology of forest and woodlands in Utah. General Technical Report INT-287. Ogden, UT: USDA Forest Service, Intermountain Research Station.

Buerkle, R. 2017. Ashley National Forest assessment: Scenery report. Public draft. Vernal, UT: USDA Forest Service, Ashley National Forest. https://www.fs.usda.gov/detail/ashley/landmanagement/planning/?cid=fseprd547713.

Debano, L. F., D. G. Neary, and P. F. Ffolliott. 1998. Fire's effects on ecosystems. New York: John Wiley and Sons.

Forest Service (U.S. Department of Agriculture, Forest Service). 1982. ROS users guide. Washington, DC: USDA Forest Service, Washington Office.

_____. 1996a. Proper functioning condition assessment: Ashley National Forest. Draft with handwritten notes. Vernal, UT: Ashley National Forest, Vernal Ranger District.

_____. 1996b. Trout Slope landscape assessment. USDA Forest Service. Vernal, UT: Ashley National Forest, Vernal Ranger District.

_____. 1997. Record of decision: Western Uinta Basin oil and gas leasing. Ogden, UT: USDA Forest Service, Intermountain Region, Uinta and Ashley National Forests.

_____. 1998. Sub-regional assessment of properly functioning condition for areas encompassing the national forests of Northern Utah. Version 1.0. Draft. Ogden, UT: USDA Forest Service, Intermountain Region.

_____. 2000. Decision notice: Finding of no significant impact and non-significant amendment of the forest plans in Utah for the Utah Northern Goshawk Project [Appendix CC, Ashley forest plan amendment]. Ogden, UT: USDA Forest Service, Intermountain Region.

_____. 2001. The built environment image guide for the national forests and grasslands. Washington, DC: USDA Forest Service, Washington Office.

_____. 2009a (March 30). Ashley National Forest ecosystem diversity evaluation report. Draft #5. Vernal, UT: USDA Forest Service, Ashley National Forest.

_____. 2009b. Regional assessment of properly functioning condition. Maintained by Clinton K. Williams. Ogden, UT: USDA Forest Service, Intermountain Region.

_____. 2012. National best management practices for water quality on National Forest System lands, volume 1: National core BMP technical guide. Manual FS-990a. Washington, DC: USDA Forest Service, Washington Office.

_____. 2017. Assessment report of ecological, social, and economic conditions on the Ashley National Forest. Vernal, UT: USDA Forest Service, Ashley National Forest.

_____. 2018. Recreation opportunity spectrum, Ashley National Forest User Guide for GIS, calculations with current adjustments.

_____. 2020. Timber suitability analysis of land management planning. Technical Guide FS-WO-EMC. Washington, DC: USDA Forest Service, Washington Office, Ecosystem Management Coordination.

_____. 2022. USDA Forest Service climate adaptation plan. FS-1196. Washington, DC: USDA Forest Service, Washington Office. https://www.usda.gov/sites/default/files/documents/4_NRE_FS_ClimateAdaptationPlan_2022.pdf.

Forest Service, Bureau of Land Management, Utah Division of Wildlife Resources, and U.S. Fish and Wildlife Service. 1998. Conservation strategy and agreement for the management of northern goshawk habitat in Utah.

Halofsky, J. E., D. L. Peterson, J. J. Ho, N. Little, and L. A. Joyce. 2018. Climate change vulnerability and adaptation in the Intermountain Region: Part 1. RMRS-GTR-375. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.

Hawksworth, F. G., and D. W. Johnson. 1989. Biology and management of dwarf mistletoe in lodgepole pine in the Rocky Mountains, General Technical Report RM-169. Fort Collins, CO: USDA Forest Service, Rocky Mountain Region.

Helms, J. A. 1998. *The dictionary of forestry*. Bethesda, MD: Society of American Foresters.

Huber, A., S. Goodrich, and K. Anderson. 1999. Diversity with successional status in the pinyon-juniper/mountain mahogany/bluebunch wheatgrass community type near Dutch John, Utah. In S. B. Monsen & R. Stevens (Comps.), Proceedings: Ecology and management of pinyon-juniper communities within the interior West—1997 September 15-18, Provo, UT. RMRS-P-9 (pp. 114–117). Ogden, UT: USDA Forest Service, Rocky Mountain Research Station.

Huber, A. A., and S. K. Goodrich. 2010. Community dynamics and structural stages of pinyon-juniper/shrub communities on the Ashley National Forest. PowerPoint. Vernal, UT: USDA Forest Service, Ashley National Forest, Supervisor's Office.

Huber, A., C. Webb, C. Plunkett, B. Gillespie, C. Gamble, J. Flores, and D. Bambrough. 2017. Terrestrial ecosystems, system drivers, and stressors report. Vernal, UT: Ashley National Forest. https://www.fs.usda.gov/detail/ashley/landmanagement/planning/?cid=fseprd547713.

Intermountain Society of American Foresters. 2013. Management of pinyon-juniper "woodland" ecosystems: A position of the Intermountain Society of American Foresters.

Johnson, D. 2002. Refinement of VSS determination for the Ashley National Forest. Vernal, UT: Ashley National Forest.

Johnson, D. 2007. 2007 regeneration review: Ashley National Forest. Vernal, UT: Ashley National Forest.

Kitchen, S. G., P. N. Behrens, S. K. Goodrich, A. Green, J. Guyon, M. O'Brien, and D. Tart. 2019. Guidelines for aspen restoration in Utah with applicability to the Intermountain West. RMRS-GTR-390. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.

Kurzel, B. P., T. T. Veblen, and D. Kulakowski, D. 2007. A typology of stand structure and dynamics of quaking aspen in northwestern Colorado. Forest Ecology and Management 252: 176–190.

Mueggler, W. F. 1988. Aspen community types of the Intermountain Region. INT-GTR-250. Ogden, UT: USDA Forest Service, Intermountain Research Station.

Parsons, A., P. R. Robichaud, S. A. Lewis, C. Napper, and J. T. Clark. 2010. Field guide for mapping post-fire soil burn severity. RMRS-GTR-243. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.

Reynolds, R. T., R. T. Graham, M. H. Reiser, R. L. Bassett, P. L. Kennedy, D. A. Boyce Jr., G. Goodwin, R. Smith, and E. L. Fisher. 1992. Management recommendations for the northern goshawk in the southwestern United States. RM-GTR-217. Fort Collins, CO: USDA Forest Service, Rocky Mountain Forest and Range Experiment Station.

Rice, J., T. Bardsley, P. Gomben, D. Bambrough, S. Weems, A. Huber, and L. A. Joyce. 2017a. Assessment of aspen ecosystem vulnerability to climate change for the Uinta-Wasatch-Cache and Ashley National Forests, Utah. RMRS-GTR-366. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.

Rice, J., T. Bardsley, P. Gomben, D. Bambrough, S. Weems, S. Leahy, C. Plunkett, C. Condrat, and L. A. Joyce. 2017b. Draft for policy review: Assessment of watershed vulnerability to climate change for the Uinta-Wasatch-Cache and Ashley National Forests, Utah. RMRS-GTR-362. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.

Romme, W. H., C. Allen, J. Bailey, W. Baker, B. Bestelmeyer, P. Brown, K. Eisenhart, L. Floyd-Hanna, D. Huffman, B. Jacobs, R. Miller, E. Muldavin, T. Swetnam, R. Tausch, and P. Weisberg. 2007. Historical and modern disturbance regimes of piñon-juniper vegetation in the western U.S. Colorado Forest Restoration Institute and the Nature Conservancy. http://www.cfri.colostate.edu/docs/P-J_disturbance_regimes_short%20synthesis_5-07.pdf.

USDA (U.S. Department of Agriculture). 2021. Action plan for climate adaptation and resilience. Washington, DC: U.S. Department of Agriculture. https://www.sustainability.gov/pdfs/usda-2021-cap.pdf.

Wilson, D., K. Paulin, and S. Dewey. 1996. Ashley National Forest habitat model (aka the VSS thing). Prepared concurrently with the Trout Slope Landscape Assessment. Vernal, UT: USDA Forest Service Ashley National Forest.

Glossary

2012 Planning Rule Direction that sets forth process and content requirements to guide the development, amendment, and revision of land management plans to maintain and restore National Forest System land and water ecosystems while providing for ecosystem services and multiple uses, effective May 9, 2012 (36 CFR§ 219).

active lek (sage-grouse) A sage-grouse lek with two or more males strutting for 2 or more years during the previous 10 years.

adaptive management The general framework encompassing the three phases of planning: assessment, plan development, and monitoring (36 CFR 219.5). This framework supports decision-making that meets management objectives while simultaneously accruing information to improve future management by adjusting the plan or plan implementation. Adaptive management is a structured, cyclical process for planning and decision-making in the face of uncertainty and changing conditions with feedback from monitoring, which includes using the planning process to actively test assumptions, track relevant conditions over time, and measure management effectiveness.

administrative site A location or facility constructed for use primarily by government employees to facilitate the administration and management of public lands. Examples on National Forest System lands include, but are not limited to, ranger stations, warehouses, and guard stations.

airshed An airshed is a geographic area that, because of topography, meteorology, and climate, is frequently affected by the same air mass and is subject to similar air pollution conditions.

all-terrain vehicle A type of off-highway vehicle that travels on three or more low-pressure tires, has handlebar steering, is less than or equal to 50 inches in width, and has a seat designed to be straddled by the operator.

allotment A designated area of land available for permitted livestock grazing (36 CFR 222). A grazing allotment can include National Forest System lands and lands of other ownership. Permits are issued for the use of allotments or portions of allotments. Allotments are in active status when grazing permits have been issued; allotments are in vacant status when they do not have a grazing permit issued. Allotments are in closed status when they have been closed to livestock grazing by administrative decision or action (Forest Service Manual 2205).

alpine area High-altitude area (above approximately 11,200 feet on the Ashley National Forest) found above timberline, including its associated plant communities.

animal unit month The amount of feed or forage required by one mature cow of approximately 1,000 pounds or its equivalent for 1 month. The forage requirement of both adults and offspring should be considered (Forest Service Handbook 2209.15).

aquatic organism passage The ability of fish and other aquatic creatures to move up and downstream under a road.

aquifer An underground layer of water-bearing permeable rock, rock fractures, or unconsolidated material (gravel, sand, or silt) from which groundwater can be extracted using a water well.

aspen stand A singular organism formed by numerous individual aspen clones that have coalesced to form a continuous aspen community.

at-risk species A federally recognized threatened, endangered, proposed, or candidate species, or a species of conservation concern that is relevant to the plan area and planning process (36 CFR 219.6(b)). See also **candidate species**, **endangered species**, **proposed species**, **species of conservation concern**, **threatened species**.

bankfull The stream flow level or discharge at which channel maintenance is the most effective at moving sediment and forming or changing bars, bends, meanders, and the average morphologic characteristics of channels. Bankfull discharge is associated with a momentary maximum flow that, on average, has a recurrence interval of 1.5 years as determined using a flood frequency analysis. In stable rivers, bankfull is reached when the water cannot be contained within its banks and flooding begins. In entrenched streams, bankfull width is restricted and more difficult to determine, but the top of depositional features is typically bankfull. On aggrading streams, the bankfull discharge is no longer contained within the banks during a bankfull event, often causing excessive flooding. A stream's bankfull discharge may increase or decrease with hydrologic modifications, changes in impervious land surfaces, or vegetative cover types that alter the rates of water movement through the watershed.

bark beetle Any beetle that feeds exclusively in the cambial region of stems, boles, or branches and spends most of its life cycle there. The cambial region is the layer of tissue between the inner bark and the wood of the tree. Although bark beetles are native to the Ashley National Forest and play important ecological roles, they can cause extensive tree mortality and negative economic and social impacts.

basal area The cross-sectional area of all stems of a species or all stems in a stand measured at breast height (4.5 feet above the ground) and expressed per unit of land area.

best available scientific information Scientific information used to inform the planning process; information determined by the responsible official to be the most accurate, reliable, and relevant to the issues being considered (36 CFR 219.3).

best management practices The method(s), measure(s), or practice(s) selected by an agency to meet its nonpoint resource control needs. Best management practices include, but are not limited to, structural and nonstructural controls and operation and maintenance procedures. Best management practices can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters (36 CFR 219.19) or into the air. This term—best management practices—is also used in other resource areas to describe methods or techniques found to be the most effective and practical in achieving an objective (such as preventing or minimizing impacts from grazing and from invasive weed establishment and spread) while making use of the resources.

biodiversity The variety and abundance of plants, animals, and other living organisms and the ecosystem processes, functions, and structures that sustain them. Biodiversity includes the relative complexity of species and communities across the landscape at a variety of scales, connected in a way that provides for the genetic diversity to sustain species over the long term.

biological integrity Biological integrity (or functionality) is defined by the characteristics that influence the diversity and abundance of aquatic species, terrestrial vegetation, and soil productivity.

burn severity A qualitative assessment of the heat pulse directed toward the ground during a fire. Burn severity relates to soil heating, large fuel and duff consumption, consumption of the litter and organic layer beneath trees and isolated shrubs, and mortality of buried plant parts. See also **soil burn severity**.

calcareous fen A type of fen with high (alkaline) pH due to calcium concentration in the parent materials and water. This type of wetland is rare on the Ashley National Forest.

candidate species A status for (1) U.S. Fish and Wildlife Service candidate species, a species for which the U.S. Fish and Wildlife Service possesses sufficient information on vulnerability and threats to support a proposal to list as endangered or threatened but for which no proposed rule has yet been published by the U.S. Fish and Wildlife Service; or for (2) National Marine Fisheries Service candidate species, a species that is (i) the subject of a petition to list and for which the National Marine Fisheries Service has determined that listing may be warranted, pursuant to section 4(b)(3)(A) of the Endangered Species Act (16 United States Code [U.S.C.] 1533(b)(3)(A)), or (ii) not the subject of a petition but for which the National Marine Fisheries Service has announced in the Federal Register the initiation of a status review. See also **at-risk species**, **endangered species**, **proposed species**, **threatened species**.

canopy cover The percentage of a fixed area covered by the crown of an individual tree, shrub, or plant species or delimited by the vertical projection of its outermost perimeter. Each vegetation canopy layer is considered independently from the others. The sum of canopy cover percentage for all species/layers/life forms may exceed 100 percent. This term is most often used to describe non-forest vegetation in this document.

capability The potential of an area of land or water or both to produce resources, supply goods and services, and allow resource uses under a specified set of management practices and at a given level of management intensity.

carbon sequestration The process in which atmospheric carbon dioxide is removed from the atmosphere by photosynthesis and stored as carbon in plant biomass and soils.

carbon stock The quantity of carbon stored within soils, vegetation (live and dead), and wood products.

cave, significant See **significant Federal cave**.

Central Utah Project The Central Utah Project (CUP) was authorized in 1956 under the Colorado River Storage Project Act (P.L. 84-485) as a participating project of the Colorado River Storage Project. The Central Utah Project Completion Act (P.L. 102-575), enacted on October 30, 1992, transferred all responsibility and authority to complete the construction of the CUP to the Central Utah Water Conservation District. In addition, it established the Utah Reclamation Mitigation Conservation Commission to coordinate mitigation and conservation activities for the project. The Department of the Interior retains oversight responsibility and ultimate authority to ensure completion and future operation of the project in accordance with Federal laws, regulations, and policies. See **withdrawn lands**.

classification (of a river or river segment) Identification of the class (wild, scenic, or recreational) that appropriately describes an eligible river or river segment, based on the criteria established in section 2(b) of the Wild and Scenic Rivers Act of 1968.

clearcut regeneration method An even-aged (or two-aged with reserves) regeneration harvest method that removes essentially all trees in a stand, producing a fully exposed microclimate for the development of a new single-age class of trees in one entry. A clearcut may or may not have reserve trees left to attain goals other than regeneration. See also **even-aged method**, **regeneration harvest method**, **reserves/reserve trees**, **silvicultural system**, **two-aged method**.

climax forest An ecological community that represents the culminating stage of a natural forest succession for its locality (in other words, for its environment).

coarse woody debris Dead organic materials, including plant stems, branches, roots, and logs in all stages of decay, generally defined as having a diameter greater than 3 inches.

codominant tree species Tree species in a forest that are about equally numerous and exert the greatest influence.

commercial use/activity A use or activity on National Forest System lands (a) where an entry or participation fee is charged or (b) where the primary purpose is the sale of a good or service, and in either case regardless of whether the use or activity is intended to produce a profit.

community wildfire protection plan A plan developed in a collaborative framework that prioritizes areas for hazardous fuel (vegetation) reduction treatments. The plan also recommends the types and methods of treatment on Federal and non-Federal land that will protect one or more at-risk communities and essential infrastructure. The plan also recommends measures to reduce structural ignitability throughout the at-risk community. The plan may address issues such as wildfire response, hazard mitigation, community preparedness, or structure protection.

compaction (soil) A compression of soil resulting in an increase in soil bulk density and a decrease in soil porosity and infiltration. Compaction is commonly due to the weight and vibration of equipment or other traffic on the soil and can commonly affect soil 2 to 12 inches below the surface. Compaction changes or destroys soil structure, reduces infiltration, inhibits water movement, and may reduce the soil's air- and water-holding capacity.

compensatory mitigation (sage-grouse) Compensation is equal to or above the biological impacts to greater sage-grouse habitat so there is no net loss of sage-grouse habitat.

composition (biological) The biological elements within the different levels of biological organization, from genes and species to communities and ecosystems.

composition (stand) The proportion of each tree species in a stand expressed as a percentage of the total number, basal area, or volume of all tree species in the stand.

composition (vegetation) The proportions of various plant species in relation to the total on a given area; it may be expressed in terms of cover, density, weight, etc.

conifer A cone-bearing tree with needle-like or scale-like leaves that are typically evergreen.

connectivity The ecological conditions that exist at several spatial and temporal scales that provide landscape linkages that permit the exchange of flow, sediments, and nutrients; the daily and seasonal movements of animals within their home ranges; the dispersal and genetic interchange between populations; and the long-distance range shifts of species such as those in response to climate change. Connectivity needs vary by species.

conservation The protection, preservation, management, or restoration of natural environments, ecological communities, and species.

control (of invasive species) With respect to invasive species (plant, pathogen, vertebrate, or invertebrate species), control is defined as any activity or action taken to reduce the population or contain, limit the spread of, or reduce the effects of an invasive species. Control activities are generally directed at established free-living infestations and may not necessarily be intended to eradicate the targeted infestation.

corridor A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries. It can also be identified for wildlife habitat connectivity or for protecting forest resources.

cover The elements of the environment used by an animal for hiding.

cover type The existing vegetation of an area described by the dominant plant species. Synonymous with forest type.

critical habitat For a threatened or endangered species: (1) the specific areas within the geographical area occupied by the species at the time it is listed, in accordance with the provisions of section 4 of the Endangered Species Act (16 U.S.C. 1533), on which are found those physical or biological features (a) essential to the conservation of the species and (b) which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with provisions of section 4 of the Endangered Species Act (16 U.S.C. 1533) upon a determination by the Secretary of the Interior that such areas are essential for the conservation of the species (Endangered Species Act, section 3 (5)(A) [16 U.S.C. 1532 (3)(5)(A)]. Critical habitat is designated through rulemaking by the Secretary of the Interior or the Secretary of Commerce (Endangered Species Act, section 4 (a)(3) and (b)(2) [16 U.S.C. 1533 (a)(3) and (b)(2)]).

critical load The level of atmospheric deposition below which significant harmful effects on specified sensitive elements of the environment are not expected to occur. Atmospheric deposition is the process by which particles, aerosols, dust, and gases move from the atmosphere to the earth's surface via rain, snow, fog, or dry deposition.

crown cover The percentage of a fixed area covered by a vertical projection of the outermost perimeter of the natural spread of the foliage of plants above 4.5 feet. Crown closure can be measured from above looking down on the canopy (a "bird's-eye view"). The total crown cover percentage of an area cannot exceed 100 percent. This term is most often used to describe forested vegetation in this document.

cultural resources The present expressions of human culture and the physical remains of past human activities, such as buildings, structures, districts, landscapes, archaeological sites, and objects. Cultural resources can also include locations that are significant in national, regional, or local history, architecture, archaeology, engineering, or culture. They include sacred sites and natural features significant to contemporary communities or peoples.

culvert Drain or waterway crossing under a road or railroad.

decommissioning Demolition, dismantling, removal, obliteration, or disposal of a deteriorated or otherwise unneeded asset or component, including necessary restoration and cleanup work. See also **road decommissioning**.

designated area An area or feature identified and managed to maintain its unique special character or purpose. Designated areas include congressionally designated areas, such as designed wilderness and national recreation areas. In addition, these areas include inventoried roadless areas and research natural areas.

desired condition Descriptions of specific social, economic, or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed.

desired scenic character The appearance of the landscape to be retained or created over time, recognizing that a landscape is a dynamic and constantly changing community of plants and animals. It is a combination of landscape design attributes and opportunities as well as biological opportunities and constraints.

detrimental soil disturbance A degradation of the soil condition that alters the productivity and hydrologic function of a soil. Detrimental soil disturbance is defined by soil displacement, soil compaction, soil puddling, severely burned soil, and soil erosion.

detrimental soil compaction: Soil compaction is generally evaluated from 5 to 30 centimeters below the mineral soil surface. Specific depths for measurement are dependent upon soil type and management activities. Detrimental soil compaction is increased soil density (weight per unit volume) and strength that restricts root growth, reduces soil aeration, and inhibits water movement. Measurements of potential soil compaction may be qualitative or quantitative. Indicators that can be used include soil structural change, shovel penetration resistance, and calibrated penetrometer readings.

detrimental soil puddling: Soil puddling is generally evaluated at the mineral soil surface. Visual indicators of soil puddling include clearly identifiable ruts with berms in mineral soil, or in an Oa horizon of an organic soil. Reduced infiltration and permeability are associated and visually present in areas with soil puddling. Soil puddling may occur in conjunction with detrimental soil compaction. The guidelines for soil compaction (defined above) are to be used when this occurs. Soil puddling can also alter local groundwater hydrology and wetland function and provide conduits for runoff.

detrimental soil displacement: Detrimental soil displacement includes areas where 1 meter by 1 meter or larger exhibits the loss of either 5 cm or half of the humus-enriched topsoil (A horizon), whichever is less.

detrimental soil erosion: Detrimental erosion includes erosion rates that cause long-term productivity losses from an activity area or soil losses that are beyond those acceptable for the activity area.

severely burned soil: The severely burned soil guideline applies to prescribed fire. Severely burned soils are identified by ratings of fire severity and the effects to the soil. A severely burned soil is generally soil that is within a high fire severity burn as defined by the Forest Service Burned Area Emergency Rehabilitation Program (Forest Service Handbook 2509.13)

and Debano et al. (1998). Soil humus losses, structural changes, hydrophobic characteristics, and sterilization are potential effects of severely burned soil.

developed recreation Recreation use or opportunities occurring at developed recreation sites.

developed recreation site An area that has been improved or developed for recreation (36 CFR 261.2). A recreation site on National Forest System lands that has a development scale of 3, 4, or 5:

development scale 3 (moderate site modification): Facilities are about equal in terms of protection of the natural site and user comfort. The contemporary/rustic design of improvements is usually based on use of native materials. Inconspicuous vehicular traffic controls are usually provided. Roads may be hard surfaced and trails formalized, with the primary access over high-standard roads. Development density is about three family units per acre. Interpretive services are informal, if offered, but generally direct.

development scale 4 (heavy site modification): Some facilities are designed strictly for users' comfort and convenience, and facility design may incorporate synthetic materials. There may be extensive use of artificial surfacing of roads and trails. Vehicular traffic control usually is obvious, with the primary access usually over paved roads. Development density is three to five family units per acre. Plant materials are usually native. Interpretive services, if offered, are often formal or structured.

development scale 5 (extensive site modification): Facilities are mostly designed for users' comfort and convenience and usually include flush toilets; they may include showers, bathhouses, laundry facilities, and electrical hookups. Synthetic materials are commonly used. Walks may be formal, and trails may be surfaced. Access is usually by high-speed highways. The development density is five or more family units per acre. Formal interpretive services are usually available. Plant materials may be nonnative, and mowed lawns and clipped shrubs are not unusual.

diameter at breast height The diameter of the stem of a tree measured at breast height (4.5 feet) from the ground. Diameter at breast height in this document implies diameter outside the bark.

dispersed camping The practice of camping outside a developed campground, including designated dispersed camping, dispersed vehicular camping, or backcountry camping.

dispersed recreation General term referring to recreation use outside developed recreation sites; this includes activities such as scenic driving, hiking, backpacking, climbing, hunting, fishing, snowmobiling, horseback riding, cross-country skiing, and recreation in primitive environments.

displacement (of soil) The movement of soil from one place to another by physical forces, including mechanical (equipment) and human or animal traffic.

disturbance An event that alters the structure, composition, or function of terrestrial or aquatic habitats; any relatively discrete event in time that disrupts ecosystem, watershed, community, or species population structure or function and changes resources, substrate availability, or the physical environment. Natural disturbances include drought, floods, wind, fires, wildlife grazing,and insects and pathogens; human-caused disturbances include actions such as timber harvests, livestock grazing, roads, and the introduction of exotic species.

disturbance activities Activities that result in notable vegetation removal, soil disturbance, or altered behavior of wildlife. Examples include road construction and timber harvest.

disturbance regime The characteristic types of disturbance on a given landscape. This includes the frequency, severity, size, and distribution of these characteristic disturbance types, and their interactions and the natural pattern of periodic disturbances, such as fire or flooding.

diversity (of plant and animal communities) The distribution and relative abundance or extent of plant and animal communities and their component species, including trees, in an area.

dominant In ecology, that component of a community (for example, tree species) that is exerting the greatest influence because of its life form or great abundance.

driver (ecological) A natural or human-induced factor that directly or indirectly causes a change in an ecosystem. Examples include climate change, fire events, invasive species, and flooding.

e-bike (electronic bicycle) A bicycle equipped with an electric motor and a battery that may be activated in order to assist with or replace pedaling; considered motorized transportation.

easement Permission the Forest Service gives another party to use National Forest System land for a specific purpose (such as a private landowner needing to build a road across National Forest System land to access their property).

ecological condition The biological and physical environment that can affect the diversity of plant and animal communities, the persistence of native species, and the productive capacity of ecological systems. Ecological conditions include habitat and other influences on species and the environment. Examples of ecological conditions include the abundance and distribution of aquatic and terrestrial habitats, connectivity, roads and other structural developments, human uses, and invasive species.

ecological integrity The quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence.

ecological processes The physical, chemical, and biological actions or events that link organisms and their environment. Processes include water cycle, nutrient cycling, disturbance response, species composition, and structural succession.

ecosystem A spatially explicit, relatively homogeneous unit of the earth that includes all interacting organisms and elements of the abiotic environment within its boundaries. The term *ecosystem* can be used at a variety of scales; for a forest plan, the ecosystem is referred to spatially at the forestwide and geographic area scales as well as within potential vegetation types. An ecosystem is commonly described in terms of its

composition: The biological elements within the different levels of biological organization, from genes and individual plant and animal species to communities (such as cover types).

structure: The organization and physical arrangement of biological elements, such as snags and down woody debris; vertical (size class and structure class) and horizontal (density) distribution of vegetation; stream habitat complexity; landscape pattern; and connectivity.

function: Ecological processes that sustain composition and structure, such as energy flow, nutrient cycling and retention, soil development and retention, predation, and herbivory (feeding on plants), and natural disturbances such as wind, fire, and floods.

connectivity: See **connectivity**.

ecosystem resilience See **resilience**.

ecosystem services The benefit(s) people obtain from an ecosystem, including (1) provisioningservices, such as clean air and fresh water, energy, fuel, forage, fiber, and minerals; (2) regulating services, such as long-term storage of carbon; climate regulation; water filtration, purification, and storage; soil stabilization; flood control; and disease regulation; (3) supporting services, such as pollination, seed dispersal, soil formation, and nutrient cycling; and (4) cultural services, such as educational, aesthetic, spiritual, and cultural heritage values; recreational experiences; and tourism opportunities.

effective ground cover (soils) For soil inventory purposes, effective ground cover is expressed as a percentage of material other than bare soil on the land surface. It includes coarse woody debris, litter, duff, surface rocks (large gravels, cobbles, stones, boulders, and rock outcrops), biological crusts, and vegetation in contact with the soil. This method of estimating ground cover differs from other resource protocols.

eligible river Within the Wild and Scenic Rivers Act, eligibility is an evaluation of whether a candidate river or river segment is free flowing and possesses one or more outstandingly remarkable value(s). If found eligible, a candidate river or river segment is analyzed as to its current level of development (water resources projects, shoreline development, and accessibility), and a tentative classification is made that it be placed into one or more of three classes: wild, scenic, or recreational. Eligibility and classification represent an inventory of existing conditions.

encroachment (conifer) A successional process of increasing conifer cover and density in non-forest ecosystems; historically regulated by periodic natural disturbances such as fire.

endangered species A species that the Secretary of the Interior or the Secretary of Commerce has determined is in danger of extinction throughout all or a significant portion of its range. Endangered species are identified by the Secretary of the Interior in accordance with the 1973 Endangered SpeciesAct. Endangered species are listed at 50 CFR 17.11, 17.12, and 224.101. See also **at-risk species**, **candidate species**, **proposed species**, **threatened species**.

energy resource A renewable (solar, hydropower, wind, biomass, and geothermal) or nonrenewable (oil, natural gas, coal, and tar sand) resource.

environment All the conditions, circumstances, and influences surrounding and affecting the development of an organism or group of organisms.

environmental impact Any change to the environment, whether adverse or beneficial, resulting from human activities; the effect that people's actions have on the environment. Used interchangeably with environmental consequence or effect.

environmental justice community A community with a meaningfully greater minority or low-income population compared with the population as a whole.

ephemeral stream A channel or draw reach that only carries surface flow in direct response to precipitation. An ephemeral channel may have a defined bed and banks, depending on the physiographic setting, climate, and dominant weather patterns.

erosion (soil) The detachment and transport of individual soil particles or soil aggregates by wind, water, or gravity. Different forms and levels of soil erosion include sheet wash (fairly even soil loss), rills (small channels), and gullies (channeled erosion deeper than 19 inches or the depth that can be obliterated by a plow).

even-aged method Regeneration and maintenance, including harvest, of stands with one age class. See also **clearcut regeneration method**, **seed tree regeneration method**, **shelterwood regeneration method**.

even-aged stand A stand of trees composed of a single age class in which the range of tree ages is usually less than 20 percent of rotation. One age class comprises greater than 90 percent of the total stand basal area throughout most of the rotation. See also **silvicultural system**.

facility A real property asset managed for the administration of a national forest. Examples are buildings, administrative pastures and fencing, water systems, wastewater systems, campgrounds, picnic areas, and interpretive sites. For the purposes of this document, facilities do not include roads, trails, dams, or airfields.

felling Cutting or uprooting standing trees; causing them to fall as a result of the cutting or uprooting.

fen Peat-accumulating wetland that supports marsh-like vegetation, usually fed by mineral-rich surface water or groundwater.

final regeneration harvest The final timber harvest in a sequence of harvests designed to regenerate a timber stand or release a regenerated stand. A final regeneration harvest could be a clearcut, removal cut of a shelterwood or seed tree system, or a selection cut.

fire behavior How a fire reacts to the influences of fuel, weather, and topography.

fire disturbance regime See **fire regime**.

fire exclusion The disruption of a characteristic pattern of fire intensity and occurrence (primarily through fire suppression).

fire frequency The number of times that fires occur within a defined area and time period.

fire intensity The amount of energy released by a fire; however, no single metric (including reaction intensity, fireline intensity, temperature, residence time, and radiant energy) captures all of the relevant aspects of fire energy. Fireline intensity is the most frequently used metric in forested ecosystems.

fire, managed See **managed fire**.

fire regime Description of the patterns of fire occurrences, frequency, size, and severity, and sometimes the vegetation and fire effects as well, in a given area or ecosystem. A fire regime is a generalization based on fire histories at individual sites. Fire regimes can often be described as cycles because some parts of the histories get repeated, and these repetitions, such as the fire

return interval, can be counted and measured. The five natural fire regimes are classified based on the average number of years between fires combined with the severity of the fire (the amount of vegetation replacement) and its effect on the dominant overstory vegetation.

fire risk The probability or chance of a fire starting, determined by the presence and activities of causative agents.

fire severity The immediate effects of fire on vegetation, litter, or soils. Fire severity depends not only on the amount of heat generated by a fire (its intensity) but also on the duration and residence time of the fire. While a fast-moving, wind-driven fire may be intense, a long-lasting fire that creeps along in the forest underbrush could transfer more total heat to plant tissue or soil. In this way, a slow-moving, low-intensity fire could have much more severe and complex effects on forest soil, for example, than a faster-moving, higher-intensity fire in the same vegetation. For this reason, the terms *fire intensity* and *fire severity* are not synonymous and are not interchangeable.

fire suppression The work and activities connected with fire-extinguishing operations, beginning with discovery of the fire and continuing until the fire is completely extinguished.

flame length The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface). This is an indicator of fire intensity.

floodplain Lowland bordering a stream that is subject to recurrent flooding. Floodplains are composed of sediments carried by streams and deposited on land during flooding. An active floodplain is a flood-prone area—the zone bordering a stream subject to more frequent flooding (less than 50-year recurrence interval). The general field interpretation of the active floodplain is the valley bottom up to an elevation twice the stream's maximum bankfull depth, measured at the thalweg (the line connecting the lowest points along a streambed).

focal species A small subset of species whose status permits inference of the integrity of the larger ecological system to which it belongs and provides meaningful information regarding the effectiveness of the plan in maintaining or restoring the ecological conditions to maintain the diversity of plant and animal communities in the plan area. Focal species are commonly selected on the basis of their functional role in ecosystems.

forage Nonwoody plants available to livestock or wildlife for feed.

forage reserve An allotment on which there is no current term permit obligation for some or all of the estimated livestock grazing capacity.

forage species Plants and animals that are food sources for fish, mammals, and birds.

forb A herbaceous (herb-like) plant, other than grass or grass-like plants.

forest An ecosystem characterized by a more or less dense and extensive tree cover, often consisting of stands varying in characteristics such as species composition, structure, age class, and associated processes.

forest health The perceived condition of a forest derived from concerns about factors such as its age, structure, composition, function, vigor, presence of unusual levels of insects or disease, and resilience to disturbance. *Note:* Perception and interpretation of forest health are influenced by

various factors, including individual and cultural viewpoints, land management objectives, and the appearance of the forest at a point in time.

forest land An area at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for non-forest uses. Lands developed for non-forest use include areas for crops, improved pasture, residential or administrative sites, improved roads of any width and adjoining road clearing, and powerline clearings of any width.

forest plan A document that guides the sustainable, integrated resource management of the resources within a plan area and within the context of the broader landscape, giving due consideration to the relative values of the various resources in particular areas (36 CFR 219.1(b)). Consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528–531), the Forest Service manages National Forest System lands to sustain the multiple use of their renewable resources in perpetuity while maintaining the long-term health and productivity of the land.

forest type A category of forest usually defined by its vegetation, particularly its dominant vegetation, based on percentage cover of trees. Synonymous with forest cover type.

fuels management An act or practice of controlling flammability and reducing resistance to control of wildland fuels through mechanical, chemical, biological, or manual means, or by fire, in support of land management objectives.

fuels treatment The manipulation or removal of dead or live plant materials to reduce the likelihood of ignition and lessen potential damage and resistance to fire control. Examples of fuels treatments include lopping, chipping, crushing, piling, and burning.

fuelwood Wood used for conversion to some form of energy.

function An ecological process that sustains composition and structure, such as energy flow, nutrient cycling and retention, soil development and retention, predation, herbivory (feeding on plants), and natural disturbances such as wind, fire, and floods.

functioning at risk Wetland or riparian conditions that are in a limited functioning condition and whose existing hydrologic, vegetative, or geomorphic attributes make them susceptible to degradation.

gap (in forest canopy) The space occurring in forest stands due to individual or group tree mortality, blowdown, or removal.

geographic information system (GIS) A computer process that links database software to graphics (spatially explicit) software and provides database and analytic capabilities.

grazing Consumption of range or pasture forage by animals.

grazing permit Authorizes livestock to use National Forest System or other lands under Forest Service control for the purpose of livestock production. Term permits are issued for up to 10 years with priority for renewal at the end of the term. On-and-off grazing permits are permits with specific provisions on rangelands, only part of which is National Forest System lands or other lands under Forest Service control. Private land grazing permits are permits issued to persons who control grazing lands adjacent to or within a national forest proclaimed boundary and who waive exclusive grazing use of these lands to the United States for the full period the permit is to be issued (36 CFR 222). Temporary permits are issued for up to 1 year. Examples of temporary

permits include livestock use permits for the transportation of livestock issued to persons engaged in commercial packing or dude ranching.

greenline The first perennial vegetation that forms a lineal grouping of community types on or near the water's edge. Most often it occurs at or slightly below the bankfull stage.

ground cover Any combination of coarse woody debris, litter, duff, surface rock, vegetation basal area, and biological crusts. See also **total ground cover**.

ground-disturbing activity An activity that results in a change in the vegetation cover or topography and that may cause or contribute to sedimentation. Ground-disturbing activities include removing vegetation cover, excavating, filling, and grading.

groundwater Water in a saturated zone in a geologic stratum. Water stored below the water table where the soil (or other geologic material) is saturated.

groundwater-dependent ecosystem A community of plants, animals, and other organisms whose extent and life processes depend on groundwater. Examples include riparian areas, wetlands, groundwater-fed lakes and streams, cave and karst systems, aquifer systems, fens, springs, and seeps.

group In silviculture, a unit of harvest or regeneration in group selection. The size of a group depends primarily on the creation of a microclimate conducive to the establishment of desired regeneration of particular tolerance (the capacity of trees to grow satisfactorily in the shade of, and in competition with, other trees). The group size is often expressed as a function of the surrounding tree height. For example, a group size is commonly approximately twice the height of the mature trees. See also **patch**.

habitat The native environment of an animal or plant. See also **sage-grouse habitat, occupied**.

habitat type A habitat type classification provides an ecologically based system of land stratification in terms of vegetation potential. The habitat type is the basic unit in classifying land units or sites based on their biotic potential; it emphasizes similarities and differences in ecosystems that carry implications for a variety of land management objectives. Habitat types or habitat type groups can have similar biophysical characteristics and a similar function and response to disturbances. A habitat type will produce similar plant communities at natural or near-natural conditions.

hazard tree A tree that has the potential to cause property damage, personal injury, or fatality in the event of a failure, where failure is the mechanical breakage of a tree or tree part. Failures often result from the interaction of defects, weather factors, ice or snow loading, or exposure to wind. Tree hazards may include dead or dying trees, dead parts of live trees, or unstable live trees (due to structural defects or other factors) that are within striking distance of people or property (a target). Defects are flaws in a tree that reduce its structural strength. Trees may have single or multiple defects that may or may not be detectable. Failures result in accidents only if they strike a target.

highly valued resources or assets Features on the landscape that humans value and that are influenced positively or negatively, or both, by fire. Examples include (but are not limited to) life, property, structures, natural and cultural resources, community infrastructure, and air quality. Protection of highly valued resources or assets from fire have an impact on public support and economic opportunities, both of which the Forest Service also highly values.

historic property Any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the National Register of Historic Places.

homestead Public land acquired through the Homestead Act of 1862, which accelerated the settlement of the Western Territory by granting 160 acres of surveyed public land to individuals for a minimal filing fee and required 5 years of continuous residence and improvements on that land.

hydrologic function Hydrologic function or integrity is measured primarily in terms of flow, sediment, and water quality attributes.

hydrologic unit code (HUC) Watersheds are delineated by the U.S. Geological Survey (USGS) using a nationwide system based on surface hydrologic features. This system divides the country into 21 regions (2-digit), 222 subregions (4-digit), 370 basins (6-digit), 2,270 subbasins (8-digit), approximately 20,000 watersheds (10-digit), and approximately 100,000 subwatersheds (12-digit). A hierarchical hydrologic unit code consisting of two additional digits for each level in the hydrologic unit system is used to identify any hydrologic area (see Federal Standards and Procedures for the National Watershed Boundary Dataset, 4th ed., 2013). A complete list of hydrologic unit codes, descriptions, names, and drainage areas can be found in United States Geological Survey Water-Supply Paper 2294 titled Hydrologic Unit Maps.

improvement cutting—An intermediate harvest that removes the less desirable trees of any species in a stand of poles or larger trees, primarily to improve the composition and quality.

Indian Tribe Any Indian or Alaska Native tribe, band, nation, pueblo, village, or other community that is included on the list published by the Secretary of the Interior under section 104 of the Federally Recognized Indian Tribe List Act of 1994 (25 U.S.C. 479a-1).

indicator A specific resource measure used in answering monitoring questions related to a forest plan monitoring program.

infrastructure The collection of human-built improvements such as roads, trails, airfields, facilities, and dams that serve the mission of a national forest.

intermediate treatment Any harvest or tending treatment designed to enhance growth, quality, vigor, and composition of a stand after establishment or regeneration and prior to final harvest. Regeneration establishment is not an objective of an intermediate treatment.

intermittent stream A stream that flows only at certain times when it receives water from springs or from a surface source such as prolonged snowmelt. Intermittent character is generally due to fluctuations in the water table above and below channel elevation. An intermittent stream may lack some of the biological and hydrological characteristics associated with the continuous flow of water. Fish-bearing intermittent streams are distinguished from non-fish-bearing intermittent streams by the presence of any species of fish for any duration. Many intermittent streams may be used as spawning and rearing streams, refuge areas during flood events in larger rivers and streams, or travel routes for fish emigrating from lakes; they also may be used as semipermanent habitat in perennial pools of intermittent streams in the pine savanna region.

Intermountain Region Also known as Region 4, the Intermountain Region of the Forest Service encompasses twelve national forests and one grassland covering approximately 34 million acres

within Utah, Idaho, Nevada, Wyoming, and eastern California as well as a research station in Colorado.

invasive plant Native and nonnative plants that are capable of spreading into native plant communities and disrupting vital ecological processes.

invasive species An alien species whose introduction to an ecosystem causes, or is likely to cause, economic or environmental harm or harm to human health. Invasive species infest both aquatic and terrestrial areas and can beidentified within the following four taxonomic categories: plants, vertebrates, invertebrates, and pathogens (Executive Order 13112).

key ecosystem characteristic The dominant ecological characteristic(s) that describes the composition,structure, function, and connectivity of terrestrial, aquatic, and riparian ecosystems that are relevant to addressing important concerns about a land management plan. Key ecosystem characteristics are important to establishing or evaluating plan components that would support ecological conditions to maintain or restore the ecological integrity of ecosystems in the plan area.

land management plan See **forest plan**.

lands that may be suitable for timber production A preliminary classification in the process of determining lands that are suited for timber production. This preliminary classification excludes National Forest System lands that are not suitable for timber production based on the factors identified in 36 CFR 219.11(a)(1)(i), (ii), (iv), (v), and (vi); it is made prior to the consideration of the factor at 36 CFR 219.11(a)(iii), which identifies suitability based on objectives and desired conditions established by the plan for those lands.

landing A cleared area in the forest to which logs are yarded or skidded for loading onto trucks for transport.

landscape A defined area irrespective of ownership or other artificial boundaries, such as a spatial mosaic of terrestrial and aquatic ecosystems, landforms, and plant communities, repeated in similar form throughout such a defined area.

landtype A unit shown on an inventory map with relatively uniform potential for a defined set of land uses. Soils, geomorphology, vegetation, climate, and geology are commonly components of landtype delineation used to evaluate potentials and limitations for land use. Landtypes often have common drainage characteristics and patterns.

landtype association Map (ecological) units that are aggregates of several specific landtypes. Landtype associations are defined mainly by their geomorphic processes and development and are further described by their soils, slope, and vegetation.

large trucks (in relation to sage-grouse) In the context of occupied sage-grouse habitat, large trucks are oil and gas tanker trucks and drilling rigs.

lease A contract between the landowner and another individual or entity granting the latter the right to search for and produce oil, gas, or other mineral substances (as specified in the document) or the right to conduct an activity for a payment of an agreed rental, bonus, or royalty. This right is subject to the terms, conditions, and limitations specified in the document.

lek, active See **active lek**.

life of the plan The anticipated life of this forest plan, which is defined as 15 years.

livestock A type of domestic animal (for example, cattle) raised for commercial production purposes.

long-term persistence A species has long-term persistence if it "continues to exist in the plan area over a sufficiently long period that encompasses multiple generations of the species, the time interval between major disturbance events, the time interval to develop all successional stages of habitat types, or the time interval needed for the overall ecosystem to respond to management" (Forest Service Handbook 1909.12, chapter 20, section 23.13c.1c). See also **persistence**.

maintain (an ecological condition) To keep a desired ecological condition in existence or to continue it in terms of its desired composition, structure, and processes. Depending on the circumstance, ecological conditions may be maintained by active or passive management or both. See also **vegetation management**.

managed fire A selected fire strategy that is less than full suppression; a managed fire should have full perimeter control regardless of the tactics meant to bring about that control. Managed fire may also be referred to as managed fire for resource benefits, managed natural ignitions, or other similar terms.

management, adaptive. See **adaptive management**.

management area A land area identified within a plan area that has the same set of applicable plan components. A management area does not have to be spatially contiguous.

mean annual increment of growth The total increment of increase of volume of a stand (standing crop plus thinnings) up to a given age divided by that age. In land management plans, the mean annual increment of growth is expressed in cubic measure and is based on the expected growth of stands according to intensities and utilization guidelines in the plan.

mean annual increment of growth, culmination of The age in the growth cycle of an even-aged stand at which the average annual rate of increase of volume is at a maximum.

minerals The Forest Service defines three types of mineral (and energy) resources:

> *locatable minerals:* Commodities such as gold, silver, copper, zinc, nickel, lead, and platinum and many valuable nonmetallic minerals such as asbestos, gypsum, and gemstones.
>
> *salable mineral materials:* Common varieties of sand, stone, gravel, cinders, clay, pumice, and pumicite.
>
> *leasable minerals:* Commodities such as oil, gas, coal, geothermal, potassium, sodium phosphates, oil shale, and sulfur. On acquired lands, solid minerals are leasable.

minimum impact suppression tactics or techniques (MIST) Guidelines for fire suppression and post-fire activities that use procedures, tools, and equipment that are commensurate with the fire's potential or existing behavior and produce the least impact on the environment without compromising safety or the effectiveness of suppression efforts.

mitigate To avoid, minimize, rectify, reduce, or compensate the adverse environmental impacts associated with an action.

mitigation, compensatory See compensatory mitigation.

monitoring A systematic process of collecting information to evaluate effects of actions or changes in conditions or relationships.

motorized route A National Forest System road or trail that is designated for motorized use on a Forest Service motor vehicle use map pursuant to 36 CFR 212.51.

multiple use "The management of all the various renewable surface resources of the National Forest System so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, consistent with the Multiple-Use Sustained-Yield Act of 1960" (16 U.S.C. 531; 36 CFR 219.19).

national ambient air quality standards National air quality standards established by the U.S. Environmental Protection Agency under the authority of the Clean Air Act (40 CFR 50) to protect public health and public and ecosystem welfare.

National Forest System lands A nationally significant system of federally owned units of forest, range, and related land consisting of national forests, purchase units, national grasslands, land utilization project areas, experimental forest areas, experimental range areas, designated experimental areas, other land areas, water areas, and interests in lands that are administered by the Forest Service or designated for administration through the Forest Service.

National Forest System road Part of a system of permanent roads determined to be needed for the use, protection, and enjoyment of a national forest.

National Forest System trail Part of a system of permanent trails determined to be needed for the use, protection, and enjoyment of a national forest.

National Wild and Scenic Rivers System Established in the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 (note), 1271–1287; 36 CFR 219.19) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations.

National Wilderness Preservation System The Wilderness Act of 1964 created the National Wilderness Preservation System and recognized wilderness as "an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain." An untrammeled area is an area where human influence does not impede the free play of natural forces or interfere with natural processes in the ecosystem.

native species An organism that was historically or is presently in a particular ecosystem as a result of natural migratory or evolutionary processes, not as a result of its accidental or deliberate introduction into that ecosystem. An organism's presence and evolution (adaptation) in an area are determined by climate, soil, and other biotic and abiotic factors.

natural range of variation The variation of ecological characteristics and processes over scales of time and space that is appropriate for a given management application. The natural range of

variation is a tool for assessing the ecological integrity of an area and does not necessarily constitute a management target or desired condition. The natural range of variation can help identify key structural, functional, compositional, and connectivity characteristics, for which plan components may be important for either maintenance or restoration of such ecological conditions.

natural recovery The use of natural processes to reforest an area after a disturbance (such as fire) and the acceptance of resulting conditions, even though it may take many years to attain stocked forested conditions.

non-forest vegetation Persisting vegetation communities whose compositions are predominantly grasses, grass-like plants, forbs, or shrubs. Non-forest vegetation includes grasslands, savannas, shrublands, deserts, tundra, alpine, marshes, and meadows. Trees typically occupy less than 10 percent of the landscape, and in fire-driven communities return intervals are sufficient to maintain assemblages of these plants in space and time. See also **forest land**.

nonnative species Organisms that do not occur naturally in an area but are introduced as the result of deliberate or accidental human activities. Unlike invasive species, nonnative species may not hinder or prevent the survival of others within the ecosystem.

noxious weed A regulatory term defined through Federal and individual state statutes. Noxious weeds are invasive plants capable of successfully expanding their populations into new ecosystems beyond their natural range and can have lasting impacts on native plant communities. Fire, native pests, weather events, human actions, and environmental change can exacerbate these impacts.

nurse tree A tree, group, or crop of trees, shrubs, or other plants, either naturally occurring or introduced, used to nurture, improve survival, or improve the form of another tree species or crop when young by protecting it from frost, insolation, wind, or insect attack.

objective A concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions.

occupied sage-grouse habitat Sage-grouse habitat where sage-grouse have been documented in any of the previous 10 years. See also **active lek** and **large trucks**.

off-highway vehicle Any motorized vehicle designed for or capable of cross-country travel.

outfitting and guiding An outfitter rents on or delivers to National Forest System lands for pecuniary remuneration or other gain any saddle or pack animal, vehicle, boat, camping gear, or similar supplies or equipment. Guiding is provided services or assistance (such as supervision, protection, education, training, packing, touring, subsistence, transporting people, or interpretation) for pecuniary remuneration or other gain to individuals or groups on National Forest System lands.

outstandingly remarkable values Within the Wild and Scenic Rivers Act, categories of scenery, recreation, geology, fisheries, wildlife, historic/cultural, or other similar values. These values contribute to evaluating a river or stream segment for eligibility and suitability in the Wild and Scenic River System.

partnership A voluntary, mutually beneficial, and desired arrangement between the Forest Service and another or others to accomplish mutually agreed on objectives consistent with the agency's mission and serving the public's interest.

patch A small part of a stand or forest that can be tens, hundreds, or even thousands of acres and is a relatively homogeneous part of a stand or forest that differs from the surrounding forest. See also **group**.

peatland A generic term for any wetland that accumulates partially decayed plant matter (peat).

perennial streams A stream that flows continuously throughout most years and whose channel bed is generally located below the surrounding groundwater elevation.

permanent road A National Forest System road intended to remain in service to highway vehicles over the long term. The prerequisite for design, construction, operation, and maintenance is a long service life. For example, features such as bridges and culverts are designed with a service life of 50 years or more.

permit (special use) See **special-use permit**.

permitted grazing Authorizes livestock use on National Forest System lands. Authorizing permits include grazing permits for commercial livestock production.

persistence Continued existence or permanence in spite of opposition, change, or disturbance. See also **long-term persistence**.

personal use permit A type of permit issued for removal of wood products (firewood, post, poles, and Christmas trees) from National Forest System land when the product is for home use and is not to be resold for profit.

pinyon-juniper woodland A common coniferous woodland type in the western United States, where pinyon pines and junipers are codominant trees.

plan area The National Forest System lands covered by a forest plan.

plant and animal community A naturally occurring assemblage of plant and animal species living within a defined area or habitat.

plan component Plan components (desired conditions, objectives, standards, guidelines, goals, suitability, and monitoring questions and monitoring indicators) provide a strategic and practical framework for managing the plan area. They can apply forestwide or can be specific to a management area or designated area.

pole (tree size class) A tree of a size between a sapling and a mature tree. On the Ashley National Forest, a pole may range from 3 to 8 inches at diameter at breast height, depending on the species.

pole (product class) A non-sawtimber forest product. On the Ashley National Forest, a pole is generally 2.5 to 5.5 inches in diameter and of unspecified length; lodgepole pine is the preferred species for this class of poles.

post A non-sawtimber forest product. On the Ashley National Forest, a post is generally 5.6 to 6.9 inches in diameter and up to 10 feet in length; a variety of species are used, with lodgepole pine andjuniper being preferred species for posts.

pre-commercial thinning An intermediate treatment in which the selective felling, deadening, or removal of trees from a young stand maintains a specific stocking or stand density range. The

removal of trees is not for immediate financial return (there is no merchantable product available); rather, it is to reduce stocking to concentrate growth on the more desirable trees.

prescribed burn or prescribed fire A fire ignited via management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and National Environmental Policy Act requirements (where applicable) must be met prior to ignition.

productivity The capacity of National Forest System lands and their ecological systems to provide various renewable resources (such as timber) in certain amounts in perpetuity. In land management, productivity is an ecological term, not an economic term.

projected timber sale quantity (PTSQ) The estimated quantity of timber meeting applicable utilization standards that is expected to be sold during the plan period. As a subset of the projected wood sale quantity (PWSQ), the PTSQ includes volume from timber harvest for any purpose from all lands in the plan area based on expected harvests that would be consistent with the plan components. The PTSQ is also based on the planning unit's fiscal capability and organizational capacity. The PTSQ is not a target or a limitation on harvest and is not an objective unless the responsible official chooses to make it an objective in the plan.

projected wood sale quantity (PWSQ) The estimated quantity of timber and all other wood products that is expected to be sold from the plan area for the plan period. The PWSQ consists of the projected timber sale quantity as well as other woody material such as fuelwood, firewood, or biomass that is also expected to be available for sale. The PWSQ includes volume from timber harvest for any purpose based on expected harvests that would be consistent with the plan components. The PWSQ is also based on the planning unit's fiscal capability and organizational capacity. The PWSQ is not a target or a limitation on harvest and is not an objective unless the responsible official chooses to make it an objective in the plan.

proposed species A species that is not listed as "endangered" or "threatened" under the Endangered Species Act but that has been proposed for such listing in accordance with Section 4 of the act.

range improvements Any activity, program, or development on or relating to rangelands that is designed to improve the production of forage, change vegetation composition, control patterns of use, provide water, stabilize soil and water conditions, or provide habitat for livestock and wildlife.

rangeland health The degree to which the integrity of the soil, vegetation, and ecological processes are sustained.

rangeland Land on which the indigenous vegetation (climax or natural potential) is predominantly grasses, grass-like plants, forbs, or shrubs and is managed as a natural ecosystem. If plants are introduced, they are managed similarly. Rangelands include natural grasslands, savannas, shrublands, many deserts, tundra, alpine communities, marshes, and meadows.

reasonable assurance A judgment the responsible official makes based on best available scientific information and local professional experience that practices based on existing technology and knowledge are likely to deliver the intended results. Reasonable assurance applies to average and foreseeable conditions for the area and does not constitute a guarantee that the intended results will be achieved.

reclamation The restoration of a site or resource to a desired condition to achieve management objectives or stated goals.

recommended wilderness An area that has been determined to meet the criteria to be designated as wilderness and that the forest supervisor proposes in a land management plan to be recommended to Congress for inclusion in the National Wilderness Preservation System.

recovery Denotes improvement in a threatened or endangered species population or its viability.

recreation, sustainable The set of recreation settings and opportunities on National Forest System lands that is ecologically, economically, and socially sustainable for present and future generations.

recreation opportunity An opportunity to participate in a specific recreational activity in a particular recreation setting to enjoy desired recreational experiences and other benefits that accrue.

recreation opportunity spectrum The system that the Forest Service uses to describe an opportunity to participate in a specific recreation activity in a particular recreation setting to enjoy desired recreation experiences and other benefits that accrue. Recreation opportunities include nonmotorized, motorized, developed, and dispersed recreation on land and water and in the air.

recreation setting The social, managerial, and physical attributes of a place that, when combined, provide a distinct set of recreation opportunities. The Forest Service uses the recreation opportunity spectrum to define recreation settings and categorize them into six distinct classes: primitive, semiprimitive nonmotorized, semiprimitive motorized, roaded natural, rural, and urban. See also **recreation opportunity spectrum**.

recruitment (of aspen) A process that refers to the addition of new individuals to a population of canopy trees. In reference to aspen, shoots have reached sufficient height where terminal buds extend beyond browsing reach of ungulates (≥ 6 feet), with greater probability of reaching maturity.

regeneration In silviculture, regeneration refers to seedlings or saplings or to the act of renewing tree cover by establishing young trees naturally (for example, natural seeding through available seed tree sources or root suckering) or artificially (direct seeding or planting).

regeneration harvest method Any removal of trees intended to assist in the regeneration of a new age class or to make regeneration of a new age class possible. Regeneration harvest may be through even-aged or uneven-aged methods. See also **clearcut regeneration method**, **even-aged method**, **seed tree regeneration method**, **selection regeneration method**, **shelterwood regeneration method**, **uneven-aged method**.

regeneration (of aspen) The production of new aspen suckers or seedlings. The term is used in reference to those individual shoots that are generally less than 6 feet, with terminal buds vulnerable to browsing.

relative cover The proportion that a species composes of the total plant cover. Total cover always adds up to 100 percent.

research natural area A physical or biological unit in which current natural conditions are maintained to the extent possible. These conditions are ordinarily achieved by allowing natural physical and biological processes to prevail without human intervention. However, under unusual

circumstances, deliberate manipulation may be used to maintain the unique feature that the research natural area was established to protect (Forest Service Manual 4063.05).

reserves/reserve trees Live trees, pole-sized or larger, retained in either a dispersed or aggregated manner after the regeneration period under the clearcutting with reserves, seed tree with reserves, shelterwood with reserves, or group selection with reserves methods. Trees are retained for resource purposes other than regeneration. See also **clearcut regeneration method**, **seed tree regeneration method**, **shelterwood regeneration method**.

resilience (ecological) The ability of a species or its habitat, or both, to recover from stresses and disturbances. Resilient ecosystems regain their fundamental structure, processes, and functioning when altered by stresses, such as increased CO_2, nitrogen deposition, and drought, and disturbances such as land development and fire.

resistance Capacity of an ecosystem to retain its fundamental structure, processes, and functioning (or to remain largely unchanged) despite stresses, disturbances, or invasive species.

resource value rating The value of vegetation present on an ecological site for a particular use or benefit, particularly for watershed protection and erosion control. Plants of moderate to high resource value exhibit moderate to high growth habit, plant structure, biomass, and soil-binding root systems that are conducive to reducing soil erosion.

response to wildland fire The mobilization of the necessary services and responders to a fire. The mobilization is based on ecological, social, and legal consequences; the circumstances under which a fire occurs; and the likely consequences on firefighter and public safety and welfare, natural and cultural resources, and values to be protected.

responsible official The Forest Service official with the authority and responsibility to oversee the planning process and to approve a plan, plan amendment, and plan revision (36 CFR 219.62).

restocked The condition of the growing space occupancy of trees to be achieved after a disturbance that has substantially altered the existing stocking. See **stocking**.

restoration The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed; ecological restoration focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystems' sustainability, resilience, and health under current and future conditions.

restore To renew or return an ecosystem to a former state by the process of restoration. See also **restoration**.

revegetation Establishing or reestablishing desirable plants on areas where desirable plants are absent or of inadequate density, either by management alone (natural revegetation) or by seeding or transplanting (artificial revegetation).

right-of-way Legal right provided by the Forest Service to another party to pass along a specific route through National Forest System land (such as a transmission line passing through a national forest).

riparian Of or pertaining to the bank of a body of flowing water; the land adjacent to a river or stream that is at least periodically influenced by flooding. Riparian is sometimes also used to indicate the banks of lakes and ponds subject to periodic inundation by wave action or flooding.

riparian area A three-dimensional ecotone of interaction that includes terrestrial and aquatic ecosystems that extend into the groundwater, above the canopy, outward across the floodplain, up the nearslopes that drain to the water, laterally into the terrestrial ecosystem, and along the watercourse at variablewidths. An ecotone exists where there is a gradual blending of two ecosystems across a broad area, or it may be manifested as a sharp boundary line

riparian ecosystem A transition between the aquatic ecosystem and the adjacent upland terrestrial ecosystem. A riparian ecosystem is identified by soil characteristics and by distinctive vegetation communities that require free or unbounded water.

riparian management zone A portion or portions of the watershed where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines.

riparian vegetation The plant community adjacent to a river, stream, or spring. Riparian vegetation is typified by the presence of hydrophilic (water-loving) plants.

risk The likelihood that a negative outcome will occur combined with the severity of the subsequent negative consequences.

road A motor vehicle route more than 50 inches wide unless identified and managed as a trail (36CFR 212.1; Forest Service Manual 7705).

road decommissioning A Forest Service road is decommissioned when it is removed from the road system and taken out of service. The unneeded road corridor is then returned to the natural landscape.

Roadless Area Conservation Rule The 2001 Roadless Area Conservation Rule (also known as the Roadless Rule) establishes prohibitions on road construction, road reconstruction, and timber harvesting on 58.5 million acres of inventoried roadless areas on National Forest System lands. The intent of the rule is to provide lasting protection for inventoried roadless areas within the National Forest System in the context of multiple-use management.

rotation The number of years (including the regeneration period) required to establish and grow timber under an even-aged management system to a specified condition or maturity for regeneration harvest.

sacred site "Any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian Tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the Indian Tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site" (Executive Order 13007).

sage-grouse habitat, occupied See **occupied sage-grouse habitat**.

sagebrush Any of several North American shrubs or sub-shrubs that are capable of forming vast communities in the semidesert, steppe, and montane regions of the western United States.

salvage harvest The removal of dead trees or trees damaged or dying because of injurious agents, other than competition; the removal recovers economic value that would otherwise be lost or contributes to achieving desired conditions or objectives.

sanitation harvest An intermediate harvest that removes trees to improve stand health by stopping or reducing the actual or anticipated spread of insects and disease.

sapling A usually young tree larger than a seedling but smaller than a pole. On the Ashley National Forest, a sapling may range from 1 to 4 inches diameter at breast height, depending on the species.

sawtimber Trees or logs cut from trees with minimum diameter and length and with stem quality suitable for conversion to lumber. The minimum diameter and length are dependent on species and whether the trees are alive or dead.

Scenery Management System A systematic approach to inventorying, analyzing, managing, and monitoring scenic resources. This classification system provides a process to determine the relative value and importance of the national forest scenery and assist in establishing overall resource objectives. This system recognizes scenery as the visible expression of dynamic ecosystems functioning within "places" that have unique aesthetic and social values. It describes the existing and desired conditions of scenic character within the plan area and is structured to emphasize "natural-appearing" scenery.

scenic character A combination of the physical, biological, and cultural images that give an area its scenic identity and contribute to its sense of place. Scenic character provides a frame of reference from which to determine scenic attractiveness and to measure scenic integrity (2012 Planning Rule and 36 CFR 219.19). The scenic character description incorporates the visible natural physical and biological features, as well as the context and ways the scenery is viewed and experienced. A scenic character description also includes the viewing context and associations that viewers have with that scenery based on visible historicand cultural elements and significant and broadly relevant special places.

scenic integrity objectives The minimum degree to which desired scenic character attributes are to remain intact. There are four nationally defined scenic integrity objectives that can serve as desired conditions and one (very low) used only in describing existing (not desired) conditions. Each is defined below.

> *very high:* The landscape is intact with only minor changes from the valued attributes described in the scenic character.
>
> *high:* Management activities are unnoticed and the landscape appears unaltered.
>
> *moderate:* Management activities are noticeable but are subordinate to the scenic character. The landscape appears slightly altered.
>
> *low:* The landscape appears altered. Management activities are evident and sometimes dominate but are designed to blend with surroundings by repeating form, line, color, and texture of attributes described in the scenic character.
>
> *very low:* The landscape is heavily altered and the valued attributes described in the scenic character are not evident. Very low is used only to describe the existing scenic integrity. It is *not* used as a scenic integrity objective or desired condition.

scenic river Within the Wild and Scenic Rivers Act, a classification of a river or sections of a river that are free of impoundments; shorelines or watersheds are still largely primitive, and shorelines are largely undeveloped but are accessible in places by roads.

section 106 Regulations implementing the National Historic Preservation Act of 1966 that describe the procedures for identifying and evaluating historic properties, assessing the impacts of Federal actions on historic properties, and consulting with appropriate agencies to avoid, minimize, or mitigate adverse effects.

sediment Solid mineral and organic material that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice.

sediment delivery The delivery of sediment to a waterbody via overland flow, mass wasting, human activity, or some other means.

seed tree regeneration method An even-aged (or two-aged with reserves) regeneration harvest method or cutting procedure that regenerates and maintains a stand with a single age class by cutting all trees except for a small number of widely dispersed trees retained for seed production and to produce a new age class in an exposed microenvironment. Seed trees are usually removed after regeneration is established. The seed tree method may or may not leave reserve trees to attain goals other than regeneration. See also **even-aged method**, **regeneration harvest method**, **silvicultural system**, **two-aged method**.

seep A wet area where a seasonal high water table intersects with the ground surface. Seeps that meet the definition of a wetland are included in the riparian corridor.

selection regeneration method An uneven-aged regeneration harvest method or cutting procedure that regenerates and maintains a multi-aged structure by removing some trees in all size classes either singly, in small groups, or in strips, allowing for a new age class to establish. See also **regeneration harvest method**, **silvicultural system**, **uneven-aged method**.

seral A biotic community that is developmental; a transitory stage in an ecological succession.

seral/structural stage A phase of development of an ecosystem in ecological succession from a disturbed, relatively unvegetated state to a complex, mature plant community.

shade-intolerant plant species A plant species that has the capacity to compete for survival under direct sunlight conditions.

shade-tolerant plant species A plant species that has the capacity to compete for survival under shaded conditions.

shelterwood regeneration method An even-aged (or two-aged with reserves) regeneration harvest method or cutting procedure in which, to provide a source of seed or protection for regeneration, the old crop (the shelterwood) is removed in two or more successive cuttings. The first cutting is ordinarily the seed cutting (although it may be preceded by a preparatory cutting), and the last is the final cutting. Part of the shelterwood can be retained as reserves to attain goals other than regeneration and to create a two-aged stand. See also **even-aged method**, **regeneration harvest method**, **silvicultural system**, **two-aged method**.

shrub Perennial, multi-stemmed woody plant that is usually less than 16 feet in height. Shrubs typically have several stems arising from or near the ground, but they may be taller than 16 feet or single stemmed under certain environmental conditions.

side-by-side off-highway vehicle A small four-wheel-drive utility terrain or recreational off-highway vehicle that can seat two to six people.

significant Federal cave A natural cave located on National Forest System lands that has been evaluated and found to meet the criteria for designation as a significant Federal cave and is managed under authority of the Cave Resource Protection Act. The criteria for designation as a significant Federal cave include biotic, cultural, geologic, mineralogic, palaeontologic, hydrologic, recreational, educational, and other scientific resources or opportunities.

silvicultural system A management process, or planned sequence of treatments whereby forests are tended, harvested, and replaced, resulting in a forest of distinctive form. Systems are classified according to the method of carrying out the fellings that remove the mature crop and provide for regeneration and according to the type of forest this produces. The system name is based on the number of age classes (for example, even-aged, two-aged, or uneven-aged) or the regeneration method (for example, clearcutting, seed tree, shelterwood, or selection) used.

silviculture The art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands. Silviculture entails the manipulation of forest and woodland vegetation in stands and on landscapes to meet the diverse needs and values of landowners and society on a sustainable basis.

site potential A classification of site quality or the productive capacity of a site, usually expressed as volume production of a given species.

site potential tree height The average maximum height of the tallest dominant trees for a given site class (a classification of site quality or the productive capacity of a site, usually expressed as volume production of a given species).

skid trail A cleared corridor used in a timber harvest to transport trees by dragging them along the ground to the landing/processing area.

skidding Transporting trees or parts of trees by trailing or dragging them.

slash The residue left on the ground after felling and other silvicultural operations or that has accumulated there as a result of storms, fire, or natural pruning.

slash pile Woody residue that has been moved, either mechanically or by hand, into a pile for burning.

slope distance In relation to riparian management zones, slope distance is considered the linear distance along the ground surface, traveling directly upslope (along the steepest gradient) away from the seasonal high-water level of a waterbody (stream, pond, lake, spring, or wetland).

snag A standing dead tree usually greater than 5 feet in height and 6 inches in diameter at breast height.

soil burn severity Parsons et al. (2010) defines three categories of soil burn severity after a fire:

> *low soil burn severity:* Surface organic layers are not completely consumed and are still recognizable. Structural aggregate stability is not changed from its unburned condition, and roots are generally unchanged because the heat pulse below the soil surface was not great enough to consume or char any underlying organics. The ground surface, including any exposed mineral soil, may appear brown or black (lightly charred), and the canopy and understory vegetation will likely appear "green."
>
> *moderate soil burn severity:* Up to 80 percent of the pre-fire ground cover (litter and ground fuels) may be consumed but generally not all of it. Fine roots (0.1 inch or 0.25 cm diameter) may

be scorched but are rarely completely consumed over much of the area. The color of the ash on the surface is generally blackened, with possible gray patches. There may be potential for recruitment of effective ground cover from scorched needles or leaves remaining in the canopy that will soon fall to the ground. The prevailing color of the site is often "brown" due to canopy needle and other vegetation scorch. Soil structure is generally unchanged.

high soil burn severity: All or nearly all the pre-fire ground cover and surface organic matter (litter, duff, and fine roots) is generally consumed, and charring may be visible on larger roots. The prevailing color of the site is often "black" due to extensive charring. Bare soil or ash is exposed and susceptible to erosion, and aggregate structure may be less stable. White or gray ash (up to several centimeters in depth) indicates that considerable ground cover or fuels were consumed. Sometimes very large tree roots (> 3 inches or 8 cm diameter) are entirely burned extending from a charred stump hole. Soil is often gray, orange, or reddish at the ground surface where large fuels were concentrated and consumed.

soil erosion See **erosion (soil)**.

soil productivity The ability of soil to sustain vegetation; soil productivity depends on the amount of nutrients and water the soils contain and can release to plants.

soil quality The capacity of soil to perform the following functions: to sustain plant and animal activity and productivity; to regulate water and solute flow; to store and cycle nutrients and carbon; to provide physical support; and to filter, buffer, and degrade organic and inorganic materials.

source water protection area An area delineated by a state or tribe for a public water system or numerous public water systems—whether the source is groundwater or surface water or both—as part of a state or tribal source water assessment and protection program approved by the Environmental Protection Agency under section 1453 of the Safe Drinking Water Act (42 U.S.C. 300h-3(e); 36 CFR 219.19) or any subsequent laws applicable to public water systems that provide water for human consumption.

special-use permit A written permit, term permit, lease, or easement that authorizes use or occupancy of National Forest System lands or facilities and specifies the terms and conditions under which the use or occupancy may occur. The use authorization does not convey an interest in land, and it is both revocable and terminable.

species of conservation concern A species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long term in the plan area (36 CFR 219.9(c)).

spring A water source located where water begins to flow from the ground due to the intersection of the water table with the ground surface. The source generally flows throughout the year. Springs that are the source of perennial or intermittent streams are included in the riparian corridor.

spotting Behavior of a fire that produces sparks or embers that the wind carries; these sparks start new fires beyond the zone of the main fire's direct ignition.

stand A community of trees occupying a specific area and sufficiently uniform in canopy composition, age, and size class to be a distinguishable unit and to form a single management entity. See also **two-aged stand**.

standard A mandatory constraint on project and activity decision-making; a standard is established to help achieve or maintain the desired condition or conditions, avoid or mitigate undesirable effects, or meet applicable legal requirements.

stand-replacing fire A fire that is lethal to most of the dominant aboveground vegetation and substantially changes the vegetation structure. Stand-replacing fires may occur in forests, woodlands and savannas, annual grasslands, and shrublands. They may be crown fires (fires burning in elevated canopy fuels), high-severity surface fires (fires burning in the surface fuel layer), or ground fires (fires burning in ground fuels such as duff, organic soils, roots, and rotten, buried logs; secondary to surface fires).

stocking An indication of the growing space occupancy of trees relative to plan-defined desired conditions for the stand or area. Common indices of stocking include the number of trees by size and spacing, percent occupancy, basal area, relative density, and crown completion factor.

stressor A factor that may directly or indirectly degrade or impair an ecosystem's composition, structure, or ecological process in a manner that may impair its ecological integrity; examples include an invasive species, the loss of connectivity, and the disruption of a natural disturbance regime.

stubble height The height of forage plants remaining after grazing has occurred; average stubble height includes both grazed and ungrazed plants (Forest Service Handbook 2209.13, chapter 90).

succession/successional stage A predictable process of changes in structure and composition of plant and animal communities over time. Conditions of the prior plant community or successional stage create conditions that are favorable for the establishment of the next stage. The different stages in succession are often referred to as seral or successional stages.

suitability (of lands) A determination made regarding the appropriateness of various lands in a plan area for various uses or activities, based on the desired conditions applicable to those lands. The terms *suitable* and *suited*, and *not suitable* and *not suited*, can be considered the same. See also **lands that may be suitable for timber production**.

suppression All the work of extinguishing a fire or confining fire spread.

surface disturbance An alteration to the vegetation, surface/near-surface soil resources,or surface geologic features beyond natural site conditions and on a scale that affects other public land values. Examples of surface-disturbing activities may include operation of heavy equipment to construct well pads, roads, pits, or reservoirs; installation of pipelines or power lines; maintenance activities; and several types of vegetation treatments (such as prescribed fire).

surface fire A fire that burns in the surface fuel layer, which lies immediately above the ground fuel but below the canopy or aerial fuels. Surface fuels consist of needles, leaves, grass, dead and down branch wood and logs, shrubs, low brush, and short trees. Surface fire behavior varies widely depending on the nature of the surface fuel complex. Surface fires are generally easier to contain than any type of crown fire (a fire burning in elevated canopy fuels).

sustainability The capacity to meet the needs of the present generation without compromising the ability of future generations to meet their needs. For the purposes of this document, *ecological sustainability* refers to the capability of ecosystems to maintain ecological integrity; *economic sustainability* refers to the capability of society to produce and consume or otherwise benefit from goods and services, including contributions to jobs and market and nonmarket benefits; and *social sustainability* refers to the capability of society to support the networks of relationships, traditions, culture, and activities that connect people to the land and to one another and to support vibrant communities.

sustainable recreation See **recreation, sustainable**.

sustained yield limit The amount of timber meeting applicable utilization standards "which can be removed from [a] forest annually in perpetuity on a sustained-yield basis" (National Forest Management Act, section 11, 16 U.S.C. 1611; 36 CFR 219.11(d)(6)). The sustained yield limit is the volume that could be produced in perpetuity on lands that may be suitable for timber production. Calculation of the limit includes volume from lands that may be deemed not suitable for timber production after further analysis during the planning process. The calculation of the sustained yield limit is not limited by land management plan desired condition, other plan components,or the planning unit's fiscal capability and organizational capacity. The sustained yield limit is not a target but is a limitation on harvest, except when the plan allows for a departure.

terrestrial Term generally used in biology to describe living organisms that live and grow on land as opposed to air or water.

thinning An intermediate treatment made to reduce stand density of trees, primarily to improve growth, enhance forest health, or recover potential mortality (harvest trees that are likely to die).

threatened species A species that the Secretary of the Interior or the Secretary of Commerce has determined is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Threatened species are identified by the Secretary of the Interior in accordance with the Endangered Species Act of 1973. Threatened species are listed in 50 CFR 17.11, 17.12, and 223.102. See also **candidate species**, **endangered species**.

threshold (ecological) A point in space and time at which one or more of the primary ecological processes responsible for maintaining the sustained equilibrium of the ecological state degrades beyond the point of self-repair. Examples of thresholds include soil erosion and nutrient loss so severe that some plants cannot grow; invasion of a site by a plant that is so dominant that other plants cannot compete; and a change in the plant community structure—the arrangement of plants on the site—so that fire, a naturally occurring event that directs ecosystem change, cannot occur or occurs in a more destructive way.

timber harvest The removal of trees of sufficient size and quality to furnish raw material for wood for wood fiber use and other multiple-use purposes (36 CFR 219.19).

timber production The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, boles, or other round sections for industrial or consumer use (36 CFR 219.19).

topography The configuration of a land surface, including its relief, elevation, and the position of its natural and human-made features.

total ground cover The proportion of the soil surface covered by vascular plant parts, litter, rocks, mosses, and lichens. Vascular plant parts include both aerial (canopy and foliar cover, standing live and dead vegetation, and biomass) and basal cover (the basal area of a plant that extends into the soil at ground level). See also **ground cover**.

traditional cultural property A subset of historic properties. Traditional cultural properties are historic properties that are in the main or in part eligible for listing on the National Register of Historic Places because of their association with cultural practices or beliefs of a living community that (a) are rooted in that community's history and (b) are important in maintaining the continuing cultural identity of the community.

trail A route 50 inches or less in width or a route over 50 inches wide that is identified and managed as a trail (36 CFR 212.1).

trail class A range of categories (1–5) that reflects the level of trail development, with 1 being the least developed and 5 the most developed.

trailhead The transfer point between a trail and a road, lake, or airfield. The area may have developments that require or facilitate the transfer from one transportation mode to another.

transmission line The facility in an electric power system used to move large amounts of power from one location to a distant location; a transmission line is distinguished from a distribution line by higher voltage, greater power capability, and greater length. Transmission system voltages are typically from 69 kilovolts up to 765 kilovolts.

treaty rights Those rights or interests reserved in treaties for the use and benefit of tribes. The nature and extent of treaty rights are defined in each treaty.

trucks, large See **large trucks (in relation to sage-grouse)**.

two-aged method Regeneration and maintenance, including harvest, of stands with two age classes. The resulting stand may be two-aged or trend toward an uneven-aged condition because of both an extended period of regeneration establishment and the retention of reserve trees (green trees). See also **clearcut regeneration method**, **reserves/reserve trees**, **seed tree regeneration method**, **shelterwood regeneration method**, **silvicultural system**.

two-aged stand An area with trees of two distinct age classes separated in age by more than 20 percent of rotation. Each age class comprises greater than 10 percent of the basal area throughout most of the rotation. See also **rotation**, **silvicultural system**.

two-aged system A planned sequence of treatments designed to regenerate or maintain a timber stand with two age classes.

unauthorized road or trail A road or trail that is not a National Forest System road or trail, or a temporary road or trail that is not included in a national forest's transportation atlas.

understory Plant communities that live under the canopy of trees, shrubs, or the dominant plant(s) of the community.

uneven-aged method Regeneration and maintenance, including harvest, of stands with a multi-aged structure by removing some trees in all size classes either singly, in groups, or in strips. See also **selection regeneration method**, **silvicultural system**.

uneven-aged stand A stand of trees of three or more distinct age classes, either intimately mixed or in groups. See also **silvicultural system**.

unplanned ignition The start of a wildland fire by lightning, volcanoes, or unauthorized or accidental human activity.

utilization standards (timber) Specifications for merchantable forest products offered in a timber sale.

values at risk Ecological, social, and economic assets and resources that fire or fire management actions could affect. Examples include life, property, structures, natural and cultural resources, community infrastructure, public support, economic opportunities such as tourism, and air quality.

vegetation condition class Depiction of the degree of departure from historical fire regimes, possibly resulting in alternations of key ecosystem components. These classes categorize and describe vegetation composition and structure conditions that currently exist inside the fire regime groups. Based on the coarse-scale national data, they serve as generalized wildfire rankings.

vegetation management A process that changes the composition and structure of vegetation to meet specific objectives using such means as prescribed fire, timber harvest, or thinning. For the purposes of this document, the term does not include removing vegetation for permanent developments such as mineral operations, ski runs, trails, or roads, and it does not apply to human-caused wildfire and permitted livestock grazing. Vegetation management can be active or passive:

> *Active vegetation management* involves manipulating vegetation to meet objectives. Methods used may be a variety of silvicultural and forest management practices, including timber harvesting, tree planting, thinning, prescribed burning, grazing, and weed control, as well as other activities to improve wildlife habitat and watersheds such as erosion control, fire suppression, and restoration-based fuel treatment.
>
> *Passive vegetation management* allows for natural forest succession and relies primarily on natural processes such as wildfire for changes to vegetation structure and species composition.

vegetation management practices Silvicultural practices such as reforestation, prescribed fire, thinning to reduce stand density, and other practices designed to facilitate the growth and development of trees.

vegetation type conversion A change from one vegetation type to another (for example, tree to shrub) or from one tree species to another.

vegetative structural stage Vegetative structural stage is a generalized description of the structural stages a stand passes through as it ages. Classification into one vegetative structural stage or another is based on the diameter class containing the greatest basal area (Reynolds et al. 1992). Stands can be placed into one of several stages (usually six) ranging from grass/forb to old forest. Note that the term *old* and others like it use tree size as a proxy to age (class) as tree ages are not used to assign a stand to a stage. Vegetative structural stage classification is generally not appropriate to apply to uneven-aged stands.

watershed A region or land area drained by a single stream, river, or drainage network; a drainage basin.

watershed condition The state of a watershed based on physical and biogeochemical characteristics and processes.

Watershed Condition Framework A comprehensive approach for classifying watershed condition, proactively implementing integrated restoration in priority watersheds on national forests and grasslands, and tracking and monitoring outcome-based program accomplishments for performance accountability. The framework assesses watersheds using indicators of the biological and physical factors that affect watershed condition, focusing on aquatic and terrestrial conditions that Forest Service management actions can influence.

wetland An area that is inundated by surface water or groundwater. The water has a frequency sufficient to support, and under normal circumstances does or would support, the prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, fens, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.

wild and scenic river A river designated by Congress as part of the National Wild and Scenic Rivers System, which was established by the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 (note), 1271–1287; 36 U.S.C. 1131–1136).

wild river Within the Wild and Scenic Rivers Act of 1968, a wild river is a classification of a river (or segment of a river) that is free of impoundments and generally inaccessible except by trail; the watersheds or shoreline are essentially primitive, and the waters are unpolluted.

wilderness Any area of land designated by Congress as part of the National Wilderness Preservation System that was established by the Wilderness Act of 1964.

wildfire A naturally caused wildland fire (for example, from lightning) or a human-caused wildland fire that is considered an emergency management situation.

wildland Forests, shrub lands, grasslands, and other vegetation communities that have not been significantly modified by agriculture or other human development.

wildland fire Any non-structure fire that occurs in the wildland. There are two types of wildland fire: unplanned (natural or human-caused wildfire) and planned (prescribed fire).

withdrawn lands Lands are withdrawn from the National Forest System when a parcel of land is transferred from one administrative jurisdiction (the Forest Service) to another Federal agency. Lands are withdrawn for purposes of specific federally authorized projects, such as the development, construction, maintenance, operation, and protection of Federal projects. See **Central Utah Project**.

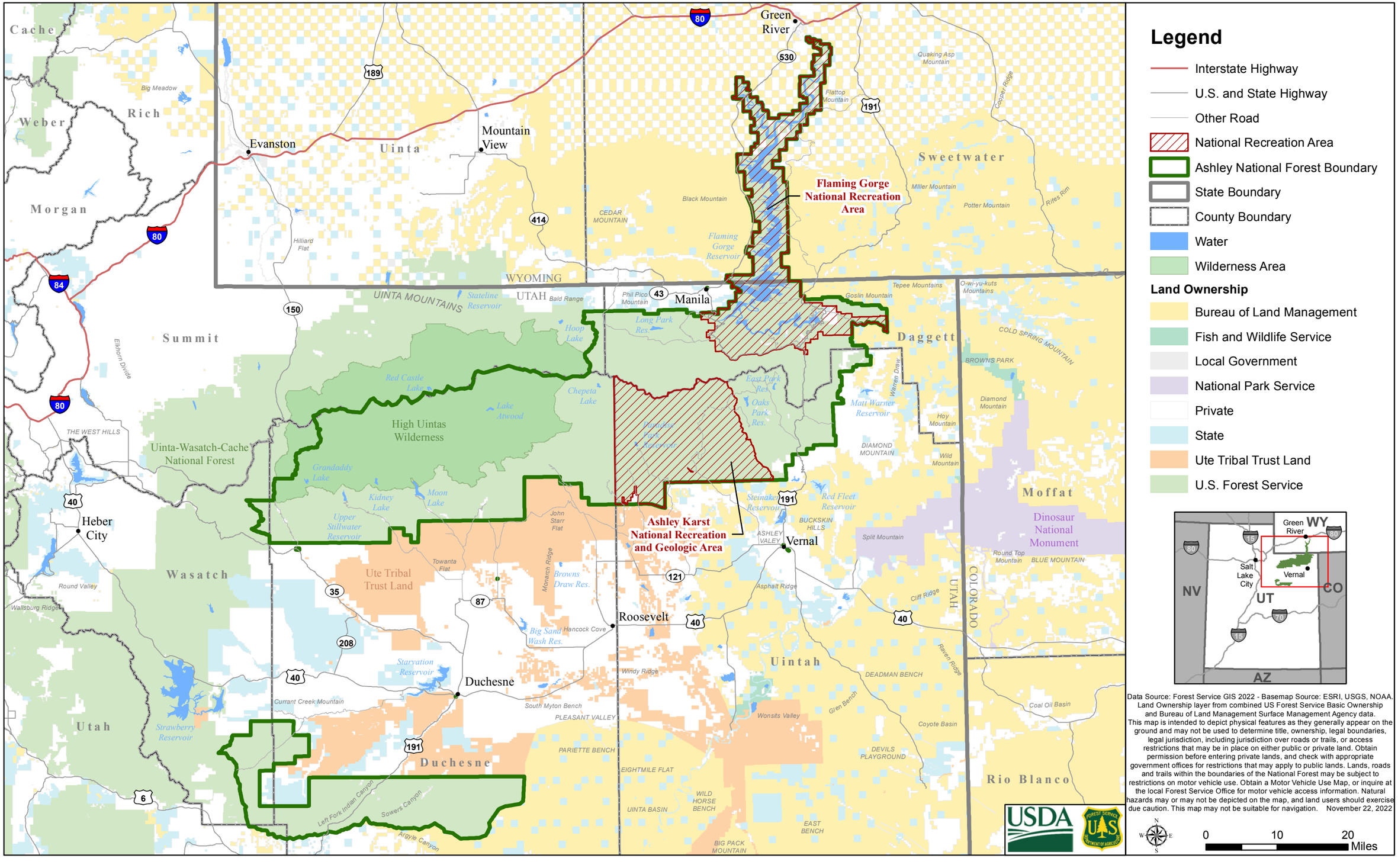
without preference A grazing permit that is waived back to the Forest Service without preference given to a qualified applicant (i.e., purchaser of base property or livestock).

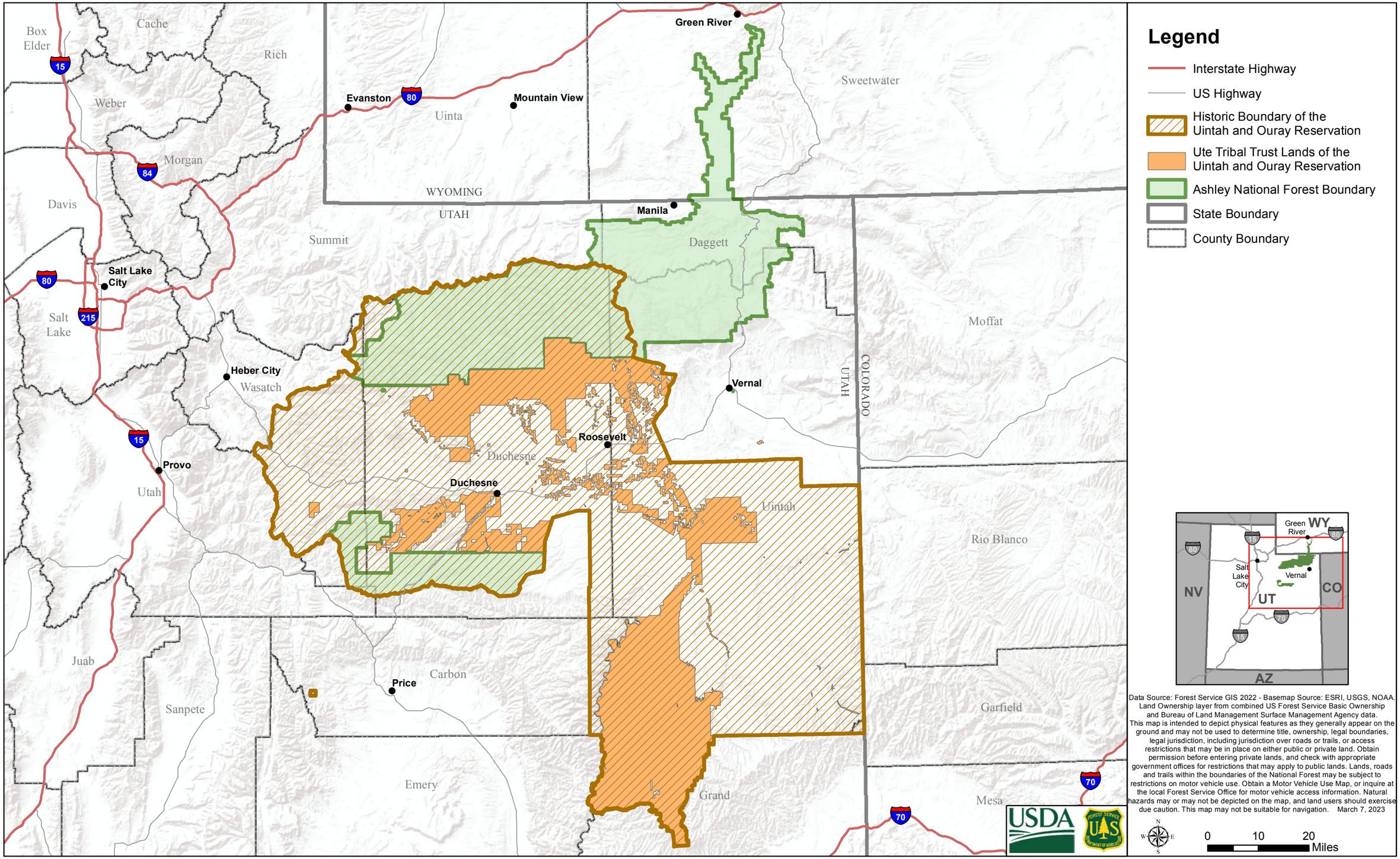
woodland A forested plant community in which, in contrast to a typical forest, the trees are often small, characteristically with a short trunk relative to their crown depth.

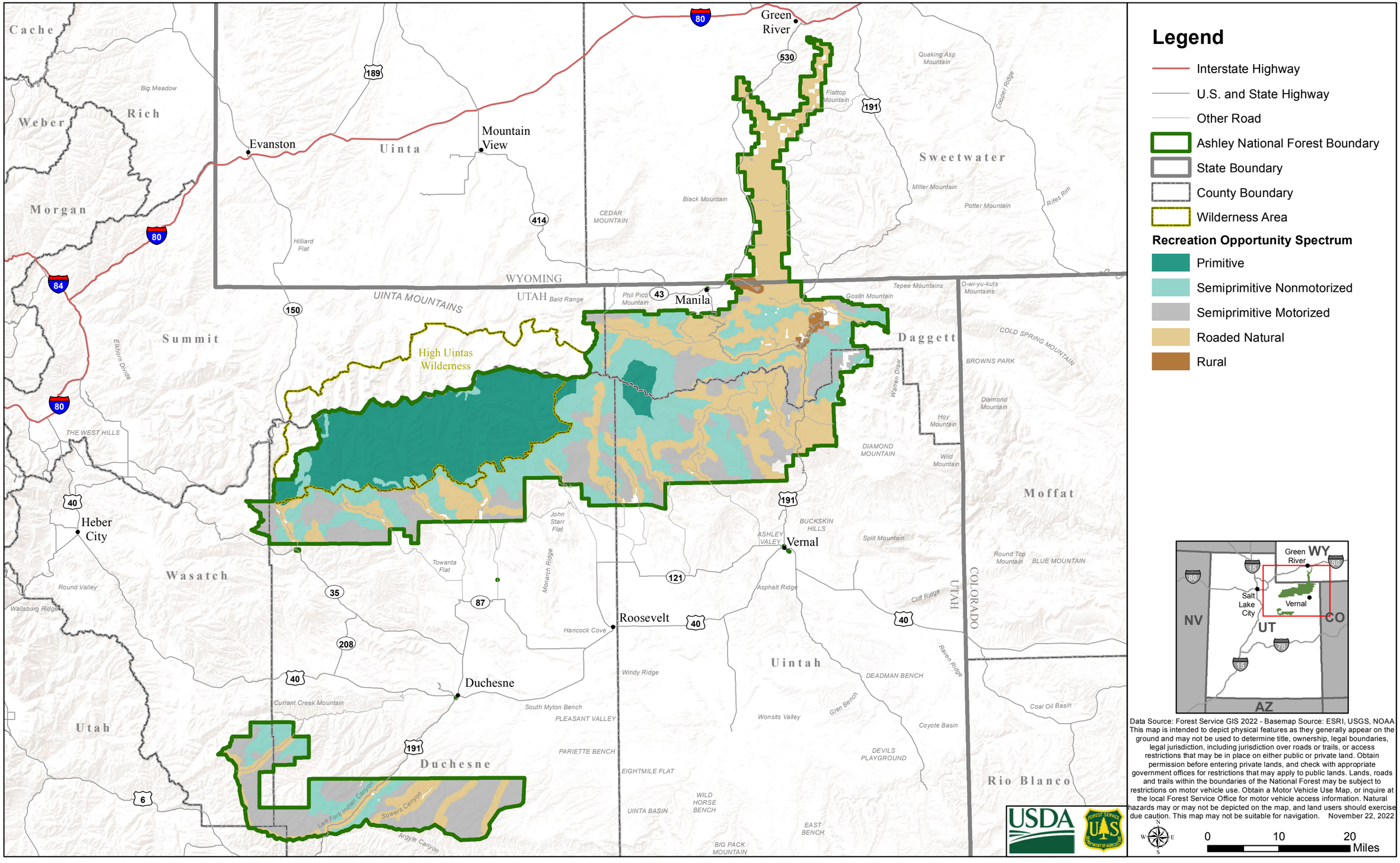
yarding Initial hauling of a log from the stump to a collection point.

Appendix 1. Maps

List of Figures


Cache
Weber
Rich
Morgan
Summit
Wasatch
Utah
Uinta
Duchesne
Daggett
Sweetwater
Moffat
Uintah
Rio Blanco
Big Meadow
Evanston
Mountain View
Green River
Manila
Roosevelt
Duchesne
Heber City
Vernal
WYOMING
UTAH
COLORADO
UINTA MOUNTAINS
Flaming Gorge National Recreation Area
Ashley Karst National Recreation and Geologic Area
High Uintas Wilderness
Uinta-Wasatch-Cache National Forest
Ute Tribal Trust Land
Flaming Gorge Reservoir
Stateline Reservoir
Long Park Res.
Hoop Lake
Red Castle Lake
Chepeta Lake
Lake Atwood
Grandaddy Lake
Kidney Lake
Moon Lake
Upper Stillwater Reservoir
Starvation Reservoir
Strawberry Reservoir
Matt Warner Reservoir
East Park Res.
Oaks Park Res.
Steinaker Reservoir
Red Fleet Reservoir
Browns Draw Res.
Big Sand Wash Res.
Black Mountain
CEDAR MOUNTAIN
Miller Mountain
Potter Mountain
Quaking Asp Mountain
Flattop Mountain
Cooper Ridge
Rifles Rim
Tepee Mountains
Goslin Mountain
O-wi-yu-kuts Mountains
COLD SPRING MOUNTAIN
BROWNS PARK
Diamond Mountain
Hoy Mountain
Wild Mountain
DIAMOND MOUNTAIN
Dinosaur National Monument
Round Top Mountain
BLUE MOUNTAIN
Split Mountain
BUCKSKIN HILLS
ASHLEY VALLEY
Asphalt Ridge
Cliff Ridge
Raven Ridge
DEADMAN BENCH
Coal Oil Basin
Coyote Basin
Wonsits Valley
Glen Bench
DEVILS PLAYGROUND
Windy Ridge
South Myton Bench
PLEASANT VALLEY
PARIETTE BENCH
EIGHTMILE FLAT
WILD HORSE BENCH
UINTA BASIN
BIG PACK MOUNTAIN
EAST BENCH
Hancock Cove
Towanta Flat
John Starr Flat
Monarch Ridge
Hilliard Flat
Bald Range
Phil Pico Mountain
Warren Draw
Elkhorn Divide
THE WEST HILLS
Round Valley
Wallsburg Ridge
Currant Creek Mountain
Left Fork Indian Canyon
Sowers Canyon
Argyle Canyon
80
189
530
191
414
43
150
84
40
121
87
35
208
6
Legend
Interstate Highway
U.S. and State Highway
Other Road
National Recreation Area
Ashley National Forest Boundary
State Boundary
County Boundary
Water
Wilderness Area
Land Ownership
Bureau of Land Management
Fish and Wildlife Service
Local Government
National Park Service
Private
State
Ute Tribal Trust Land
U.S. Forest Service
Green River
WY
Salt Lake City
Vernal
NV
UT
CO
AZ
Data Source: Forest Service GIS 2022 - Basemap Source: ESRI, USGS, NOAA.
Land Ownership layer from combined US Forest Service Basic Ownership and Bureau of Land Management Surface Management Agency data.
This map is intended to depict physical features as they generally appear on the ground and may not be used to determine title, ownership, legal boundaries, legal jurisdiction, including jurisdiction over roads or trails, or access restrictions that may be in place on either public or private land. Obtain permission before entering private lands, and check with appropriate government offices for restrictions that may apply to public lands. Lands, roads and trails within the boundaries of the National Forest may be subject to restrictions on motor vehicle use. Obtain a Motor Vehicle Use Map, or inquire at the local Forest Service Office for motor vehicle access information. Natural hazards may or may not be depicted on the map, and land users should exercise due caution. This map may not be suitable for navigation. November 22, 2022
N
W
E
S
0
10
20
Miles


Box Elder
Cache
Rich
Weber
Morgan
Davis
Salt Lake
Summit
Wasatch
Utah
Juab
Sanpete
Carbon
Emery
Grand
Duchesne
Uintah
Daggett
Sweetwater
Moffat
Rio Blanco
Garfield
Mesa
Uinta
WYOMING
UTAH
COLORADO
Green River
Evanston
Mountain View
Manila
Salt Lake City
Heber City
Provo
Price
Roosevelt
Vernal
15
80
84
215
70
Legend
Interstate Highway
US Highway
Historic Boundary of the Uintah and Ouray Reservation
Ute Tribal Trust Lands of the Uintah and Ouray Reservation
Ashley National Forest Boundary
State Boundary
County Boundary
WY
NV
UT
CO
AZ
Data Source: Forest Service GIS 2022 - Basemap Source: ESRI, USGS, NOAA. Land Ownership layer from combined US Forest Service Basic Ownership and Bureau of Land Management Surface Management Agency data. This map is intended to depict physical features as they generally appear on the ground and may not be used to determine title, ownership, legal boundaries, legal jurisdiction, including jurisdiction over roads or trails, or access restrictions that may be in place on either public or private land. Obtain permission before entering private lands, and check with appropriate government offices for restrictions that may apply to public lands. Lands, roads and trails within the boundaries of the National Forest may be subject to restrictions on motor vehicle use. Obtain a Motor Vehicle Use Map, or inquire at the local Forest Service Office for motor vehicle access information. Natural hazards may or may not be depicted on the map, and land users should exercise due caution. This map may not be suitable for navigation. March 7, 2023
0
10
20
Miles



Legend

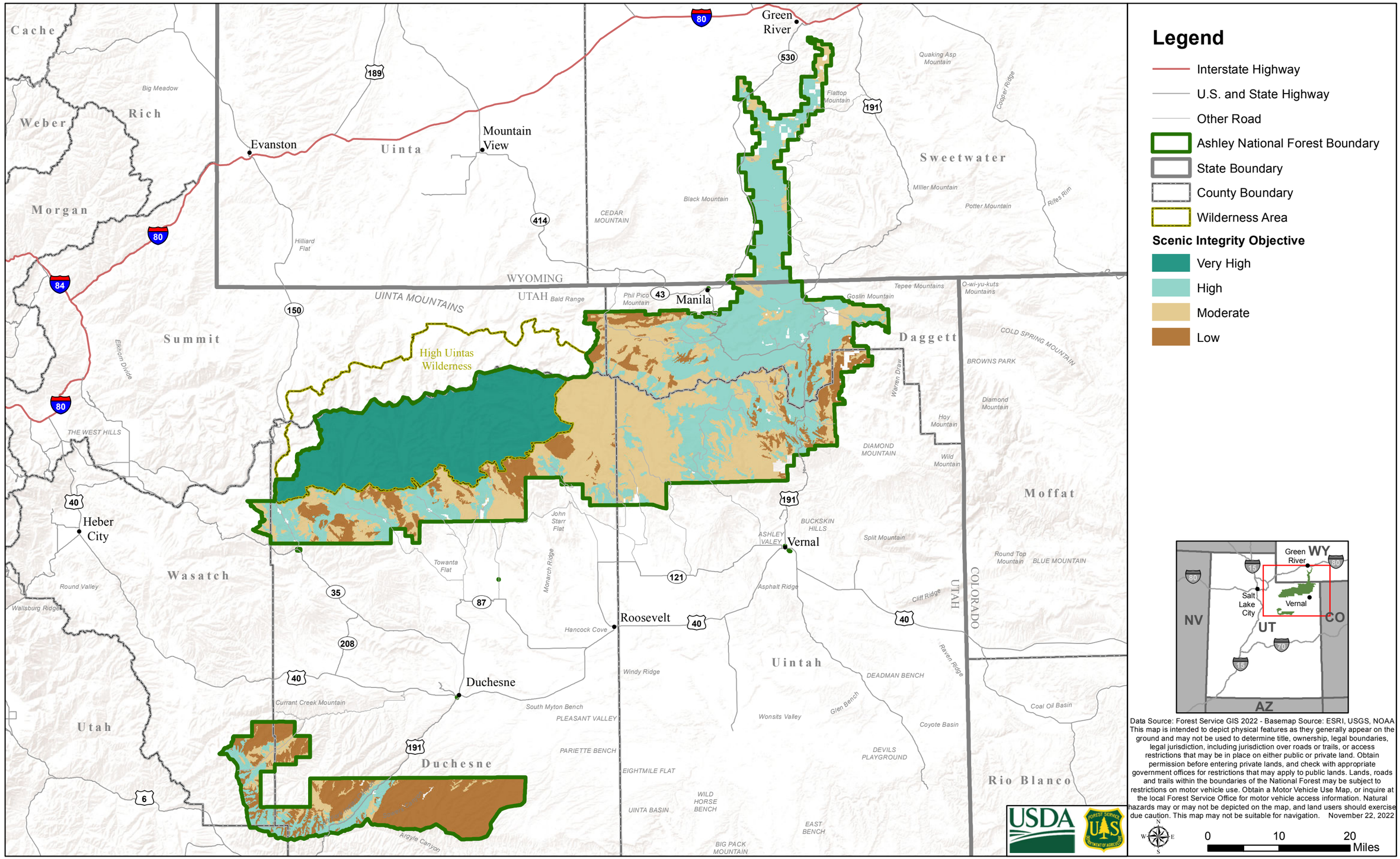
- Interstate Highway
- U.S. and State Highway
- Other Road
- Ashley National Forest Boundary
- State Boundary
- County Boundary
- Wilderness Area

Recreation Opportunity Spectrum

- Primitive
- Semiprimitive Nonmotorized
- Semiprimitive Motorized
- Roaded Natural
- Rural

Data Source: Forest Service GIS 2022 - Basemap Source: ESRI, USGS, NOAA
This map is intended to depict physical features as they generally appear on the ground and may not be used to determine title, ownership, legal boundaries, legal jurisdiction, including jurisdiction over roads or trails, or access restrictions that may be in place on either public or private land. Obtain permission before entering private lands, and check with appropriate government offices for restrictions that may apply to public lands. Lands, roads and trails within the boundaries of the National Forest may be subject to restrictions on motor vehicle use. Obtain a Motor Vehicle Use Map, or inquire at the local Forest Service Office for motor vehicle access information. Natural hazards may or may not be depicted on the map, and land users should exercise due caution. This map may not be suitable for navigation. November 22, 2022

0 10 20 Miles



Legend

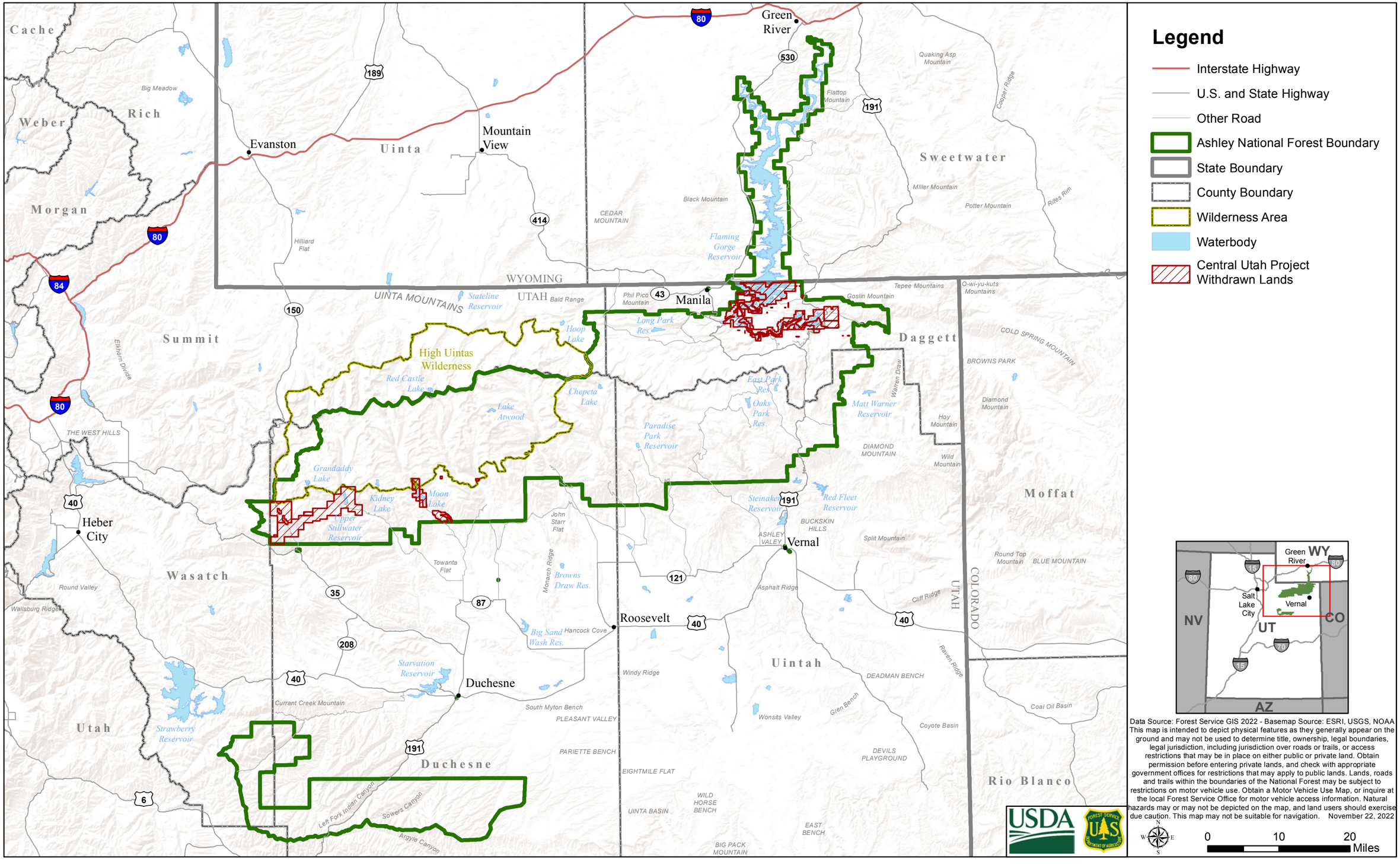
- Interstate Highway
- U.S. and State Highway
- Other Road
- Ashley National Forest Boundary
- State Boundary
- County Boundary
- Wilderness Area

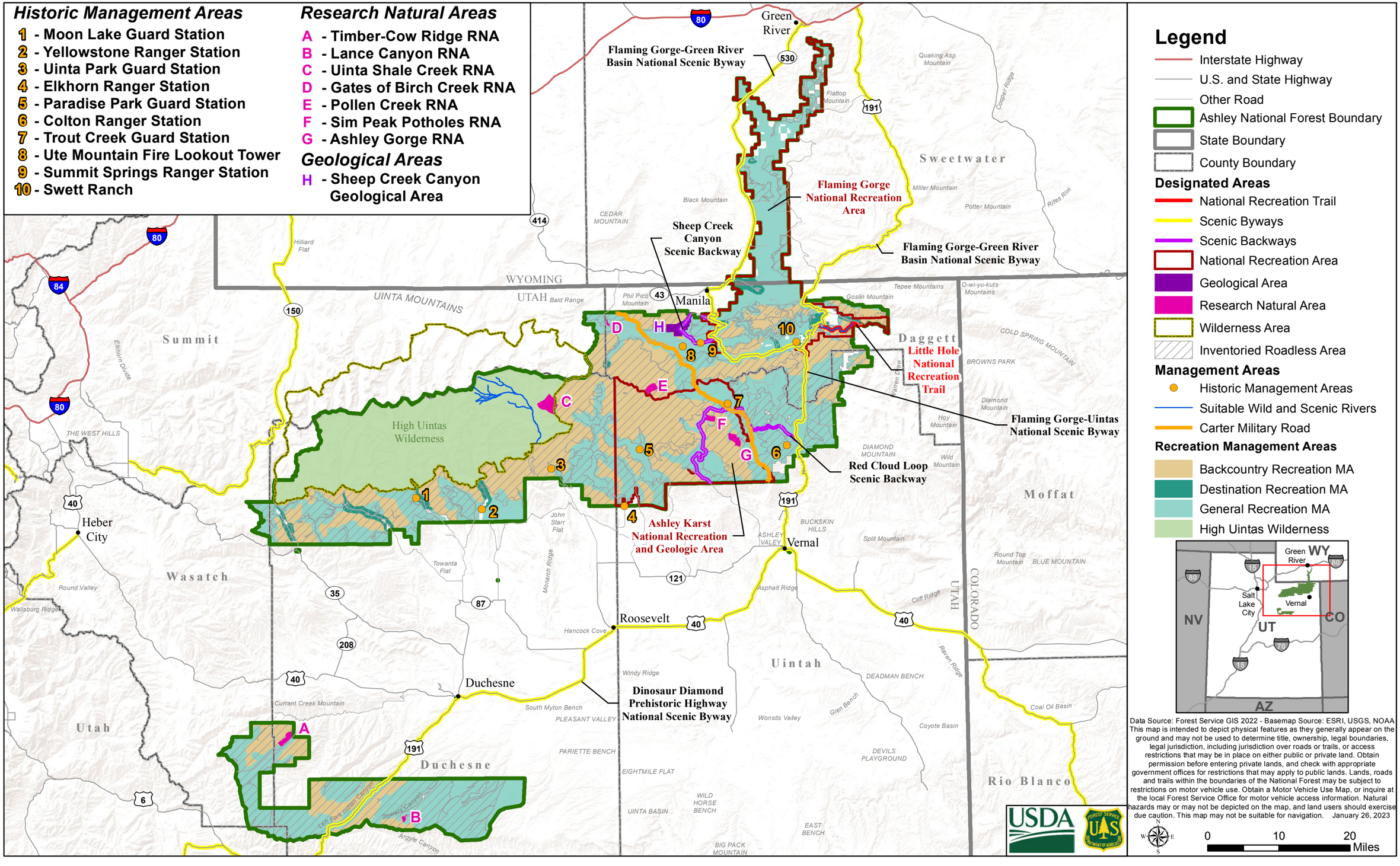
Scenic Integrity Objective

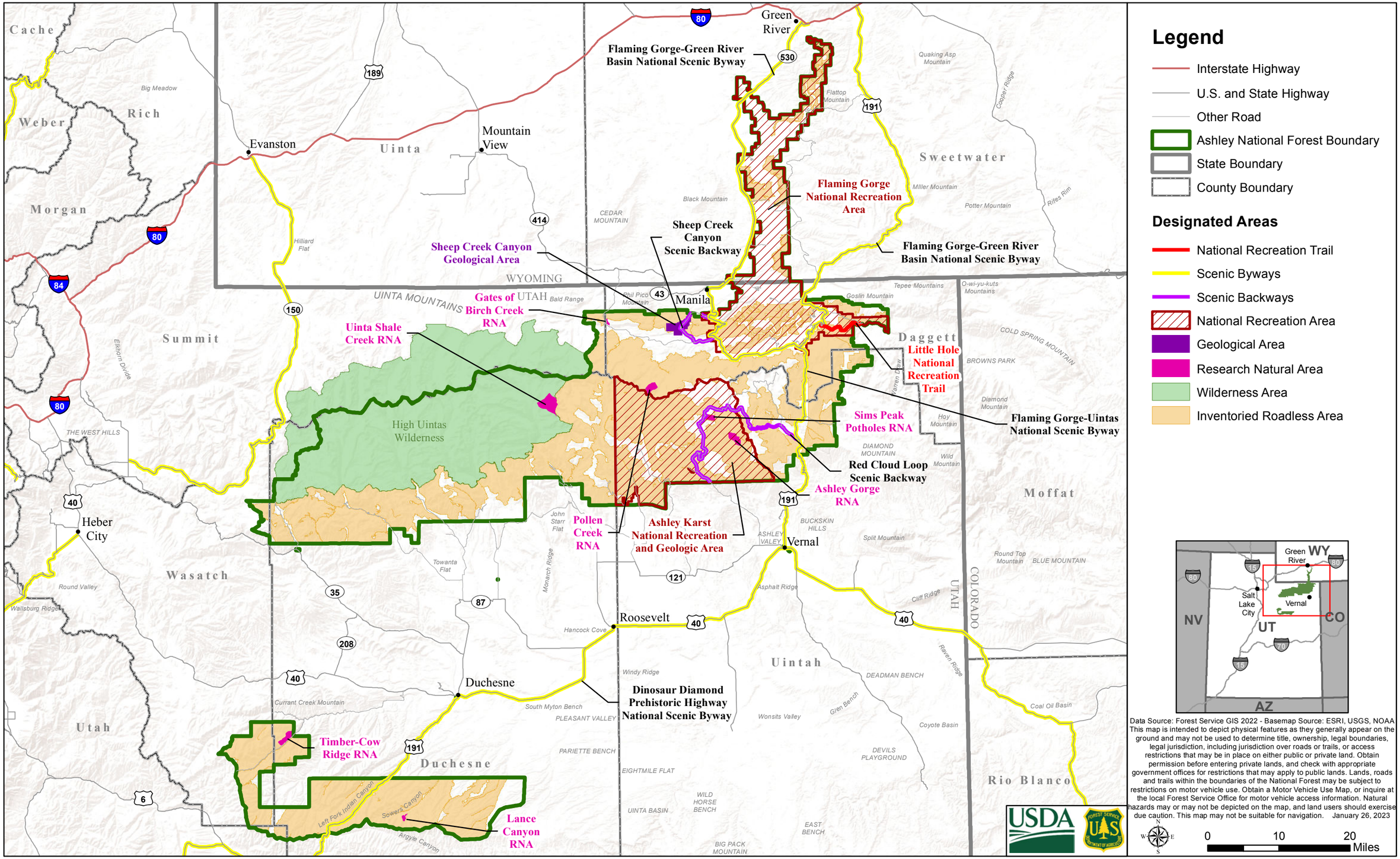
- Very High
- High
- Moderate
- Low

Data Source: Forest Service GIS 2022 - Basemap Source: ESRI, USGS, NOAA
This map is intended to depict physical features as they generally appear on the ground and may not be used to determine title, ownership, legal boundaries, legal jurisdiction, including jurisdiction over roads or trails, or access restrictions that may be in place on either public or private land. Obtain permission before entering private lands, and check with appropriate government offices for restrictions that may apply to public lands. Lands, roads and trails within the boundaries of the National Forest may be subject to restrictions on motor vehicle use. Obtain a Motor Vehicle Use Map, or inquire at the local Forest Service Office for motor vehicle access information. Natural hazards may or may not be depicted on the map, and land users should exercise due caution. This map may not be suitable for navigation. November 22, 2022

0 10 20 Miles


Cache
Big Meadow
Weber
Rich
Morgan
Summit
Elkhorn Divide
THE WEST HILLS
Heber City
Wasatch
Round Valley
Wallsburg Ridge
Utah
Strawberry Reservoir
Currant Creek Mountain
Duchesne
Uinta
Evanston
Mountain View
Hilliard Flat
UINTA MOUNTAINS
Stateline Reservoir
Bald Range
WYOMING
UTAH
Hoop Lake
High Uintas Wilderness
Red Castle Lake
Chepeta Lake
Lake Atwood
Grandaddy Lake
Kidney Lake
Moon Lake
Upper Stillwater Reservoir
Towanta Flat
Monarch Ridge
Browns Draw Res.
Big Sand Wash Res.
Hancock Cove
Starvation Reservoir
Roosevelt
Windy Ridge
South Myton Bench
PLEASANT VALLEY
PARIETTE BENCH
EIGHTMILE FLAT
UINTA BASIN
WILD HORSE BENCH
BIG PACK MOUNTAIN
EAST BENCH
DEVILS PLAYGROUND
Rio Blanco
Moffat
COLORADO
UTAH
Uintah
DEADMAN BENCH
Coal Oil Basin
Coyote Basin
Raven Ridge
Wonsits Valley
Glen Bench
Cliff Ridge
Asphalt Ridge
Vernal
ASHLEY VALLEY
BUCKSKIN HILLS
Split Mountain
Round Top Mountain
BLUE MOUNTAIN
Steinaker Reservoir
Red Fleet Reservoir
DIAMOND MOUNTAIN
Wild Mountain
Hoy Mountain
Diamond Mountain
BROWNS PARK
COLD SPRING MOUNTAIN
Daggett
Tepee Mountains
O-wi-yu-kuts Mountains
Goslin Mountain
Phil Pico Mountain
Manila
Long Park Res.
East Park Res.
Oaks Park Res.
Matt Warner Reservoir
Warren Draw
Paradise Park Reservoir
Flaming Gorge Reservoir
Green River
Quaking Asp Mountain
Flattop Mountain
Cooper Ridge
Sweetwater
Miller Mountain
Potter Mountain
Rifles Rim
Black Mountain
CEDAR MOUNTAIN
John Starr Flat
Left Fork Indian Canyon
Sowers Canyon
Argyle Canyon
80
189
191
530
414
84
150
40
35
87
208
121
43
6
Legend
Interstate Highway
U.S. and State Highway
Other Road
Ashley National Forest Boundary
State Boundary
County Boundary
Wilderness Area
Waterbody
Central Utah Project Withdrawn Lands
Green River
WY
NV
UT
CO
AZ
Salt Lake City
Vernal
Data Source: Forest Service GIS 2022 - Basemap Source: ESRI, USGS, NOAA
This map is intended to depict physical features as they generally appear on the ground and may not be used to determine title, ownership, legal boundaries, legal jurisdiction, including jurisdiction over roads or trails, or access restrictions that may be in place on either public or private land. Obtain permission before entering private lands, and check with appropriate government offices for restrictions that may apply to public lands. Lands, roads and trails within the boundaries of the National Forest may be subject to restrictions on motor vehicle use. Obtain a Motor Vehicle Use Map, or inquire at the local Forest Service Office for motor vehicle access information. Natural hazards may or may not be depicted on the map, and land users should exercise due caution. This map may not be suitable for navigation. November 22, 2022
0
10
20
Miles


Historic Management Areas
1 - Moon Lake Guard Station
2 - Yellowstone Ranger Station
3 - Uinta Park Guard Station
4 - Elkhorn Ranger Station
5 - Paradise Park Guard Station
6 - Colton Ranger Station
7 - Trout Creek Guard Station
8 - Ute Mountain Fire Lookout Tower
9 - Summit Springs Ranger Station
10 - Swett Ranch
Research Natural Areas
A - Timber-Cow Ridge RNA
B - Lance Canyon RNA
C - Uinta Shale Creek RNA
D - Gates of Birch Creek RNA
E - Pollen Creek RNA
F - Sim Peak Potholes RNA
G - Ashley Gorge RNA
Geological Areas
H - Sheep Creek Canyon Geological Area
Green River
Flaming Gorge-Green River Basin National Scenic Byway
Flaming Gorge National Recreation Area
Sheep Creek Canyon Scenic Backway
Flaming Gorge-Green River Basin National Scenic Byway
Manila
Little Hole National Recreation Trail
Flaming Gorge-Uintas National Scenic Byway
Red Cloud Loop Scenic Backway
Ashley Karst National Recreation and Geologic Area
Dinosaur Diamond Prehistoric Highway National Scenic Byway
Vernal
Roosevelt
Duchesne
Heber City
Sweetwater
Summit
Daggett
Moffat
Uintah
Wasatch
Utah
Duchesne
Rio Blanco
WYOMING
UTAH
COLORADO
UINTA MOUNTAINS
High Uintas Wilderness
Legend
Interstate Highway
U.S. and State Highway
Other Road
Ashley National Forest Boundary
State Boundary
County Boundary
Designated Areas
National Recreation Trail
Scenic Byways
Scenic Backways
National Recreation Area
Geological Area
Research Natural Area
Wilderness Area
Inventoried Roadless Area
Management Areas
Historic Management Areas
Suitable Wild and Scenic Rivers
Carter Military Road
Recreation Management Areas
Backcountry Recreation MA
Destination Recreation MA
General Recreation MA
High Uintas Wilderness
Green River WY
Salt Lake City
Vernal
NV
UT
CO
AZ
Data Source: Forest Service GIS 2022 - Basemap Source: ESRI, USGS, NOAA
This map is intended to depict physical features as they generally appear on the ground and may not be used to determine title, ownership, legal boundaries, legal jurisdiction, including jurisdiction over roads or trails, or access restrictions that may be in place on either public or private land. Obtain permission before entering private lands, and check with appropriate government offices for restrictions that may apply to public lands. Lands, roads and trails within the boundaries of the National Forest may be subject to restrictions on motor vehicle use. Obtain a Motor Vehicle Use Map, or inquire at the local Forest Service Office for motor vehicle access information. Natural hazards may or may not be depicted on the map, and land users should exercise due caution. This map may not be suitable for navigation. January 26, 2023
0 10 20 Miles



Legend

- Interstate Highway
- U.S. and State Highway
- Other Road
- Ashley National Forest Boundary
- State Boundary
- County Boundary

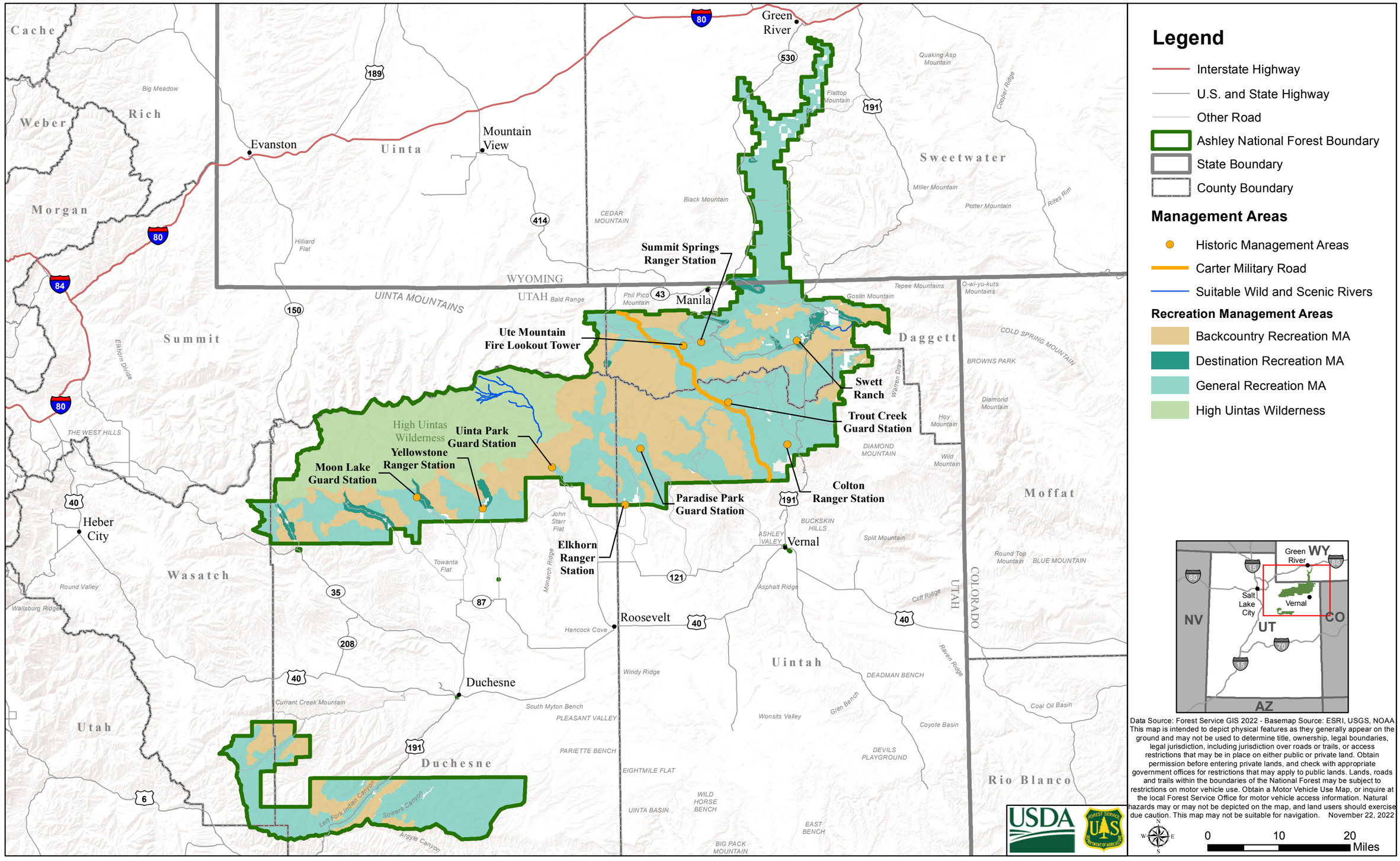
Designated Areas

- National Recreation Trail
- Scenic Byways
- Scenic Backways
- National Recreation Area
- Geological Area
- Research Natural Area
- Wilderness Area
- Inventoried Roadless Area

Data Source: Forest Service GIS 2022 - Basemap Source: ESRI, USGS, NOAA
This map is intended to depict physical features as they generally appear on the ground and may not be used to determine title, ownership, legal boundaries, legal jurisdiction, including jurisdiction over roads or trails, or access restrictions that may be in place on either public or private land. Obtain permission before entering private lands, and check with appropriate government offices for restrictions that may apply to public lands. Lands, roads and trails within the boundaries of the National Forest may be subject to restrictions on motor vehicle use. Obtain a Motor Vehicle Use Map, or inquire at the local Forest Service Office for motor vehicle access information. Natural hazards may or may not be depicted on the map, and land users should exercise due caution. This map may not be suitable for navigation. January 26, 2023

N W E S

0 10 20 Miles


Cache
Big Meadow
Weber
Rich
Morgan
Summit
Elkhorn Divide
THE WEST HILLS
Wasatch
Round Valley
Wallsburg Ridge
Heber City
Utah
Duchesne
Currant Creek Mountain
Left Fork Indian Canyon
Sowers Canyon
Argyle Canyon
Uinta
Evanston
Mountain View
Hilliard Flat
CEDAR MOUNTAIN
Black Mountain
UINTA MOUNTAINS
WYOMING
UTAH
Bald Range
Phil Pico Mountain
Manila
Summit Springs Ranger Station
Ute Mountain Fire Lookout Tower
High Uintas Wilderness
Uinta Park Guard Station
Yellowstone Ranger Station
Moon Lake Guard Station
Paradise Park Guard Station
Elkhorn Ranger Station
Towanta Flat
John Starr Flat
Monarch Ridge
Hancock Cove
Roosevelt
Windy Ridge
South Myton Bench
PLEASANT VALLEY
PARIETTE BENCH
EIGHTMILE FLAT
UINTA BASIN
WILD HORSE BENCH
BIG PACK MOUNTAIN
EAST BENCH
DEVILS PLAYGROUND
DEADMAN BENCH
Wonsits Valley
Gren Bench
Coyote Basin
Uintah
Vernal
ASHLEY VALLEY
BUCKSKIN HILLS
Split Mountain
Asphalt Ridge
Cliff Ridge
Raven Ridge
Coal Oil Basin
Round Top Mountain
BLUE MOUNTAIN
Green River
Quaking Asp Mountain
Flattop Mountain
Cooper Ridge
Sweetwater
Miller Mountain
Potter Mountain
Rifles Rim
Tepee Mountains
Goslin Mountain
O-wi-yu-kuts Mountains
Daggett
COLD SPRING MOUNTAIN
BROWNS PARK
Warren Draw
Diamond Mountain
Hoy Mountain
Wild Mountain
DIAMOND MOUNTAIN
Moffat
Rio Blanco
COLORADO
UTAH
Swett Ranch
Trout Creek Guard Station
Colton Ranger Station
80
189
530
191
414
84
150
43
40
121
87
208
35
6
Legend
Interstate Highway
U.S. and State Highway
Other Road
Ashley National Forest Boundary
State Boundary
County Boundary
Management Areas
Historic Management Areas
Carter Military Road
Suitable Wild and Scenic Rivers
Recreation Management Areas
Backcountry Recreation MA
Destination Recreation MA
General Recreation MA
High Uintas Wilderness
Green River
WY
NV
UT
CO
AZ
Salt Lake City
Vernal
Data Source: Forest Service GIS 2022 - Basemap Source: ESRI, USGS, NOAA
This map is intended to depict physical features as they generally appear on the ground and may not be used to determine title, ownership, legal boundaries, legal jurisdiction, including jurisdiction over roads or trails, or access restrictions that may be in place on either public or private land. Obtain permission before entering private lands, and check with appropriate government offices for restrictions that may apply to public lands. Lands, roads and trails within the boundaries of the National Forest may be subject to restrictions on motor vehicle use. Obtain a Motor Vehicle Use Map, or inquire at the local Forest Service Office for motor vehicle access information. Natural hazards may or may not be depicted on the map, and land users should exercise due caution. This map may not be suitable for navigation. November 22, 2022
0
10
20
Miles

Appendix 2. Watershed Condition Framework

Healthy, resilient watersheds are essential to forest health, water quality, and attenuation of late season water. Watershed condition is integral to all aspects of forest resource management and uses. Good watershed management maintains the productive capacity of soils, protects water quality, sustains native species, provides for state-designated beneficial water uses, and reduces threat of fire and flood damage to infrastructure on the Ashley National Forest and downstream. In the Intermountain West, with projections for increasing human demand on water resources and uncertainty about future climate variability, managing for healthy, resilient watersheds is of high importance to terrestrial, riparian, and aquatic ecosystems and to people, downstream communities, and economies. In addition to various ongoing initiatives to maintain and improve watershed conditions, the Ashley National Forest designates priority watersheds under the Watershed Condition Framework.

The Watershed Condition Framework was established in 2011 and is a comprehensive, national approach within the Forest Service for carrying out integrated restoration activities. The framework assesses watersheds using indicators of the biological and physical factors that affect watershed condition. The framework focuses on aquatic and terrestrial conditions that Forest Service management actions can influence. Using this model, watersheds are given one of three overall classifications: Class 1 (good), Class 2 (fair), or Class 3 (poor).

Watershed Condition Framework Priority Watersheds

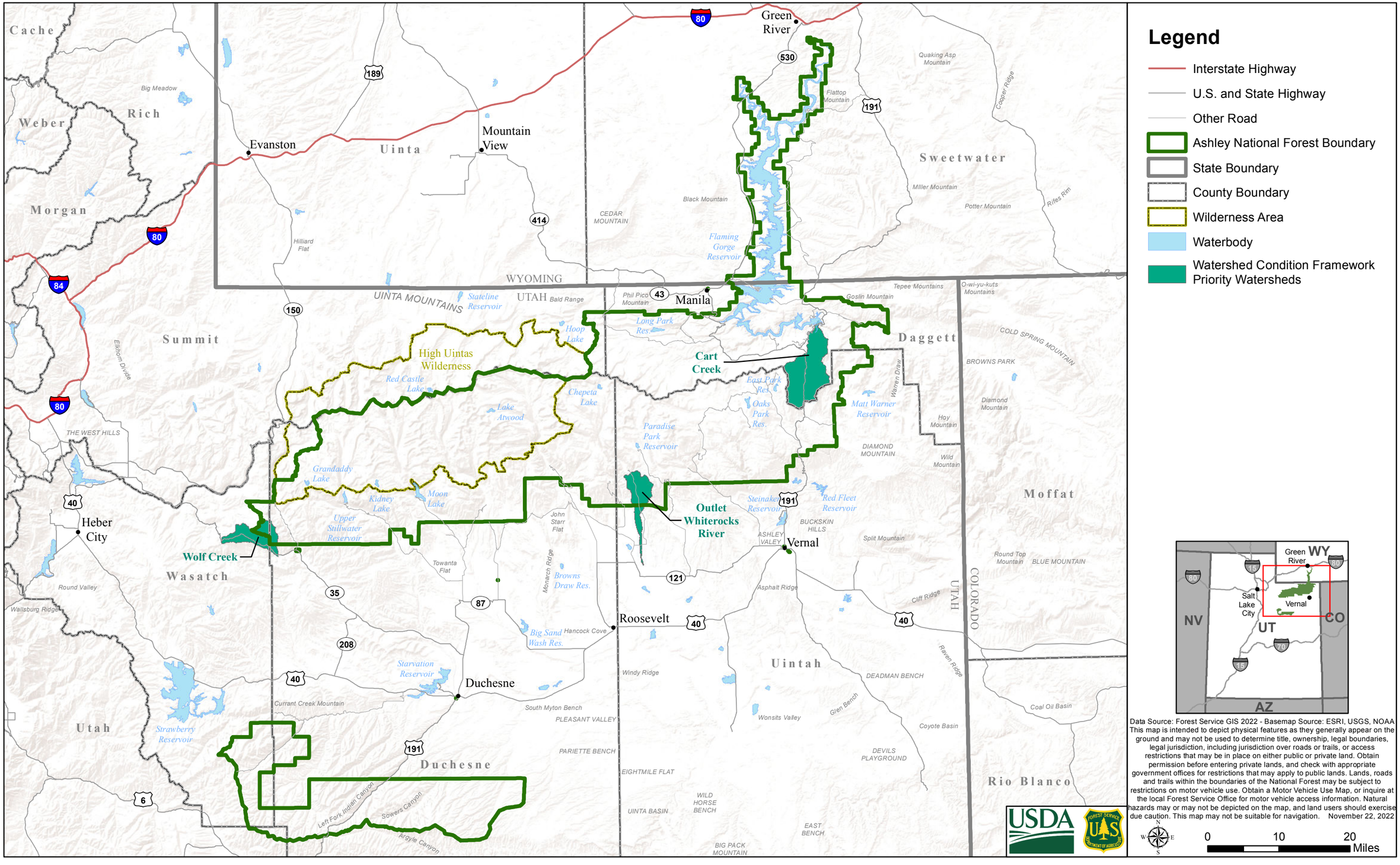
The Watershed Condition Framework process also promotes communication and coordination with tribes, external agencies, and partners. It identifies a number of 12-digit hydrologic unit scale watersheds for restoration work and serves as an outcome-based measure for planning and documenting improvements. Currently, three Watershed Condition Framework watersheds have been selected with restoration plans active (shown in table 2-1). See Figure 2-1 for a map of these watersheds. Watershed Condition Framework priority watersheds will change over the life of the forest plan. They are reevaluated periodically based on ecological values, restoration goals, regulatory requirements, and changes in Forest Service priorities and those of other agencies, tribes, organizations, and interested parties. Changes in designation of priority watersheds are made under the administrative changes provision of the 2012 Planning Rule (36 CFR 219.13(c)). Forest supervisor approval and public notice are required for these changes to occur.

Table 2-1. Watershed Condition Framework priority watersheds currently identified on the Ashley NF

Name	Hydrologic Unit Code
Cart Creek	140401060503
Wolf Creek	140600030102
Whiterocks River	140600031204

The web-based Watershed Condition Framework map viewer, located at Watershed Condition Framework (arcgis.com), contains the current priority watersheds, restoration action plans and other associated information. A more detailed description of Watershed Condition Framework results specific to the Ashley National Forest can also be found in the Ashley National Forest assessment (USDA 2017, p. 19) and the air, soil, and watershed resources technical report developed for the assessment (Bevenger 2017, pp. 88–97).[1]

[1] USDA Forest Service, 2017, Assessment report of ecological, social, and economic conditions on the Ashley National Forest, Vernal, UT: USDA Forest Service, Ashley National Forest; G. Bevenger, 2017, Ashley National Forest assessment: Air, soil, and watershed resources report, Public draft, Vernal, UT: USDA Forest Service, Ashley National Forest.


Legend
Interstate Highway
U.S. and State Highway
Other Road
Ashley National Forest Boundary
State Boundary
County Boundary
Wilderness Area
Waterbody
Watershed Condition Framework Priority Watersheds
Cache
Weber
Rich
Morgan
Summit
Wasatch
Utah
Duchesne
Uinta
Sweetwater
Daggett
Moffat
Rio Blanco
Uintah
Evanston
Mountain View
Green River
Manila
Heber City
Roosevelt
Vernal
Duchesne
Wolf Creek
Cart Creek
Outlet Whiterocks River
High Uintas Wilderness
WYOMING
UTAH
COLORADO
Big Meadow
Elkhorn Divide
THE WEST HILLS
Round Valley
Wallsburg Ridge
Hilliard Flat
UINTA MOUNTAINS
Stateline Reservoir
Bald Range
Phil Pico Mountain
Long Park Res.
Hoop Lake
Red Castle Lake
Chepeta Lake
Lake Atwood
Grandaddy Lake
Kidney Lake
Moon Lake
Upper Stillwater Reservoir
Paradise Park Reservoir
Oaks Park Res.
East Park Res.
Matt Warner Reservoir
Steinaker Reservoir
Red Fleet Reservoir
Flaming Gorge Reservoir
Black Mountain
CEDAR MOUNTAIN
Quaking Asp Mountain
Flattop Mountain
Cooper Ridge
Miller Mountain
Potter Mountain
Rifles Rim
Tepee Mountains
Goslin Mountain
O-wi-yu-kuts Mountains
COLD SPRING MOUNTAIN
BROWNS PARK
Diamond Mountain
Hoy Mountain
Wild Mountain
Warren Draw
DIAMOND MOUNTAIN
BUCKSKIN HILLS
ASHLEY VALLEY
Split Mountain
Round Top Mountain
BLUE MOUNTAIN
Asphalt Ridge
Cliff Ridge
Raven Ridge
DEADMAN BENCH
Coal Oil Basin
Coyote Basin
DEVILS PLAYGROUND
Wonsits Valley
Glen Bench
Windy Ridge
PLEASANT VALLEY
South Myton Bench
Hancock Cove
Big Sand Wash Res.
Browns Draw Res.
Monarch Ridge
John Starr Flat
Towanta Flat
Starvation Reservoir
Strawberry Reservoir
Currant Creek Mountain
PARIETTE BENCH
EIGHTMILE FLAT
WILD HORSE BENCH
UINTA BASIN
BIG PACK MOUNTAIN
EAST BENCH
Left Fork Indian Canyon
Sowers Canyon
Argyle Canyon
Green River
Salt Lake City
Vernal
NV
UT
CO
AZ
WY
Data Source: Forest Service GIS 2022 - Basemap Source: ESRI, USGS, NOAA
This map is intended to depict physical features as they generally appear on the ground and may not be used to determine title, ownership, legal boundaries, legal jurisdiction, including jurisdiction over roads or trails, or access restrictions that may be in place on either public or private land. Obtain permission before entering private lands, and check with appropriate government offices for restrictions that may apply to public lands. Lands, roads and trails within the boundaries of the National Forest may be subject to restrictions on motor vehicle use. Obtain a Motor Vehicle Use Map, or inquire at the local Forest Service Office for motor vehicle access information. Natural hazards may or may not be depicted on the map, and land users should exercise due caution. This map may not be suitable for navigation. November 22, 2022
0
10
20
Miles

Appendix 3. Potential Management Approaches, Strategies, and Coordination

Introduction

This appendix describes potential management approaches, strategies, and coordination activities that may take place on the Ashley National Forest at the project or activity level to help maintain existing conditions or to achieve the desired conditions described in the plan. Included are items such as ongoing work with partners and cooperating agencies anticipated during the 15-year life of the plan.

This appendix provides information by individual resource areas that is intended to clarify the intent and provide suggested means to achieve specific forest plan direction and components related to resource areas. Management approaches and strategies presented in this section may include suggestions for on-the-ground implementation, analysis, assessment, inventory or monitoring, as well as partnership and coordination opportunities the Ashley is suggesting might be helpful in achieving its desired conditions. The potential approaches and strategies are not intended to be all-inclusive, nor are they commitments to perform particular actions. The types of actions that are exemplified in this appendix do not commit the Ashley National Forest to perform or permit these actions but are provided as actions that would likely be consistent with plan components and that might be undertaken to maintain or move towards the desired conditions and objectives. Although the purpose and need developed for a specific project may address one or more desired conditions identified in the forest plan, each individual desired condition would not need to be met on every project nor in every treatment area within a project.

A plan amendment is not required to change or modify any of these potential management approaches. The list of approaches can be updated at any time through an administrative correction of the plan. More information may be found under 36 CFR 219.7(f)(2).

Approaches, Strategies, and Coordination Activities by Topic

Working and Coordinating with Tribes, Partners, and Cooperators

1. Work with tribes, local governments, businesses, individuals, and organizations to assist in permit processes, to streamline programmatic environmental analysis, and to engage in other measures to save the time and expense of permitting.

2. Work to maintain and expand contracting and partnering opportunities with tribes, local governments, businesses, and organizations. Develop partnerships that leverage different sources of funding to support opportunities to contribute to the economic and social sustainability of local communities.

3. Develop partnerships with tribes, local governments, businesses, and organizations to collect economic data to track changes for businesses in sectors dependent on national forest activities. Practice adaptability to dynamic changes that can occur in the needs of local communities while still complying with Federal policy.

4. Develop collaborative projects that share the spirit of stewardship and work toward mutual interests and mutual gains for the Forest Service and outside interests.

5. Educate and coordinate with internal and external groups so that wildland fire is understood and accepted as a necessary process essential to the sustainability of the Ashley National Forest's fire-adapted ecosystems and to provide safer wildland fire operations.

6. Consider value-added opportunities for existing Forest users that promote and maintain ecosystem integrity and sustainability. Work with tribes, local governments, and communities to expand new socioeconomic opportunities that support agency multiple uses.

7. Seek opportunities to work collaboratively with state and local governments, other Federal agencies, partners, conservation corps, tribes, private property owners, industries, and environmental justice communities depending on National Forest System lands to accomplish restoration and management efforts. Encourage these cooperators to work toward sustainable practices. Coordinate with any potentially impacted communities prior to carrying out vegetation treatment actions.

8. Foster partnership and coordination through facilitating early and frequent communication between the Forest Service and state, local, and tribal governments in the national forest planning processes. This communication is intended to promote productive discussion resulting in more positive land management planning decisions for all parties and consistency in the process and outcomes. An additional intent of the communication is to build positive working relationships, maximize trust, minimize misunderstanding and potential conflicts, and produce actions that result in positive outcomes and greater community support for those actions.

9. Build and maintain relationships with a diversity of local communities, partnerships, volunteers, other government agencies, tribes, range permittees, cooperators, recreation users, environmental justice communities, and permit holders to help maintain a sustainable recreation program and minimize conflicts among uses through planning, design, implementation, and operations and maintenance. Recognize partners for their roles in providing recreation opportunities when possible.

10. Develop memoranda of agreements or other protocols to promote social and economic sustainability between the Ashley National Forest and state, local, and tribal governments to guide coordination processes and reflect local and regional perspectives and interests.

11. Develop a government-to-government tribal consultation agreement or protocol with the Ute Indian Tribe to enhance coordination and collaboration on projects within areas of tribal interest.

12. The Ashley National Forest coordinates with the Department of the Interior's Central Utah Project Completion Act Office and Bureau of Reclamation regarding project-level decisions that may affect the Central Utah Project (CUP) or lands withdrawn for Reclamation purposes in accordance with the Master Interagency Agreement (number 86-SIE-004) between the Bureau of Reclamation, U.S. Department of Interior, and the USDA Forest Service, Concerning Water Resource Related Projects of the Bureau of Reclamation within or Adjacent to National Forest System Lands. This master agreement establishes procedures and policies for the development of the project supplemental agreements for both agencies to manage and administer resources within the total areas of project influence.[1] The Forest Service manages withdrawn lands similarly to

[1] The Ashley National Forest boundary encompasses lands withdrawn for the development, maintenance, operation, and protection of water transport and storage pursuant to the Reclamation Act of 1902, 43 U.S.C. 391416, and the Sundry Civil Expenses Appropriation Act of 1920, 43 U.S.C. 394. Congress has authorized Bureau of Reclamation

how adjacent National Forest System lands are being managed, such as the use of planned vegetation management treatments (e.g., timber harvest, planned ignitions, thinning, planting) and livestock grazing where appropriate. Refer to Figure 1-5 for the locations of undeveloped withdrawn parcels. The following people should be contacted regarding actions that may affect the CUP:

Agency/Address
attn: Program Administrator; Division Manager, Lands Group Bureau of Reclamation/Upper Colorado Basin, Interior Region 7 302 East Lakeview Parkway, Provo, UT 84606; Phone: 801-379-1083
attn: Program Director; Program Coordinator Dept. of the Interior, CUPCA Office 302 East Lakeview Parkway, Provo, UT 84606; Phone: 801-379-1084
attn: Lands Manager; Environmental Program Manager Central Utah Water Conservation District Orem Headquarters; 142 E. 750 N. Suite 400, Orem, UT 84097; Phone: 801-226-7100

Air Quality

1. Cooperate with Federal, state, and tribal agencies to meet air quality regulations and achieve plan goals. This includes participation in smoke management plans and compliance with mitigation or other measures required in state and Federal implementation plans.

2. Provide early notification to the public about potential smoke from prescribed fire activities to promote awareness and protect human health and safety.

3. Return fuel load conditions to within the natural range of variation to diminish the risk of smoke-related impacts on nearby communities and national forest visitors from unplanned wildfire events. Include wildland fire management, prescribed burning, and mechanical treatments in fuel (vegetation) reduction methods. Coordinate prescribed burns with appropriate partners (States of Utah and Wyoming) to reduce short-term smoke impacts.

4. Where there is evidence of annual exceedance in critical loads or national ambient air quality standards on the Ashley National Forest, coordinate with Federal, state and tribal authorities to ensure Ashley National Forest management actions are compatible with regional air pollutant reduction strategies. Keep current on accepted air quality best management practices appropriate for Forest Service project design; collaborate with Federal, state, and tribal authorities on opportunities to reduce emissions from sources known to contribute to pollutant levels on the Ashley National Forest.

Soils

1. For all timber sales and timber management projects, review soil properties for potential problems with compaction and erosion before and after completion. Encourage timber purchasers and timber management project leaders to do post-project ripping or scarification of roads and skid trails, where the rock content is low and would not result in additional soil displacement.

projects on these withdrawn lands as part of CUP, authorized in 1956 under the Colorado River Storage Project Act (P.L. 84-485). The Central Utah Project Completion Act (P.L. 102-575), enacted on October 30, 1992, transferred responsibility for planning and construction activities to the Central Utah Water Conservancy District and established the Central Utah Project Completion Act Office to oversee completion of the project.

2. Work collaboratively with state and local governments, other Federal agencies, partners, conservation corps, volunteers, and other groups on projects that maintain and restore soil quality, including road and trail closures, reclamation, and seeding projects.

3. Continue to update and utilize the available soil data and interpretations provided in the Lands System Inventory for management of soil resources.

4. Use reclamation measures to check erosion and mass wasting of soil resources that result from wildfires and fuel reduction projects, including firelines and fire access roads.

5. Improve soil stability and reduce erosion where feasible in areas disturbed by recreation or other impacts by adding organic materials (coarse woody debris, slash, wood chips) to the soil surface, planting, seeding, or utilizing other erosion control methods.

Watershed, Aquatic, and Riparian Ecosystems

1. Proactively respond to significant changes in habitat quality and structure that are observed during monitoring. Identify opportunities to improve habitat and structure for aquatic species.

2. Collaborate with state wildlife agencies for opportunities to use beaver relocation as an aquatic restoration tool, where it would not conflict with other land uses and suitable habitat.

3. Where opportunities exist, accommodate natural processes in aquatic and riparian restoration projects and incorporate biotechnical design principles (such as large, woody debris and native plantings) to achieve restoration objectives and to minimize the need for long-term maintenance.

4. As projects occur in riparian management zones, decommission non-Forest Service System routes, restore drainage, and reestablish native vegetation to move these areas toward their desired condition.

5. Rehabilitate, stabilize, or remove structures in stream channels if they are not necessary or functional. Maintain and restore the hydrologic connectivity of streams, floodplains, meadows, wetlands, and other aquatic features. Identify roads and trails that intercept, divert, or disrupt natural surface and subsurface water flow paths. Implement corrective actions where necessary. Seek opportunities for restoring down-cut/aggraded channels, floodplain function, and water table availability to riparian and wetland vegetation.

6. If riparian vegetation, soil, and water quality conditions are not meeting desired conditions, consider riparian protection measures such as, but not limited to, riparian fencing or relocation of trails or dispersed camping sites to help restore riparian conditions back to their desired condition.

7. Evaluate and incorporate maintenance and enhancement needs for springs, meadows, fens, and wetlands (groundwater-dependent ecosystems) into project designs and implementation to maintain or restore natural timing and variability of water table elevation.

Fisheries

1. Identify and protect all existing Colorado River cutthroat trout-occupied habitat.

2. Collaborate with state wildlife agencies to expand the range of Colorado River cutthroat trout on the planning unit.

3. Where appropriate, maintain or improve stream connectivity.

4. Consider upland watershed effects from various forest management activities to ensure protection for aquatic habitat and species.

5. Ensure that all projects in the vicinity of aquatic habitat have design elements to avoid impacts to the habitat.

6. Ensure that projects have design features to protect habitat and populations of aquatic and riparian species. Incorporate mitigation measures to reduce stream impacts and protect fish populations.

Pinyon-Juniper Woodlands

1. Do not approve managed fire (planned or unplanned) in pinyon-juniper woodlands where ecological function, integrity, and resilience have the potential to be compromised by invasive plants.

2. Where ecological function, integrity, and resilience have been compromised by invasive plants in burned pinyon-juniper woodlands, design restoration treatments to reduce invasive plants, increase moderate- to high-valued perennial plants, initiate an upward trend toward desired condition, and restore ecological function, integrity, and resilience. Treatments may include, but are not limited to, mechanical and nonmechanical treatments to reduce invasive plants and seedings to establish desirable plants with moderate to high resource value.

Forest Vegetation

1. Justify planned vegetation type conversion with an analysis showing biological, economic, social, and environmental design consequences; include the relation of such conversions to the process of natural change, integrating climate projection information.

2. During thinnings or other treatments that create green pine slash, incorporate recent recommendations from forest health protection staff to mitigate increases in pine engraver (*Ips* species) populations.

3. In fire or harvest treatments designed to naturally regenerate stands, consider seed fall distances from live tree seed sources in those species that do not regenerate readily from stand replacement events.

4. When regeneration is a desired outcome, favor the clearcut treatment method over other regeneration treatment methods in lodgepole pine stands with a high dwarf mistletoe infection[2] to mitigate the spread of mistletoe to the developing regeneration.

5. Use silvicultural practices, where possible, that maintain tree vigor, promote resistance to damaging agents, and increase forest resilience to changing environmental conditions.

6. Mitigate effects of insect and disease outbreaks around eligible heritage resources (such as sheep traps, wickiups, pole lodges, historic cabins, and other sites) in danger of destruction by falling trees.

7. During post-disturbance reforestation planning (other than harvest), identify through integrated analysis those understocked lands where reforestation activity (either natural regeneration or

[2] F. G. Hawksworth & D. W. Johnson, Biology and management of dwarf mistletoe in lodgepole pine in the Rocky Mountains, General Technical Report RM-169, Fort Collins, CO: USDA Forest Service, Rocky Mountain Region, 1989.

planting) is necessary to achieve desired condition and those understocked lands where natural succession is acceptable, realizing there may be a long regeneration period (such as natural recovery). Natural recovery is not appropriate for lands suitable for timber production. If there are no feasible reforestation options available, reconsider management objectives (for example, may need to change from timber suitability to unsuitable land).

8. Where opportunities exist, incorporate natural processes in restoration projects to achieve desired objectives and reduce the need for long-term maintenance. Consider best available science on the potential effects of climate changes on vegetation communities.

Fire

1. When wildland fires occur, develop appropriate response strategies based on the risk considerations of life, safety, and potential resource impacts and with the participation of other responsible agencies, authorities, and jurisdictions, as appropriate.

2. Use a wildland fire decision support process to create and document strategic decisions for wildfires.

3. Use fire to achieve management objectives for other resources when conditions permit and are within acceptable risk limits.

4. In areas not highly departed from desired conditions, wildland fires may be managed to burn with the intensity and frequency of the reference fire regime when fire weather conditions are appropriate and resources are available to successfully meet objectives.

5. Evaluate the risk of cheatgrass or other exotic species invasion. When there is a moderate to high risk of these types of invasions, develop mitigation measures. If adequate treatments are not available, or if they are cost-prohibitive, develop objectives to minimize the burned area.

6. Use information, education, and transformational processes (new, cutting-edge methods) to inform the public about fire danger and fire prevention. Providing public information and public prevention education is an integral part of the Ashley National Forest fire management program.

7. Provide education and outreach opportunities annually to local communities and national forest visitors. Topics can include fire prevention, the role of fire, and fire's short-term impacts through a minimum of 15 public contacts per fire season.

8. During development of or updates to community wildfire protection plans, assessments, and management plans, provide support to cooperators to mitigate the negative impacts of wildfire. In these plans, identify and prioritize areas for treatment based on input from communities and other interested parties.

Protection of Highly Valued Resources or Assets

1. During wildfire mitigation planning, use a risk assessment process to determine the hazard to highly valued resources or assets. Prioritize areas with the most significant opportunities for reducing wildfire risk or that have the greatest threat, in collaboration with cooperators and external entities.

Wildlife

1. If white-nosed syndrome among bats is detected within 50 miles of the Ashley National Forest, then preventative measures can be considered such as cave closures or decontamination

procedures for those entering caves to minimize the risk of white-nosed syndrome spreading to bats on the Ashley National Forest.

2. Fences can present hazards to wildlife and restrict their movement across the landscape. New fencing and reconstruction can be designed to minimize the hazards and barriers fences may cause to wildlife and their movements.

3. Consider the continued maintenance of existing wildlife guzzlers, range improvements, and exclosures that are determined to be an overall benefit to wildlife.

4. Because some wildlife species may become trapped in water developments such as troughs, new or reconstructed water developments and impoundments can be designed to prevent animal entrapment and to facilitate animal escape (for example, wildlife escape ramps).

5. When designing bighorn sheep habitat improvement projects, consider locating the projects away from domestic sheep and goat allotments to entice bighorn sheep away from those allotments.

Cultural and Historic Resources

1. Implement a heritage program plan through direction from Forest Service Manual 2360, Heritage Program Management that includes Forest-specific protocols such as protocols related to the inadvertent discovery of heritage resources, including human remains and associated objects; prevention of and response to Archaeological Resources Protection Act violations; and protocols for responses to wildland fire to reduce the effects on cultural resources and to reduce postfire looting. Coordinate closely with Tribal Historic Preservation Offices, the Wyoming and Utah State Historic Preservation Offices, and other interested parties during the development of the heritage program plan to ensure a plan that guides the protection and enhancement of heritage resources on the Ashley National Forest. Update the heritage program plan as necessary.

2. Conduct condition assessments on priority heritage resources (assets) on a 5-year cycle and assess 20 percent of priority heritage assets annually until all priority assets have condition assessments on file that are no more than 5 years in age.

3. Survey at least 5 percent of lands burned by wildfires within 1 year of being burned.

4. When appropriate, incorporate heritage plan components or protocols into statewide programmatic agreements or memoranda of understanding.

5. To deter Archaeological Resources Protection Act violations, post heritage resource protection signs in areas where cultural resources are at risk.

6. Identify areas of high, moderate, and low probability for the presence of heritage resources.

7. Monitor site conditions and measure the success of mitigation efforts.

8. Pursue partnerships, which are an integral part of the heritage program, with those interested in the Ashley National Forest's heritage resources. Use memoranda of understanding and programmatic agreements to streamline consultation and improve the management of heritage resources.

9. Issue Archaeological Resources Protection Act permits to facilitate research opportunities by qualified individuals associated with reputable institutions.

10. Where official loan or curation agreements are in place, ensure that Forest Service collections are curated at professional facilities and that the curators make them available to qualified researchers. Maintain, improve, and share heritage information with appropriate cooperators and follow confidentiality regulations.

11. Maintain heritage site location and condition data in the Forest Service's national database and in a spatial database with restricted access.

12. Increase public awareness, involvement, and appreciation of heritage resources over time using tools such as site stewardship and the Windows on the Past program.

13. Enhance public understanding and increase awareness of cultural and historic resources by conducting five public outreach or interpretive projects each year.

14. Instruct Ashley National Forest personnel to continue to work with permit holders to inform and educate them on Archaeological Resources Protection Act regulations and violation repercussions; incorporate Archaeological Resources Protection Act language into authorizations and annual operating instructions.

15. Annually include information regarding treaty rights in all initial training and refresher training for law enforcement officers and forest protection officers.

Livestock Grazing

1. Monitor annual indicators of grazing use such as stubble height, stream bank alteration, woody vegetation utilization, and upland utilization. These annual indicators can provide useful information for determining potential causes of unsatisfactory trends in rangeland conditions and for adaptive management adjustments. However, they are not appropriate for use as standards or as the sole basis for initiating immediate adverse administrative action on the grazing permit when the annual indicator is exceeded.

Timber

1. On lands suitable for timber production, ensure that vegetation management that uses timber tending and harvesting has a primary role in modifying the composition, density, structure, and spatial arrangement of vegetation to achieve desired conditions. Harvesting tools would take precedence over other management tools such as prescribed fire or the use of natural fire.

2. Ensure that timber tending and maintenance, such as pre-commercial thinning, contribute to meeting long-term desired vegetation conditions. These conditions include species composition, size classes, and improved forest resilience.

3. On lands not suitable for timber production, use vegetation management that includes irregular or unscheduled timber harvests to help achieve the desired conditions when timber harvesting is consistent with other resource objectives. Purposes for harvests may include salvaging dead and dying trees, reducing hazardous fuels, maintaining or enhancing wildlife habitat, and enhancing public safety.

Energy and Minerals

1. Subject to valid existing rights, do not allow drilling and mining activities to intersect or take place in or immediately adjacent to known or suspected cave passages, karst features, or subsurface voids.

2. For drilling activities in known or suspected cave or karst areas, require operators to notify the authorized officer and appropriate minerals staff whenever drilling operators encounter voids greater than 12 inches.

Transportation and Infrastructure

1. Maintain the transportation system through volunteer, partnership, cooperative agreement, and agency resources.

2. Use road maintenance activities to shape the road to drain off by blading either a crown or cross sloped road prism, fill ruts and potholes, clean ditches, and remove larger rocks. Do not leave a berm of graded material on the lower side on the road. Clean flare ditches and culvert inlets.

3. Maintain existing Schedule A road maintenance agreements with Daggett, Duchesne, Sweetwater, and Uintah Counties. Add or remove roads from the agreements as determined by the Forest Service and the individual county.

4. When decommissioning travel routes such as roads, skid trails, temporary roads, and trails, ensure that drainage features are sufficient to avoid sedimentation and erosion of surrounding resources. Stockpile and preserve topsoil for revegetation of disturbed areas.

5. Carry out approved road sign programs and sign adverse conditions and hazards resulting from catastrophic events.

6. For snowplowing on existing roads, keep an inch of compacted snow on the road during plowing operations to prevent damage to the road surface. Place breaks in the snow berms to direct water off the road.

7. Collect traffic data on selected roads to determine adequate design standards and maintenance levels.

8. Locate underground and overhead utilities, such as power lines, communication lines, water lines, and gas lines, within the roadway corridor to reduce the overall development footprint on the Ashley National Forest.

9. Because materials sources are an important component of sustainable transportation system operations, consider the economic cost, public safety, and scenic effects when locating, operating, and reclaiming borrow pits.

10. Ensure the availability of water for use in Forest Service operations (such as developed recreation, administrative sites, road maintenance, and livestock watering) while complying with applicable state and Federal laws and regulations.

Trails

1. Keep trail design, construction, and maintenance practices consistent with the most recent edition of the Forest Service Trail Construction and Maintenance Notebook.

2. Prevent unauthorized routes through Forest Service education, enforcement, and partnerships with users, closing these routes and allowing them to revegetate.

3. Develop and carry out strategies to significantly increase the roles of communities, partners, and volunteers in planning, developing, and maintaining motorized and nonmotorized trails.

Geologic Resources and Hazards

1. Locate and design roads, trails, and other facilities and activities to avoid, minimize, or mitigate potential adverse impacts from geologic hazards.

2. Locate and design roads, trails, and other facilities and activities so they do not adversely affect the natural hydrologic functioning of cave and karst streams, features, or groundwater systems. Do not drain roads and trails directly into caves, active sinkholes, or other karst features.

3. Retain vegetation in the vicinity of entrances to designated significant caves to protect the cave's microenvironment (habitat, climate, vegetation, and airflow).

4. Allow public use of caves unless restrictions are necessary to protect values or resources present in significant caves. Work cooperatively with agencies, research institutions, cave interest groups, and the public in managing cave and karst resources.

5. To the extent reasonable, manage the majority of caves on the Ashley National Forest as "wild" caves with no on-site modifications or facilities to aid or impede use and with no directed access or public disclosure of cave names, locations, or resources, except where gates or other devices may be needed for public safety or resource protection purposes.

Recreation

1. Remove snags and hazard trees from developed recreation sites to ensure the safety of the public.

2. Integrate new recreation technologies into the Ashley National Forest with support and guidance from interested users.

3. If new and emerging recreation technologies and equipment create adverse effects, limit new uses to appropriate sites or locations or prohibit use.

4. Seek to reduce conflicts between multiple recreation uses through education.

Dispersed Recreation

1. Reference the Aquatic Invasive Species Rapid Response Plans for the States of Utah and Wyoming if an aquatic invasive species is discovered in waterbodies on the Ashley National Forest.

Land Status and Ownership

1. Make landownership adjustments through purchase, donation, exchange, disposal, or other authority; use them to achieve resource management or protection objectives, provide needed access, consolidate ownership, or allow National Forest System lands to be managed more efficiently.

2. Survey and post National Forest System landownership boundaries to reduce the potential for encroachment and trespass.

3. Carry out land adjustments that improve ownership patterns to increase public benefit and the efficiency of national forest management.

4. Improve public and administrative access to National Forest System lands and acquire new road or trail easements, as needed, to manage national forest resources or to fill a gap in existing access to public lands.

5. Special-use permits for land uses should include operation and maintenance plans that address health and safety, resource protection, and operating procedures.

Designated Areas

Flaming Gorge National Recreation Area

1. Encourage compliance with Ashley National Forest Travel Plan designations of Forest Service System roads and motorized trails and responsible motor vehicle use by working with sportsman's groups, volunteer groups, local schools, range permittees, and other interested parties to promote respect for the land and staying on legal roads and trails. Promote the use of educational tools, such as kiosks, signs, brochures, field trips, and social media, to inform the public about impacts of off-road motorized use.

2. Support and fund broadcast and drill seeding projects that apply information gained from research done by the range specialists on the Flaming Gorge Ranger District and the Agricultural Research Service to reduce impacts of halogeton and cheatgrass. Communicate plans within the Forest Service and to the public for present and future research and field trials being done to protect rangelands in the Flaming Gorge National Recreation Area.

3. Manage forests using cultural methods that simulate the natural ecologic processes to ensure diversity of plant and animal communities and to protect recreational and scenic values. Generally, manage forested stands on an uneven-aged basis.[3] Attain the age spread by harvesting the stands in small groups (1/4 to 1/2 acre) or by removing single trees. Maximum tree size[4] will be relatively large (generally 20 inches diameter at breast height or greater for the ponderosa pine type and 12 inches diameter at root collar or greater for the pinyon-juniper type); cultural entries (planned entries for partial harvests in an uneven-aged stand) may be on lengthier cycles than normal. The exception would be in lodgepole pine and Douglas-fir types, which may be managed using the even-aged or two-aged system, such as shelterwood with reserves,[5] to maintain continuous forest cover.

4. Promptly investigate and, where appropriate, minimize insect, disease, and other damage in forested communities. Dead or dying trees that are not a threat to the public or are not spreading insects or disease may be left as needed to benefit wildlife and scenic values.

5. Schedule livestock grazing outside the Memorial Day to Labor Day high visitor use period in areas of heavy public use. Normally, do not allow livestock in designated recreation sites.

6. Communicate with the Bureau of Reclamation regarding management of the shoreline of the Flaming Gorge Reservoir below the high-water mark and anticipated dam releases.

[3] Uneven-aged stands contain three or more age classes of trees.
[4] In uneven-aged management, the maximum tree size is the diameter of the largest tree left (other than reserves) after treatment. "Reserves" are trees retained in a dispersed or aggregated manner after the regeneration period to help meet other resource objectives.
[5] A two-aged silvicultural system in which, in order to provide a source of seed or protection for regeneration, the old crop (the shelterwood) is removed in two or more successive cuttings, the first of which is ordinarily the seed cutting (though it may be preceded by a preparatory cutting) and the last of which is the final cutting. Part of the shelterwood could be retained as reserves to attain goals other than regeneration and to create a two-aged stand.

7. Manage the Flaming Gorge National Recreation Area according to the most recent Flaming Gorge National Recreation Area management plan.

High Uintas Wilderness

1. Manage the High Uintas Wilderness according to the most recent High Uintas Wilderness management plan.

2. Maintain the existing irrigation impoundments, dams, and essential hydro-meteorological measuring devices using minimum necessary actions to administer the High Uintas Wilderness, for the purposes of the Wilderness Act of 1964 and the Utah Wilderness Act of 1984.

Ashley Karst National Recreation and Geologic Area

1. Manage the Ashley Karst National Recreation and Geologic Area according to the most recent Ashley Karst National Recreation and Geologic Area management plan.

National Scenic Byways

1. Manage the national scenic byways on the Ashley National Forest according to their corridor management plans.

Historic Management Areas

Swett Ranch

1. Staff the Swett Ranch on weekends between Memorial Day and Labor Day each year to provide tours and interpretation of the historic ranch.

2. Inspect Swett Ranch buildings, fences, and farm equipment every 5 years to determine maintenance and preservation needs.

3. Prepare a historic preservation plan for Swett Ranch. Once the plan is approved, complete preservation and maintenance activities there in accordance with the plan.

Ute Mountain Fire Lookout Tower

1. Staff the Ute Fire Tower on weekends between Memorial Day and Labor Day each year to provide tours and interpretation of the historic fire tower.

2. Inspect the Ute Fire Tower, outbuildings, and historic weather station every 5 years to determine maintenance and preservation needs.

Historic Ranger Stations

1. Provide a brochure or booklet describing the history of each ranger station for visitor use in each historic ranger station that is a part of the recreational cabin rental program on the Ashley National Forest.

2. Inspect historic ranger stations, outbuildings, fences, and related facilities every 5 years to determine maintenance and preservation needs.

3. Make historic ranger stations available year-round for recreational rental. Maintain the ranger stations in a clean, healthy, and aesthetically pleasing manner to ensure visitors have an enjoyable stay. Address visitor feedback and concerns quickly and responsibly.

Carter Military Road

1. Install directional signs indicating the location of the historic Carter Military Road on at least 1 mile of the historic route each year or until the entire route has been signed.
2. Inspect segments of the Carter Military Road that maintain historic integrity every 5 years to determine historic preservation needs.
3. Complete preservation and trail maintenance activities on the Carter Military Road in accordance with the Carter Military Road Management Plan.

Appendix 4. Timber Suitability

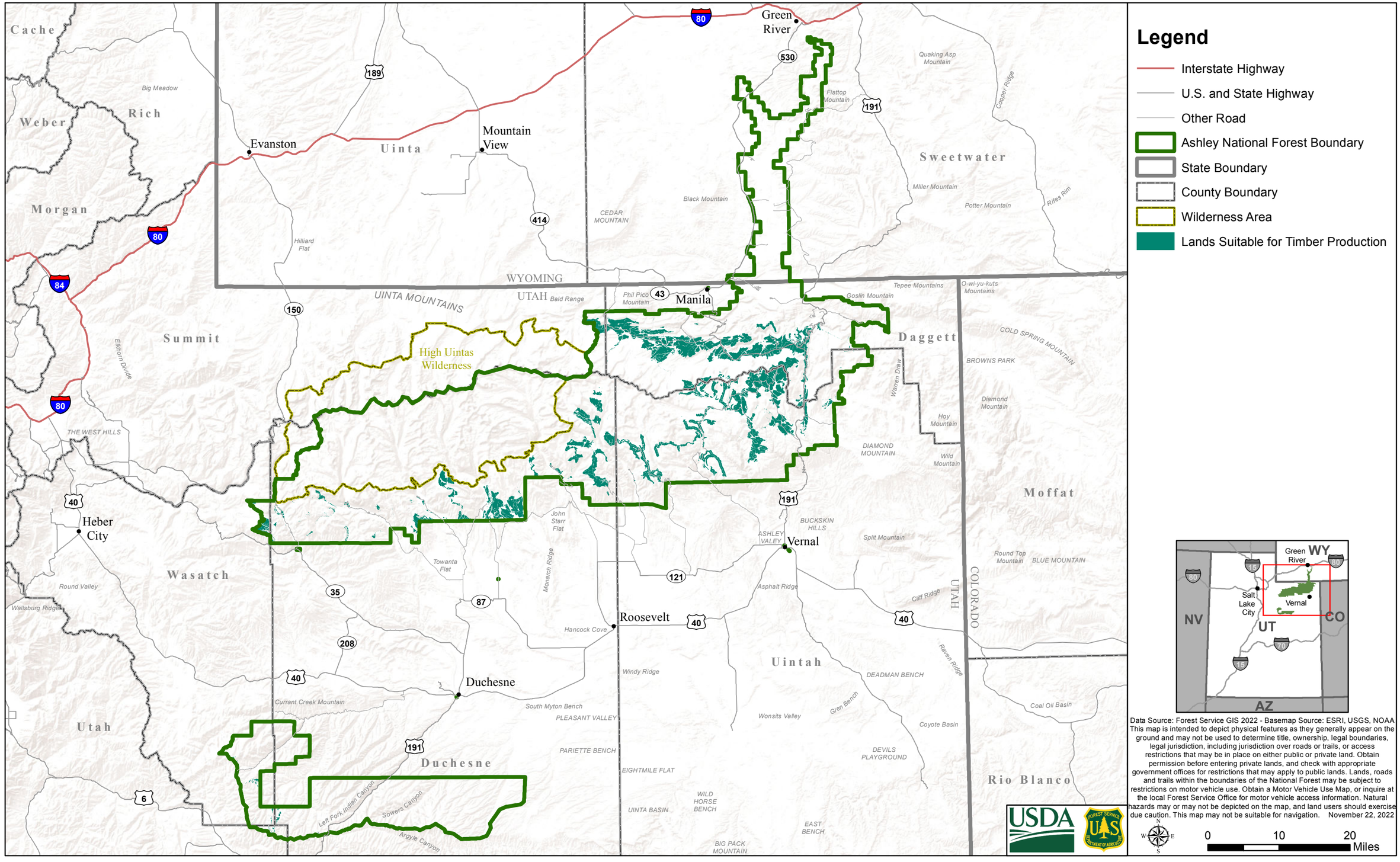
This appendix describes projected timber and wood products, as well as potential salvage volume, on all lands on the Ashley National Forest, most of which are estimated on lands suitable for timber production. Quantities of timber, wood products, and salvage harvest are predicted for the first and second decades of the plan. **The annual sustained yield limit is 21,446 hundred cubic feet (CCF) or 10,110 thousand board feet (MBF).** See Figure 4-1 for a map of lands that may be suitable for timber production.

Table 4-1. Annual average planned wood product output for the first and second decades of the plan

Timber Products[1]	First Decade	First Decade	First Decade	Second Decade	Second Decade	Second Decade
A. Lands Suitable for Timber Production	**CCF***	**MBF***	**Tons**	**CCF**	**MBF**	**Tons**
A1. Sawtimber	2,280	1,140	6,839	2,306	1,153	6,919
A2. Other Products (posts, poles, etc.)	1,516	0	4,549	1,516	0	4,549
B. Lands Not Suitable for Timber Production	**CCF**	**MBF**	**Tons**	**CCF**	**MBF**	**Tons**
B1. Sawtimber	10	5	31	11	5	32
B2. Other Products (posts, poles, etc.)	0	0	0	0	0	0
C. Projected Timber Sale Quantity (PTSQ) (A1+A2+B1+B2)	3,806	1,145	11,419	3,833	1,158	11,499
D. Other Estimated Wood Products[2]	**CCF**	**MBF**	**Tons**	**CCF**	**MBF**	**Tons**
D1. Fuelwood	0	0	0	0	0	0
E. Projected Wood Sale Quantity (PWSQ) (C+D1)	3,806	1,145	11,419	3,833	1,158	11,499
F. Salvage (Not included in PTSQ, PWSQ, nor does the SYL apply)	**CCF**	**MBF**	**Tons**	**CCF**	**MBF**	**Tons**
F1. Sawtimber	2,752	1,376	8,256	2,766	1,383	8,299
F2. Other Products (posts, poles, etc.)	0	0	0	0	0	0
F3. Fuelwood	0	0	0	0	0	0
F4. Personal Use Fuelwood	5,204	0	15,612	5,204	0	15611.61
Total Salvage	7,956	1,376	23,868	7,970	1,383	23,911
Grand Total (PWSQ plus Salvage)	**11,762**	**2,521**	**35,287**	**11,803**	**2,542**	**35,410**

Notes. CCF = hundred cubic feet; MBF = thousand board feet; PTSQ = projected timber sale quantity; PWSQ = projected wood sale quantity; SYL = sustained yield limit. See table 11 (characteristics of timber volume metrics) for further explanation of SYL, PTSQ, and PWSQ.

1. Timber products are volumes other than salvage or sanitation volumes that meet timber product utilization standards.
2. Other estimated wood products are fuelwood, biomass, and other volumes that do not meet timber product utilization standards.


Legend
Interstate Highway
U.S. and State Highway
Other Road
Ashley National Forest Boundary
State Boundary
County Boundary
Wilderness Area
Lands Suitable for Timber Production
Cache
Weber
Rich
Morgan
Summit
Wasatch
Utah
Duchesne
Uinta
Sweetwater
Daggett
Moffat
Rio Blanco
Uintah
Evanston
Mountain View
Green River
Manila
Heber City
Roosevelt
Duchesne
Vernal
WYOMING
UTAH
COLORADO
High Uintas Wilderness
UINTA MOUNTAINS
CEDAR MOUNTAIN
Bald Range
Big Meadow
Elkhorn Divide
THE WEST HILLS
Round Valley
Wallsburg Ridge
Hilliard Flat
Currant Creek Mountain
Towanta Flat
John Starr Flat
Monarch Ridge
Hancock Cove
Windy Ridge
South Myton Bench
PLEASANT VALLEY
PARIETTE BENCH
EIGHTMILE FLAT
UINTA BASIN
WILD HORSE BENCH
BIG PACK MOUNTAIN
EAST BENCH
Left Fork Indian Canyon
Sowers Canyon
Argyle Canyon
Quaking Asp Mountain
Flattop Mountain
Cooper Ridge
Black Mountain
Miller Mountain
Potter Mountain
Rifles Rim
Phil Pico Mountain
Tepee Mountains
Goslin Mountain
O-wi-yu-kuts Mountains
COLD SPRING MOUNTAIN
BROWNS PARK
Warren Draw
Diamond Mountain
Hoy Mountain
Wild Mountain
DIAMOND MOUNTAIN
ASHLEY VALLEY
BUCKSKIN HILLS
Split Mountain
Round Top Mountain
BLUE MOUNTAIN
Asphalt Ridge
Cliff Ridge
Raven Ridge
DEADMAN BENCH
Coal Oil Basin
Coyote Basin
Wonsits Valley
Glen Bench
DEVILS PLAYGROUND
Green River
Salt Lake City
Vernal
NV
UT
CO
AZ
WY
Data Source: Forest Service GIS 2022 - Basemap Source: ESRI, USGS, NOAA
This map is intended to depict physical features as they generally appear on the ground and may not be used to determine title, ownership, legal boundaries, legal jurisdiction, including jurisdiction over roads or trails, or access restrictions that may be in place on either public or private land. Obtain permission before entering private lands, and check with appropriate government offices for restrictions that may apply to public lands. Lands, roads and trails within the boundaries of the National Forest may be subject to restrictions on motor vehicle use. Obtain a Motor Vehicle Use Map, or inquire at the local Forest Service Office for motor vehicle access information. Natural hazards may or may not be depicted on the map, and land users should exercise due caution. This map may not be suitable for navigation. November 22, 2022
0 10 20 Miles

Appendix 5. Desired Scenic Character

Scenic character is a combination of the physical, biological, and cultural images that give an area its scenic identity and contribute to its sense of place. Scenic character provides a frame of reference from which to determine the scenic attractiveness of a landscape and to measure its scenic integrity (36 CFR 219.19). Existing scenic character is described in the scenery assessment report for the Ashley National Forest assessment.[1] Desired scenic character is the appearance of the landscape to be retained or created over time, recognizing the dynamic nature of landscapes and that scenery changes over time as the landscape mosaic changes. The desired scenic character may be very similar to the existing scenic character. See figure 1-4 for scenic integrity objective locations.

Desired scenic character includes a variety of naturally evolving, natural-appearing, pastoral, cultural, and historic landscapes. The Ashley National Forest's scenery is highly diverse, spanning three different landform types: the Uinta Mountains, Green River Basin, and Tavaputs Plateau. Features include glacial deposits and sculpted mountain peaks in the higher elevations, steep red canyon walls above Flaming Gorge Reservoir, and the highly dissected plateau lands in the south unit. Life zones range from high desert vegetation to shrub-steppe and aspen zones to extensive coniferous forest to high alpine ecosystems. The Ashley National Forest's scenery provides an integral and important sense-of-place backdrop, setting, and character-defining element for adjacent communities, residential areas, and travelways.

Landscapes on the Ashley National Forest feature a mosaic of plant species, structures, ages, and densities that maintain or restore ecological function, integrity, resilience, and sustainability. Vegetation communities reflect the desired conditions for the associated vegetation type. Mature vegetation and large trees are well distributed on the landscape. Scattered meadow parks allow for sweeping views of the surrounding areas. Aspen, meadows, forb communities, and riparian areas are valued scenic attributes of the desired scenic character throughout all landscapes.

The desired scenic character includes evidence of the long history of human use and habitation, including prehistoric sites, landscape features, and visible structures or relics of the history in an area. When this evidence adds to the sense of place or reflects the cultural legacy of an area, it contributes to desired scenic character and scenic integrity. Cultural or historic scenic character areas may be specific sites within otherwise natural-appearing or pastoral landscapes or larger landscape areas.

The desired scenic character and landscape characteristics for the different subareas on the Ashley National Forest are described by ranger district. The Flaming Gorge and Duchesne/Roosevelt Ranger Districts are divided into two subareas.

Flaming Gorge Ranger District North Scenic Character Subarea

The Flaming Gorge Ranger District North Scenic Character Subarea features a natural-appearing high desert landscape with diverse scenic vistas. The majestic red cliffs and steep-sloped buttes juxtaposed with the long flat beaches of the Flaming Gorge Reservoir have inspired countless visitors, including the explorer John Wesley Powell, who named the gorge. The sense of place for the subarea is very distinct. The Firehole area, in the northeast, is uniquely defined by chimneys, tall, narrow rock formations, and caprock buttes. Sweeping panoramas of sagebrush flats and hills with brown/gray rock outcroppings dominate the northern and mid part of the area, with the Uinta Mountains and scarp ridges providing a

[1] Ryan Buerkle, 2017, Ashley National Forest assessment: Scenery report, Public draft, Vernal, UT: USDA Forest Service, Ashley National Forest.

scenic backdrop to the south. The Firehole recreation complex and the Buckboard recreation complex provide longer-duration scenery-viewing opportunities with places to camp, fish, and explore the surrounding areas on trails that wind through nearby meadows and tree-covered slopes.

The shoreline of the Flaming Gorge Reservoir has many large and small coves, inlets, and peninsulas. Buckboard peninsula, which lies just south of the Buckboard recreation complex, has a long, flat shoreline with easy access to the reservoir and popular dispersed camping areas. The broad, gentle shoreline of Stateline Cove, at the far southern border, is also a popular camping area adjacent to the reservoir. Russian olive and sagebrush provide minimal shade near the shore. However, the lack of tall vegetation allows for incredible scenic views of the clear blue reservoir and surrounding bluffs and mountain peaks.

A number of small islands are dispersed throughout the reservoir. At the head of the coves and inlets are seasonal-flowing stream drainages with low-growing brush and vegetation. Most of the area is considerably more arid than the nearby Uinta Mountains. Even though the area is primarily treeless, there are a few forests of evergreen trees, pinyon pines, and junipers along the Green River floodplain and the gentler slopes surrounding the Flaming Gorge Reservoir. The yellow foliage of the fall tree colors contrasts beautifully with the gray limestone and red sandstone cliffs. The brown slopes leading down to the reservoir are dotted with green, low-growing vegetation and are highly dissected by seasonal-flowing stream channels and gullies, with few perennial streams. The shale component of the landscape transmits water slowly, if at all. Thus, the land tends to become waterlogged and, in some areas, alkaline flats develop. It has a plastic texture when wet and tends to erode rapidly, which has resulted in the dissected and eroded slopes and landforms.

Due to the geology of the area, which consists of shale, organic mudstone and marlstone, sandstone, limestone, and oil shale, much of the prehistoric record of the area has been preserved as numerous types of fossils. Rock art and other clues of ancient human settlements are still found on the landscape. However, many of the prehistoric and historic sites were submerged in the waters of Flaming Gorge Reservoir with the construction of the Flaming Gorge Dam.

The Flaming Gorge-Green River Basin Scenic Byway, a Wyoming scenic byway, is located on both the east and west sides of the subarea and allows visitors to enjoy the beauty of the area from a car.

Flaming Gorge Ranger District South Scenic Character Subarea

The Flaming Gorge Ranger District South Scenic Character Subarea has natural-appearing, cultural, and historic scenic character, with a rich history of occupation from prehistoric civilizations to explorers like General William Ashley and John Wesley Powell to homesteaders in the 1900s to construction workers for the Flaming Gorge Dam. The historic Swett Ranch, built during the homesteading era, is now a Forest Service interpretive site and offers trails through open meadows of yellow wildflowers and scenic views of Flaming Gorge Reservoir and Baretop Mountain. Dutch John, a town built to house workers constructing the Flaming Gorge Dam, is another historic site contributing to the historic scenic character.

The Flaming Gorge-Uintas National Scenic Byway affords outstanding views of the river gorge and the High Uintas and multiple developed overlooks and interpretive areas. A traveler on the byway can view the variation of terrain, landforms, aspect, and precipitation throughout the subarea, which has resulted in vegetation communities ranging from sagebrush flats to dense conifer forests to alpine forbs and grasses. On the Lucerne Peninsula, Bare Top Mountain, and Antelope Flat area, sagebrush dominates. Pinyon and juniper dominate on Dutch John Mountain and Goslin Mountain in the northeast. The Sheep Creek/Spirit Lake Scenic Backway passes through the Sheep Creek Geological Area. The backway travels through dense pine forests, aspen stands, and large open meadows strewn with colorful flowers. Interesting rock

features were created by the earth's plates shifting and moving in the Uinta Mountain uplift. The Ute Tower Fire Lookout and Spirit Lake are also popular attractions on the backway. The ponderosa pine forests form a more or less continuous belt from the Ute Mountain Fire Lookout Tower to the eastern end of the Ashley National Forest. These ponderosa pine parks contain tall, large-crowned, widely spaced trees with grasses and low-growing shrubs blanketing the ground beneath them.

The hills forming the southeastern boundary and the divide between the north and south slopes of the Uinta Mountains are covered in dense stands of lodgepole pine at lower elevations and mixed stands of lodgepole pine, Engelmann spruce, and subalpine fir at higher elevations. The plateaus interspersing the glacial moraine areas are forested by lodgepole pine stands and mixed stands of lodgepole pine, Engelmann spruce, and subalpine fir. There are also numerous wet meadows, seeps and springs, and raised bogs throughout the plateaus. The glacial moraine areas are dominated by coniferous forests at lower elevations, with numerous meadows and willow fields interspersed and at higher elevations.

A combination of shales, limestone, sandstones, and quartzite form the geology of the area. The faults and folds of the Uinta Mountain uplift and the Uinta Mountain Group beds weather differently. This results in ridges with steep southern faces and more gently sloping northern slopes, with intervening valleys in the north, such as Sheep Creek Bay. The Green River's erosion of the Uinta Mountain quartzite[2] has resulted in the steep, high, red-colored canyon walls rising from the reservoir and the Green River below the Flaming Gorge Dam. On the plateaus south and west of the Flaming Gorge Reservoir, rock outcrops and large boulders add scenic variety. Stream drainages dissecting the plateaus create various wet and dry meadows throughout the area. A gently rolling upland makes up the southern border, with broken rock fragment fields scattered throughout the slopes. In the far southwestern corner between Leidy Peak and Tamarack Lake, glaciation has formed cirques,[3] basins, lakes, ground moraines, exposed bedrock, and deep gorges. The summits and slopes of these glaciated mountains are gently rolling rounded bollies ("bollie" is a local term for a treeless, alpine ridge top with grasses and forbs).

Many scenic canyons are found throughout the subarea, such as Horseshoe Canyon, Jarvies Canyon, Hideout Canyon, and Red Canyon. The steep, red cliff walls of these canyons in contrast with the deep blue water of the reservoir and intense green vegetation create a unique experience for visitors boating on the Flaming Gorge Reservoir and for those viewing the reservoir and canyon from overlooks along the canyon rim.

Vernal Ranger District Scenic Character Area

The Vernal Ranger District has natural-appearing, pastoral, cultural, and historic scenic character. In contrast to the glacial features found in the western and central part of the Uinta Mountains, the eastern Uintas were formed by uplift and subsequent downcutting by streams. The resulting topography is characterized by large plateaus separated by steep canyons.

The higher elevations in the eastern half are an uplifted residual plateau, and landforms are predominantly gently rolling uplands with rock outcrops and talus fields. Gently rolling hills are covered with mixed conifer forests of lodgepole pine, Engelmann spruce, and subalpine fir. Scattered meadow parks, such as Big Park, Manila Park, and Lonesome Park, occur in the forested areas, providing scenic vistas and adding to the scenic quality. In the higher elevations of the western half, glaciation has formed cirques, basins, lakes, ground moraines, exposed bedrock, and deep gorges with alpine plant communities above tree line. Below tree line are mosaics of wet and dry meadows mixed with large expanses of conifer forests such as the mosaics of the Chepeta Lake area, the Dry Fork drainage, and the area north and east

[2] Quartzite is a hard metamorphic rock that was originally sandstone.
[3] A cirque is an amphitheater-like valley formed by a glacier.

of Paradise Reservoir. The summits and slopes of these glaciated mountains are gently rolling rounded bollies with low-growing sedges and forbs that allow for sweeping views of the surrounding area and provide scenic overlooks of glacial-carved valleys such as the Whiterocks drainage.

Mid-elevation plateaus include extensive stands of lodgepole pine and aspen. Large areas of sagebrush and grass occur on these plateaus on Diamond Mountain and Brush Creek Mountain. Sagebrush, low-growing sedges and forbs, and occasional stands of aspens and logdepole pine cover flat to gently sloped plateaus in Grizzly Hollow, Iron Springs, East Draw, and the Limestone Mountain area. Stream canyon vegetation is highly variable, adding scenic diversity through the riparian areas where deciduous trees other than aspen are found and a more diverse mix of coniferous trees.

Ashley Karst National Recreation and Geologic Area has natural-appearing scenic character characterized by distinctive karst topography, including ridges, towers, fissures, and sinkholes eroded from the underlying Mississippian Limestone. The most notable examples of these karst systems are the Big Brush Creek Cave, Little Brush Creek Cave, and Dry Fork Creek karst system. Cutting through the plateaus and karst topography are stream canyons such as Dry Fork Canyon, Big Brush Creek Canyon, Ashley Creek Canyon, and Little Brush Creek Canyon, with steep to extremely steep slopes and occasional vertical cliffs. Douglas-fir generally dominates the steeper scarp slopes, which are mostly north, cool aspects. Aspen and Douglas-fir stands are common on the southerly, warmer slopes.

Cultural and historic scenic character are intermixed with the natural-appearing scenic character in this area, which has a long history of human use and habitation still evident in the landscape. Dry Canyon contains evidence of Freemont Indian civilizations through petroglyph and pictograph drawings on the sandstone canyon walls. Another mark of historic civilization is the Carter Military Trail, which was built in 1881 and 1882 as an Army supply route between Fort Bridger, Wyoming, and Fort Thornburgh in northeastern Utah. Now, visitors hike along the historic trail past open meadows strewn with purple, red, and yellow wildflowers and through lush green aspen groves and lodgepole pine forests. Historically, the area was used for water storage by Ashley Valley residents for irrigation water, and settlers in Dry Fork sought to capture water that disappeared into limestone sinkholes by diverting the water into flumes, ditches, and canals. Remnants of flume structures are still evident in Dry Fork Canyon. The construction of multiple water management facilities, including East Park Reservoir, Paradise Reservoir, Chepeta Lake, Ashley Twins Reservoir, and Goose Lakes, began in 1910. These bright blue lakes stand out against the red and brown sandstone rocks and yellow grasses, providing beautiful areas, scenic variety, and diverse recreation opportunities. Previous residents also used the area for grazing and timber production, beginning in the late 1800s. Livestock grazing facilities, livestock, and ranchland features contribute to the rural landscapes and pastoral scenic character. Pastoral scenic character expresses valued historic land uses and lifestyles. Copper ore was discovered on Dyer Peak in the 1880s, and a copper smelter was built in 1899 on Anderson Creek. The Civilian Conservation Corp was also active on the district in the 1930s and constructed numerous campgrounds, ranger station buildings, roads, drift fences, stock ponds, and campground water developments that are valued attributes of the natural-appearing and historic scenic character. The foundations of the Civilian Conservation Corp camps are still evident in places throughout the area.

Flaming Gorge-Uintas National Scenic Byway and the Red Cloud-Dry Fork Loop Scenic Backway provide access to view the high scenic quality and natural-appearing scenery of the area. The Flaming Gorge-Uintas National Scenic Byway takes visitors through sand and limestone formations, rich in fossils, and through a variety of vegetation types (such as sagebrush flats and pinyon-juniper forests, mountain meadows, and forests of aspen, ponderosa and lodgepole pine) with views of the Uinta Mountains. The Red Cloud-Dry Fork Loop Scenic Backway takes visitors past majestic red sandstone cliffs through rugged canyons and forests of pines, Engelmann spruce, subalpine fir, aspens, and large

meadow areas. Backway travelers are provided breathtaking views of the towering snowcapped Uinta Mountains.

Duchesne/Roosevelt Ranger District North Scenic Character Subarea

The Duchesne/Roosevelt Ranger District North Scenic Character Subarea has naturally evolving, natural-appearing, cultural, and historic scenic character. This subarea is the background for the western part of the Uinta Basin. The high, snow-covered mountains are visible throughout much of the basin. The summits of these glaciated mountains in the eastern part of the area look like gently rolling slopes from afar but are covered by large boulder fields composed of talus and glacial deposits, supporting very little vegetation except for lichens and in some places low-growing sedges and forbs. The cliffs and ledges of bedrock support crevice plant species. The western summits are much more rugged and include Matterhorn-type peaks such as Kings Peak, the highest point in Utah at 13,528 feet. Looking down into the scoured basins at the head of the glacial valleys one can see many bright blue lakes surrounded by green forests of ponderosa pine, limber pine, lodgepole pine, blue spruce, narrowleaf cottonwood, and aspen. Moving downslope, the valleys deepen, and in some places there are deep, steep-walled stream canyons of exposed bedrock. South of the glaciated alpine peaks and valleys, plateaus alternate with river valleys formed by glacial outwash. The valley bottoms contain floodplains, riparian areas, terraces, and fans.

The High Uintas Wilderness has naturally evolving scenic character and makes up the largest part of the subarea. The high-elevation, glaciated mountains and valleys are on the south slope of the Uinta Mountains. A ridge forms the spine of the Uinta Mountains, and other ridges extend like fingers to the south. These areas were formed from glaciation of the quartzite sandstones and shales of the Uinta Mountain Group and are characterized by cirques, basins, lakes, ground moraines, exposed bedrock, and deep gorges.

Moving down the valleys between the mountain ridges and bollies, the vegetation changes from alpine grasses, forbs, and low-growing shrubs to coniferous forests. Engelmann spruce dominates in the high elevations, and the amount of lodgepole pine increases as the elevation decreases. There are numerous meadows and willow fields as well as fens in the valleys. Ponderosa pine, limber pine, lodgepole pine, blue spruce, narrowleaf cottonwood, and aspen grow in and near the glaciation-formed cirques, basins, and lakes. The warmer south-facing hillsides and benches support sagebrush, mountain brush, and Gambel oak.

Cultural and historic scenic character are intermixed with the naturally evolving and natural-appearing scenic character due to the long history of human use and habitation. Prehistoric sites have been discovered throughout the subarea, including in the high mountain valleys and basins in the High Uintas Wilderness. Fur trappers traveled through and trapped beaver in the mid-1800s. Beaver ponds add scenic diversity with the mountain alder, willow, and dogwood growth around them and along the many streams within the subarea. The subarea is on the original Uintah and Ouray Reservation, with cultural scenic character tied to the areas of tribal importance described in the plan. Civilian Conservation Corp crews worked on telephone lines, road construction and maintenance, canals, fencing, facility construction, and other projects that are valued attributes of the natural-appearing and historic scenic character.

Water storage projects add scenic diversity and provide distinctive views in the subarea. Projects in the Uinta River drainage and the Brown Duck, Garfield, and Swift Creek Basins were constructed in the early and mid-1900s. These facilities are now located in the High Uintas Wilderness, and some have been breached as part of the High Lakes Stabilization Project. These basins provide tremendous, sweeping views of the Uinta Mountains but require a lot of effort to traverse the steep, rocky terrain. Travelers may feel like they are climbing huge, forested talus steps to finally emerge onto a subalpine meadow broken

up by small lakes. Other water storage and delivery projects, which are outside the High Uintas Wilderness, were constructed later, such as Moon Lake Dam in 1938. The Colorado River Storage Project Act of 1956 authorized the Central Utah Project. The Upper Stillwater Dam in the Rock Creek drainage and the Strawberry Aqueduct were constructed as part of the Central Utah Project in the late 1980s. In years of high snow or fast melt, the huge cement wall containing the water in the Upper Stillwater turns into a 600-feet-wide, 200-feet-tall curtain of water spilling over the edge.

Duchesne/Roosevelt Ranger District South Scenic Character Subarea

Duchesne/Roosevelt Ranger District South Scenic Character Subarea has natural-appearing, cultural, and historic scenic character. Cultural and historic scenic character are intermixed with the natural-appearing scenic character. Extensive prehistoric sites have been located in the eastern end of the subarea. Nine Mile Canyon, located to the south and southeast, has been called “the world’s longest art gallery.” The smooth, red sandstone cliffs lining the canyon floor contain numerous petroglyphs, pictographs, pit houses, rock shelters, and granaries of the Fremont and Ute people. Petroglyphs are images created by carving into a rock surface, while pictographs are painted on a rock surface. One of the most famous pictographs in Nine Mile Canyon, called the Great Hunt Panel, shows the details of an ancient hunt. The subarea is on the original Uintah and Ouray Reservation, with cultural scenic character tied to the areas of tribal importance described in the plan. Crumbling wooden barns, exposed stone foundations, and abandoned, rusty equipment are visible relics of the ranching history in the area and contribute to historic scenic character.

The subarea is located on the Tavaputs Plateau, an uplifted area in the Green River and Uinta Formations. The climate is very cool and moist on top of the plateau due to elevations that range from about 6,000 feet near Gilsonite Draw to 10,336 feet at Strawberry Peak, which often gets buried under a deep blanket of white winter snow. The south edge of the plateau forms a steep scarp face, with long, gentle ridges separated by deeply incised canyons extending to the north. The plateau lands in the western portion are narrow or moderately wide. Flat ridges and the canyons have steep walls and very narrow drainage bottoms and complex vegetation patterns due to the highly varied aspects of the canyons and elevations on the flat ridges. In the eastern portion, the plateaus are dissected by long canyons with comparatively wide, flat bottoms.

The many canyons provide scenery-filled drives through the sagebrush-covered foothills of the Book Cliffs, into lush valleys of glistening lakes and mountain-fed streams, up through steep cliffs into elevated meadows and grasslands splashed with color from a variety of wildflowers. Dinosaur Diamond Prehistoric Highway (National Scenic Byway) and Indian Canyon Scenic Byway are located in the subarea and lead visitors through fields of sagebrush and cottonwoods, along Indian Creek, and up to Avintaquin Campground, which is shaded by a forest of pinyon pine, juniper, aspen, and Douglas-fir. Other canyons, such as Daddy Canyon, showcase more of a desert landscape, with sagebrush and juniper providing texture and contrast to the red sandstone cliffs. The ridgelines of the canyons are covered with forests of spruce, aspen, and fir. North-trending valleys are carpeted with grass and are watered by perennial streams. The heads of these drainages coming out of the cliffs support thickets of subalpine fir. Moving down the drainages, the northerly exposures of the canyon walls support Douglas-fir and aspen. Most canyon bottoms include dense thickets of greasewood at the lower elevations and on more saline or alkaline soils. Basin big sagebrush and grass communities replace greasewood at moderate elevations, and rubber rabbitbrush is abundant at higher elevations. Black sagebrush forms large stands on the flat ridges, and small to large stands of aspen also occur in the moister ridge locations.

Reservation Ridge Scenic Backway follows Reservation Ridge from Highway 191 to the Uinta-Wasatch-Cache National Forest on the western boundary following the ridgeline, offering views in all directions. Spiked big sagebrush stands and open grassy hilltops are found along the backway and at the upper

elevations of some of the flat ridges. They are usually intermixed with conifer and aspen-conifer stands. Farther down the flat ridges, there are small to large stands of mountain big sagebrush.