Foundations of Forest Planning

Volume 1 (Version 1.0)

Model of a Forest Plan

USDA Forest Service
November 2003

Preparing a Forest Plan

This is a concept book and a work in progress. It contains some initial ideas and concepts. Responsible Officials and collaborators have a great amount of flexibility to craft a document making it as useful as possible. This should be exciting to those who wish to become involved in the business of shaping the future of public lands.

The ideas contained in this document are based on the experiences of folks who have created Forest Plans. It reflects what has worked in the past and may work well in the future. However, each planning process must begin with an opportunity for collaborators to help define what a Forest Plan will be. This document is only a starting point in that discussion.

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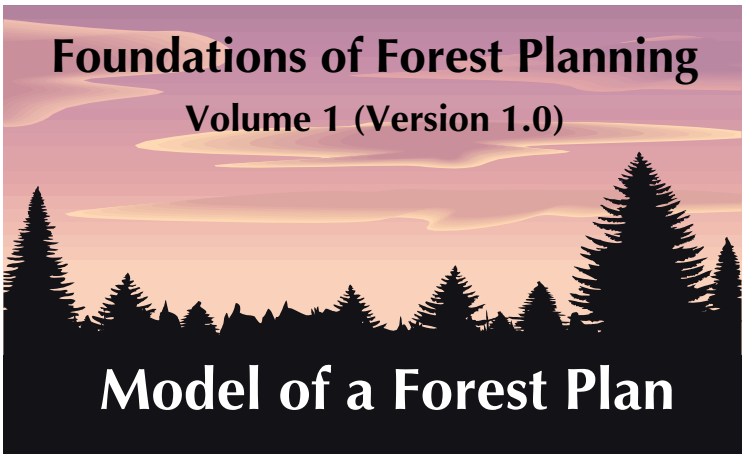


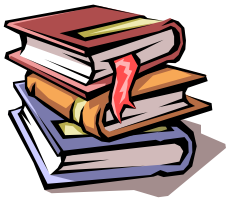
Three Parts of a Forest Plan

Part One—Vision. Provides direction for management and describes the roles and contributions of National Forest System lands. Describes the *desired conditions* of the landscape, disturbance processes, and the benefits and experiences that these lands can supply. Contains monitoring measures to assess progress toward desired conditions.

Part Two—Strategy. Describes how the Forest intends to move toward the desired conditions. Explains *suitable uses* and how the strategy will be monitored. Includes a prospectus of key *objectives* for anticipated levels of conditions, uses, and activities. Provides monitoring measures of implementation. Optionally, it can include recommendations for *special area designations*.

Part Three—Design Criteria. Bounds the strategy and subsequent projects designed to implement the strategy. Includes *standards* and related monitoring measures as well as a reference to *other applicable guidance.*

Contents of a Forest Plan



A complete Forest Plan consists of three interrelated parts. When a Forest Plan is provided on the web, the parts are hyperlinked to each other along with reference material. When a Forest Plan is provided on paper, the three parts may be bound together or may be in separate volumes.

The fundamental decisions of a Forest Plan described in the planning regulations are shown in boldface.

Part One—Vision

I. Introduction

II. Forest Roles and Contributions, and Management Challenges

III. Strategic Goals (from GPRA), **Desired Conditions**, and Related Monitoring Measures

Part Two—Strategy

I. Introduction

II. **Suitable Uses** and Use Strategies

III. Proposed and Approved **Special Area Designations**

IV. Prospectus

- A. Performance Histories
- B. Program Priorities
- C. Program Objectives
- D. Performance Risks
- E. Monitoring of the Strategy

Part Three—Design Criteria

I. Introduction

II. **Standards** and Related Adaptive Management Monitoring

III. Other Sources of Design Criteria

Why Three Parts?

Each of the three parts of the model is integrated into one whole, but each part is distinct in how it is treated. There may be differences in their update cycle, methods of engaging with the public, the order they are developed, and how they are related to each other.

	Vision	Strategy	Design Criteria
Scale	Planning Unit	Planning Unit	Regional, Sub-Regional, or Planning Unit
Public Participation	Collaborative NFMA Requirements 90-day comment period Objection process	Cooperative/Consultative NFMA Requirements 90-day comment period Objection process	Administrative NFMA Requirements 90-day comment period Objection process
Analysis	Assessment of current versus desired conditions Demand assessment Scenario building	Trade-off analysis Prioritization Trend analysis Risk assessment	Science consistency Cause-and-Effect
Relationship to Other Components	Can be developed independent of other components, but logically builds on previous Strategy or plan	Depends on Vision for context and incorporates Design Criteria by reference	Can be developed independent of other components
Cycle (Shelf Life)	Long (10-20 years)	Short (3-5 years)	Medium (5-10 years)

How is a Forest Plan Used?

The purpose of a Forest Plan is to set a context for project development. Projects may be proposed to respond to demands by the public, or as part of a Forest Service program (within the Part Two—Strategy.) A project might be needed because of a discrepancy between current conditions and desired conditions (within the Part One—Vision.)

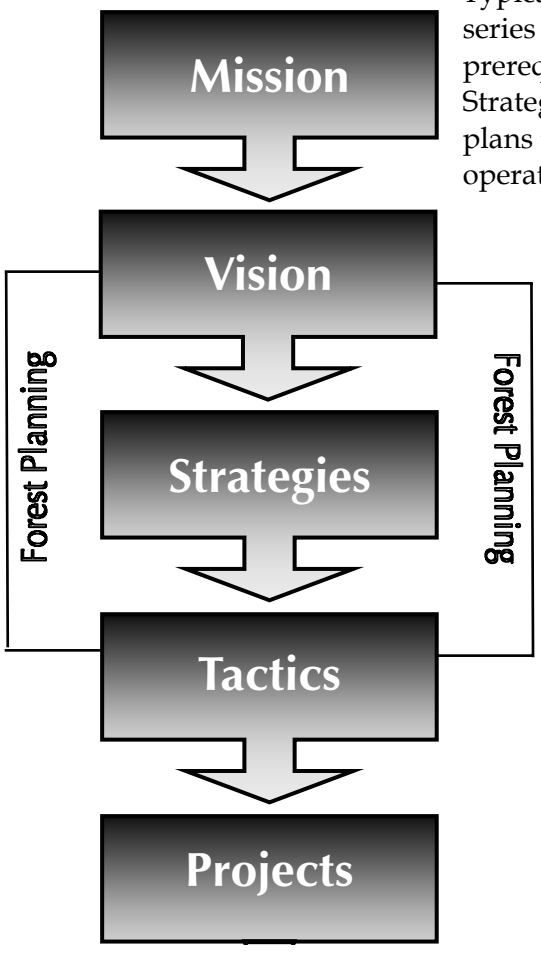
When a project is proposed, it is first checked against the suitable use and use strategy descriptions (within the Part Two—Strategy.) If the project is an allowable use, then appropriate and relevant design criteria (Part Three) are used. The proposed action is then analyzed using appropriate NEPA procedures. If the project is not consistent with plan direction, the project may be redesigned or a plan amendment may be considered.

A project is designed and implemented with appropriate monitoring measures. After the project is completed, it should be evaluated against desired conditions (Part One) and the anticipated objectives described in the prospectus (Part Two).

A Business Model for Planning

This Forest Plan model was developed by looking at how strategic planning is done in businesses and other large organizations. The model was further refined by reviewing planning processes used by other government agencies and for county planning.

"Strategic" plans provide overall direction to an organization. They are necessarily broad and general. They are focused on goals and outcomes. They are flexible and easily updated and changed. They typically are intended to guide the organization for three to five years. Strategic plans are built on core strengths of the organization and describe a vision upon which internal and external stakeholders can rally. They reflect the uniqueness of the institution. In multilevel organizations like the Forest Service, strategic plans involve two-way communications between the levels.



Typically, strategic planning involves a series of levels. Each level is a prerequisite for the following levels. Strategic plans are followed by other plans that contain the tactical and operational details.

Mission

The mission is the reason the organization exists. The Forest Service mission is "caring for the land and serving people." The overall USDA Forest Service Strategic Plan (2000 revision) describes the mission "to sustain the health, diversity, and productivity of the Nation's forest and grasslands to meet the needs of present and future generations."

Vision

The *vision* is the general direction of the organization. It indicates the Forest's uniqueness in a regional area and among affected communities. It is collaboratively developed and considers the values of local, regional, and national forest users. The vision is long-term and reflects ecological timeframes and social desires.

The Forest Service Strategic Plan establishes a National vision, but each unit also has its own vision, including what is unique about the Forest (or parts of a Forest), and what the desired conditions are. Monitoring measures are developed to track achievement of desired conditions. The strategy defines a National Forest's role in the National Forest System.

Strategies

Strategies are how the organization intends to follow the vision, which further narrows the field of choices. A strategy articulates organizational goals and sets measurable objectives. The strategy focuses on attaining the appropriate components of the Forest's vision, and therefore contributes to the agency mission. The strategy also builds on past achievements and lessons learned. Creating the strategy provides stakeholders the opportunity to collaboratively help design Forest Service programs.

Each Forest must describe those things required to reach the desired conditions. The related NFMA decisions are: (1) the designation of parts of the Forest as suitable for particular uses, (2) special area designations, and (3) the objectives, or outcomes necessary to achieve desired conditions. Since the attainment of objectives is dependent upon budget, policies, environmental changes, and the like, objectives are best described as a "prospectus" of anticipated outcome.

Projects

At the site-specific *project* planning level, actual projects are proposed as part of overall tactical plans.

Tactics

Below the strategic planning level is a *tactical* planning level describing the intended tools and how resources are allocated. Generally, Forest Plans should not be tactical plans. They should answer why, what, when and maybe where, but should not generally describe how.

There should be a limited set of sideboards or standards to ensure that forest users and activities are consistent with the vision and strategy. Design criteria, a level of Forest planning, is developed to include NFMA required standards and references to handbooks and other important considerations.

Tactical plans may be developed outside the forest planning process to further define the "how" of forest management.

Part One—Vision

- A description of the Forest including its distinctive roles and contributions to the surrounding area, and as appropriate, to the Nation.
- Identification of desired conditions (either Forestwide or specific localities) and related monitoring measures.

"Collaborative planning begins by finding agreement in a common vision for the future conditions of the national forests and grasslands and their unique contributions to different regions of the country."
—Committee of Scientists, 1999 Report

A vision driven planning process

Instead of beginning the planning process with a listing of issues and concerns, communities, through the use of a visioning exercise, craft a picture or image of what the locality intends to make of itself, what it wishes to achieve or become.

Once developed and adopted, the preferred vision becomes the rallying point or goal to be achieved. The resulting planning process outlines the sequence of events and actions the community will need to take if the preferred vision is to be realized.

—Michael Chandler, Virginia Tech, The 21st Century Comprehensive Plan, Planning Commissioners Journal, Summer 1998

A Description of Forest Roles and Contributions

The Vision document begins with a description of the Forest, including its distinctive roles and contributions to the local area, State, region, and Nation. Through a visioning exercise, the roles and contributions provided by National Forest System lands are identified. This discussion should also address the management challenges that may exist.

Examples:

Distinctive Roles and Contributions

"Some of the most popular downhill skiing in the country."

"Recharge areas for water supplies for large communities."

"Major source of supply for local timber industry."

"Primary conservation area for Grizzly Bear."

Management Challenges

"Proximity to three million people."

"High recreational uses."

"Legal mandates for providing multiple uses."

This discussion is important because it provides the motivation, or the reasons behind desired conditions which are described later.

Maps

Maps are helpful in this section of the document to orient the user to where the forest is and what it is about.

Examples of maps that might be included are:

- Vicinity Map
- Landownership Pattern
- Adjacent Population Densities
- County and State boundaries
- Elevation differences, terrain, location of high peaks above snowline, etc.
- 3-D terrain views, displaying slope, aspect, relative physical terrain
- Major watersheds and drainages
- Vegetation cover type zones
- Important soils
- Key geological formations
- Groundwater
- Travel corridors
- Utility corridors
- Historical sites

Questions to Ask the Collaborative Group:

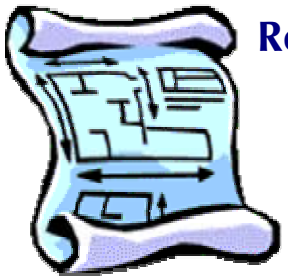
What is nationally unique about your Forest?

What one thing is your Forest best known for?

How far do people travel to visit your Forest, and why do they come?

What is a really great thing about your Forest that hardly anyone knows?

Why is your Forest different from neighboring lands?



Relationship of Desired Conditions to Other Elements of the Plan

Fundamental purpose of a plan—A plan establishes the desired conditions to be achieved through the management of the lands and various renewable resources of the National Forest System. A plan guides the Forest Service in fulfilling its responsibilities for stewardship of the National Forest System to best meet the needs of the American people.

Desired conditions—A plan must describe the desired conditions for the plan area. Identification of desired conditions is a primary focus of a plan.

Objectives—A plan must establish objectives intended to contribute to achieving desired conditions. Objectives (concise statements of measurable, time-specific outcomes) are pursued through the implementation of programs, projects, and other on-the-ground activities within the plan area.

Standards—Standards provide technical specifications for the design of projects. These specifications help in achieving desired conditions while meeting legal requirements.

Identification of suitable uses—If the use is incompatible with the desired conditions established for all or part of the plan area, a plan must identify National Forest System lands as not suited for a certain use.

Desired Conditions: The Plan's Primary Focus

Desired Conditions—Descriptions of the ecological, economic, and social attributes that characterize or exemplify the outcome of land management.

They might include things such as soil, water and air conditions, flora and fauna elements, processes, infrastructure, and anticipated human experiences and benefits. Desired conditions are expected to be achieved through implementing the plan. They are measurable, but likely to vary both in time and space. They can describe conditions both on the forest and in the area influenced by it. It is helpful, but not mandatory, to amend a Forest Plan if desired conditions are altered or are not achievable.

Timeframes

- No timeframe is set to accomplish the desired conditions, although eventual accomplishment should generally be within 10 to 50 years.
- During the life of the plan, progress toward achieving desired conditions is expected with the ultimate intent of complete accomplishment.
- Implementation rates may vary due to budget and other constraints outside the agency's control.
- Although a 10 to 50 year time horizon may be used, longer timeframes may be considered for analysis of our sustainability obligations under multiple-use sustained-yield.

Monitoring: If you don't intend to monitor it, is the condition really desired?

There should be a related evaluation question for each statement or group of statements describing desired conditions.

Desired conditions do not include descriptions of future Forest Service or cooperator programs, projects, or funded activities, which may be included in objectives.

Using the Strategic Plan as Context for the Desired Conditions

The USDA Forest Service Strategic Plan (2000 Revision) provides a framework for a plan. As stated in the Strategic Plan, the mission of the Forest Service is:

To sustain the health, diversity, and productivity of the Nation's Forests and Grasslands to meet the needs of present and future generations.

The Strategic Plan has four goals:

1. **Ecosystem Health:** Promote ecosystem health and conservation using a collaborative approach to sustain the Nation's forests, grasslands and watersheds.
2. **Multiple Benefits to People:** Provide a variety of uses, values, products and services for present and future generations by managing within the capability of sustainable ecosystems.
3. **Scientific and Technical Assistance:** Develop and use the best scientific information available to deliver technical and community assistance and to support ecological, economic and social sustainability.
4. **Effective Public Service:** Ensure the acquisition and use of an appropriate corporate infrastructure to enable the efficient delivery of a variety of uses.

There are 19 strategic objectives under the four strategic goals. These objectives are broad enough to cover most desired conditions that might be developed for an individual unit. As such, they can be used as context for a Forest or Grassland's desired condition descriptions. It is helpful to use a common vocabulary to characterize shared goals, objectives, or desired conditions.

Thematically based Desired Conditions

- Desired conditions should be based on themes.
- Instead of elements devoted to "noxious weed control", "fire management," "livestock grazing," etc. they should reflect broad themes such as "landscape character," "vegetation management," or "disturbance processes."
- The broader based themes should be meaningful and able to be understood.

Linking Desired Conditions with Existing Conditions and Trends

In a web based presentation, a reader can compare existing and desired conditions if an existing condition assessment and Par One of the plan are hyperlinked.

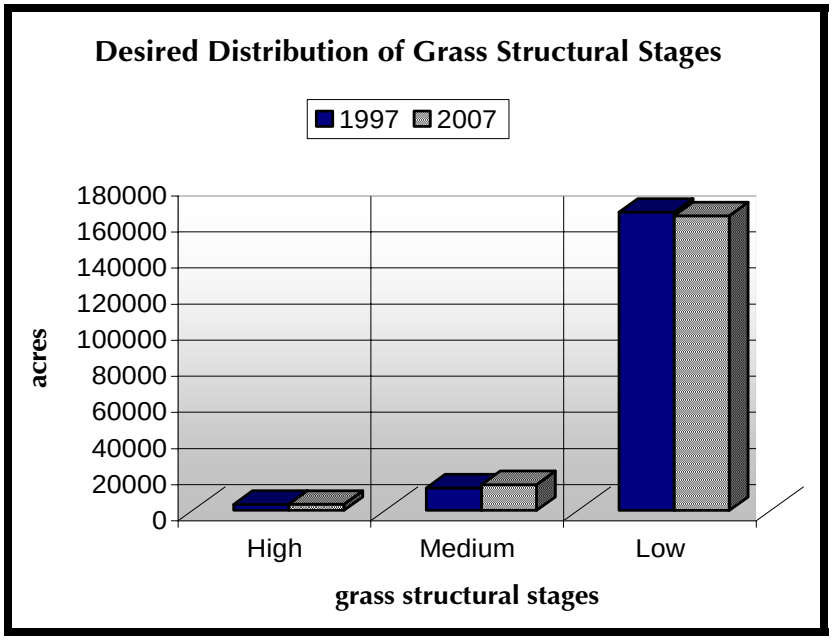
Example of the Plan Organization

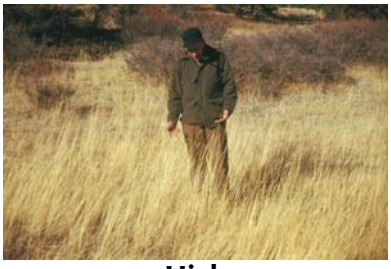
Forest Service Strategic Goal 1: Ecosystem Health

Forest Service Strategic Objective 1b: Conditions for species: Provide ecological conditions to sustain viable populations of native and desired nonnative species.

Forestwide Desired Condition:

The following shows desired changes to the acres of grass structural stages to provide habitat for associated species.





High

Medium

Low

Evaluation Question:

Has progress been made toward assuring representation of the full range of successional stages across the forest or landscapes?

How have we done this?

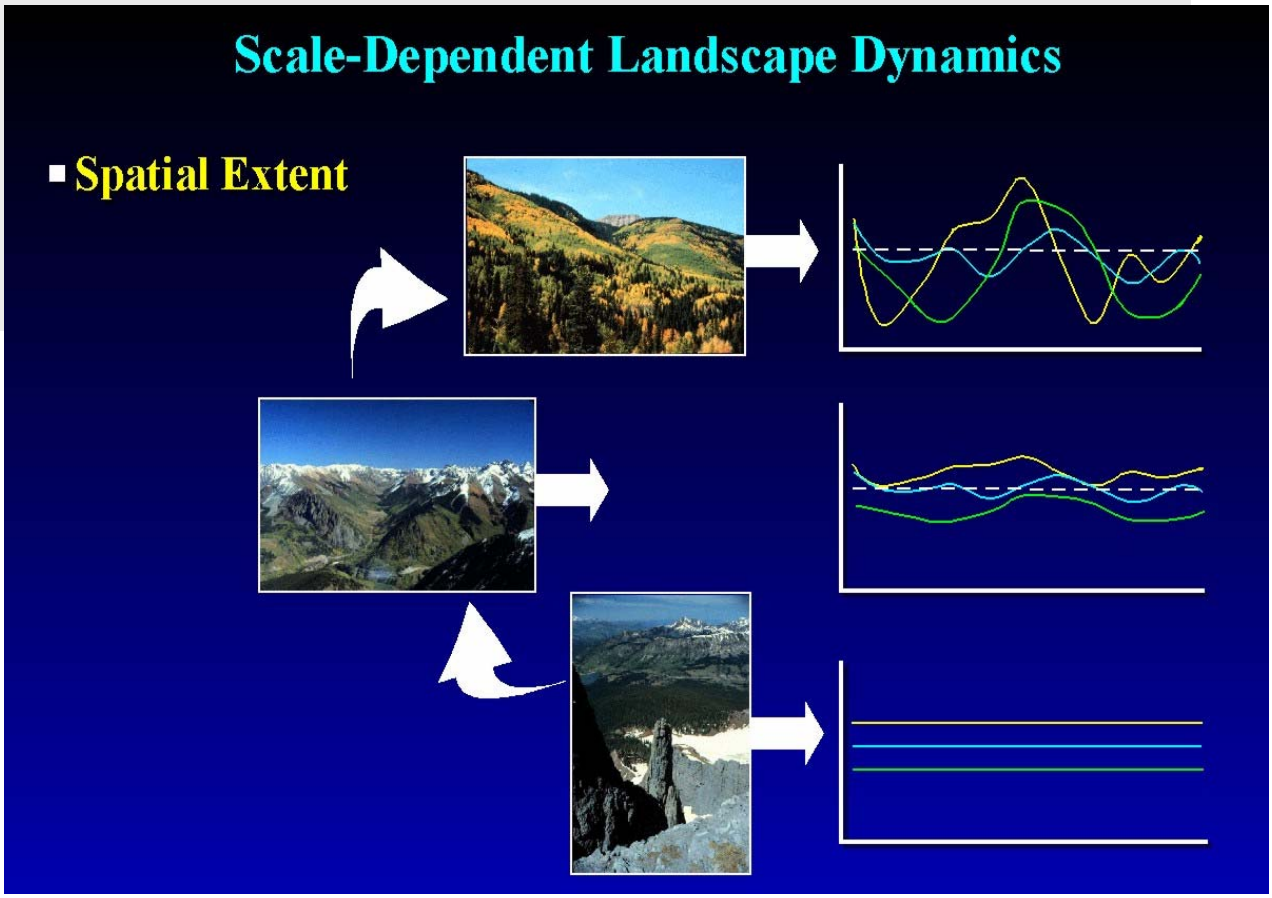
Which species are using the habitat?

Monitoring Measures:

Acres as shown for grass structural stages.

Scale Questions

Generally, the Forest Plan should not specify desired vegetative conditions for small geographic areas that are prone to natural disturbances. The smaller the geographic scale the greater the range of possible conditions over time. The diagram below shows how conditions are more variable at smaller scales than larger scales. At larger scales, the percentage of an area in a particular condition will tend to vary less over time. At these larger scales, desired conditions can be established with more confidence.



Graphics from Kevin McGarigal, RMLANDS model development for the San Juan National Forest.

Geographically Based Desired Conditions

Desired conditions can be expressed for the entire Forest or for specific localities.

The geographic areas used to identify a unique desired condition can vary for topic.

In describing a particular condition, there should generally be no more than a dozen or so geographic areas delineated across a Forest. However, the area boundaries may change by topic as necessary using multiple overlays of maps.

Geographic areas link the Forest plan to management at a landscape or watershed scale and provide a tool for better communication with the public.

Example of a geographically based desired condition statement:

The following geographic areas contain habitats for greenback cutthroat that will be maintained.

- Boulder Creeks
- Caribou
- James Peak Special Interest Area
- Mammoth
- Niwot Ridge Biosphere Reserve

Evaluation Questions:

Have habitat-improvement projects resulted in protection, restoration, and enhancement of habitat for greenback cutthroat?

What management practices have been most effective?

Measures:

Miles of streams with suited habitat for Greenback cutthroat trout

Optional Methods for Describing Desired Conditions

- **Text**
- **Maps**
- **Pictures**
- **Trend Charts**
- **Computer Simulations**
- **Video (mpeg)**

"Establishing long-term goals is the most constructive place to start in collaborative planning, and provides an essential guide for adaptive management. Visualization of the future landscape through pictures, maps and computer simulations will be a crucial element in this work."
— Committee of Scientists, 1999 Report

Re-focusing Existing Plans

The 1982 planning regulations (36 CFR 219) include desired future conditions as part of goals and objectives. However, many existing Plans have included statements of desired future conditions in other plan elements.

For ease of communicating current desired conditions with the public, current plans should be scoured for desired future condition statements. These statements can be repackaged for convenient reading.

In determining what the current desired condition is, planners should review and repackage the following parts of existing Plans.

- Goals and Objectives
- Management Area Prescriptions
- Existing Special Area Designations
- Standards and Guidelines
- Monitoring Measures

Using Pictures to Describe Desired Conditions

Desired Condition:

Move Class III non-functional and class II at-risk watersheds into class I function condition.

Evaluation Questions:

Has the Forest made progress toward moving sixth-level watersheds from at-risk or non-functional to functional?

Which watersheds were improved and how was this accomplished?

Measures:

Sixth-level watersheds in Satisfactory Condition

Desired Condition:

The amount of leafy spurge infestation will be decreased.

Desired Condition:

The amount of acres in the mature successional stage will increase.

Possible Desired Condition Contents

(Forestwide or Geographic Areas)

Forest Service Strategic Goal 1: Ecosystem health.
Forest Service Strategic Objective 1a. Watershed conditions.
- Watershed health
- Water quality, quantity and timing
- Stream flow
- Riparian areas
- Soils
- Flood regimes

Strategic Objective 1b. Conditions for species
- Terrestrial vegetation—composition, structure, pattern
- Range conditions
- Old growth and forest decay
- Plant succession
- Fine scale elements
- Rare or unique communities
- Invasive species
- Solitude
- Aquatic habitat—Aquatic structure
- Subsurface environments—caves

Strategic Objective 1c. Forest health and disturbances
- Disturbance processes

Strategic Goal 2: Multiple benefits to people
Strategic Objective 2a. Outdoor recreation opportunities
- Experiences (summer and winter)
- Recreation infrastructure

Strategic Objective 2b. Wilderness opportunities
- Experiences

Strategic Objective 2c. Sustainable uses, values, products
- Public access and landownership pattern
- Wood product supply and condition of suitable lands
- Miscellaneous products
- Domestic and wildlife forage
- Locatable and leasable minerals
- Environmental justice and accessibility

Strategic Goal 3. Scientific and technical assistance
- Historical and cultural resource condition
- Paleontological resources

Strategic Goal 4. Effective public service.
Strategic Objective 4a. Fiscal accountability
Strategic Objective 4b. Roads, trails, facilities
- Safety and economy

Part Two—Strategy

- Description of lands suitable for multiple uses, and strategies for classifying those uses
- Special area designations
- A program prospectus
- Monitoring actions

"In preparing for battle I have always found that plans are useless, but planning is indispensable."
—Dwight D. Eisenhower

Suitable Uses

National Forest System lands are generally suitable for a variety of uses such as outdoor recreation, livestock grazing, timber harvest, energy resource development, mining activities, watershed restoration, cultural and heritage interpretation, and other uses.

Rather than determine the suitability of all lands for all uses, a plan should assume that all lands are potentially suitable for a variety of uses except when specific areas are identified and determined not to be suited for one or more uses. A plan must identify National Forest System lands as not suited for a certain use under any of the following circumstances:

(i) If law, regulation, or Executive order prohibits that use;

(ii) If agency resource management directives prohibit the use;

(iii) If the use would result in substantial and permanent impairment of the productivity of the land or renewable resource;

(iv) If the Responsible Official identifies special conditions or situations involving hazards to the various resources; or

(v) If the use is incompatible with the desired conditions established for all or part of the plan area.

As part of the strategy, the suitable use decision in a Forest Plan helps to achieve the vision: the collaboratively developed role of the Forest, and desired social, economic, and ecological conditions.

Identifying Suitable and Unsuitable Land Uses

- Lands are suitable unless otherwise indicated.
- Suitability is a decision involving social, economic, and resource tradeoffs, not just an inventory.
- The identification of suitability does not convey any legal rights, nor does the identification of unsuitable lands in itself prohibit any activity. That is done in a subsequent site-specific decision.
- Since suitability is not an acre-by-acre decision, some adjustments to suitable lands can be done at the project level without a Plan amendment. However, major changes over time would require a Plan amendment.
- Consult design criteria to understand the conditions under which specific uses may occur.

Suitability is usually a long term strategy consistent with the desired conditions.

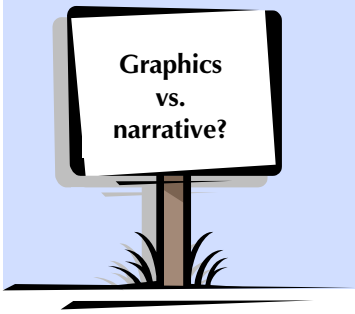
Possible Approaches for Identifying Suitability

- Mapped multiple-use zones.
- Layers of maps, each showing a different use.
- Narrative descriptions of types of physical, ecological or economic conditions.
- Photos showing types of conditions.
- Matrices showing how one use might complement or preclude another use.
- Management areas tied to multiple-use management prescriptions (as used under the 1982 planning regulations.)

Examples of Narrative Descriptions of Suitable or Non-suitable Uses

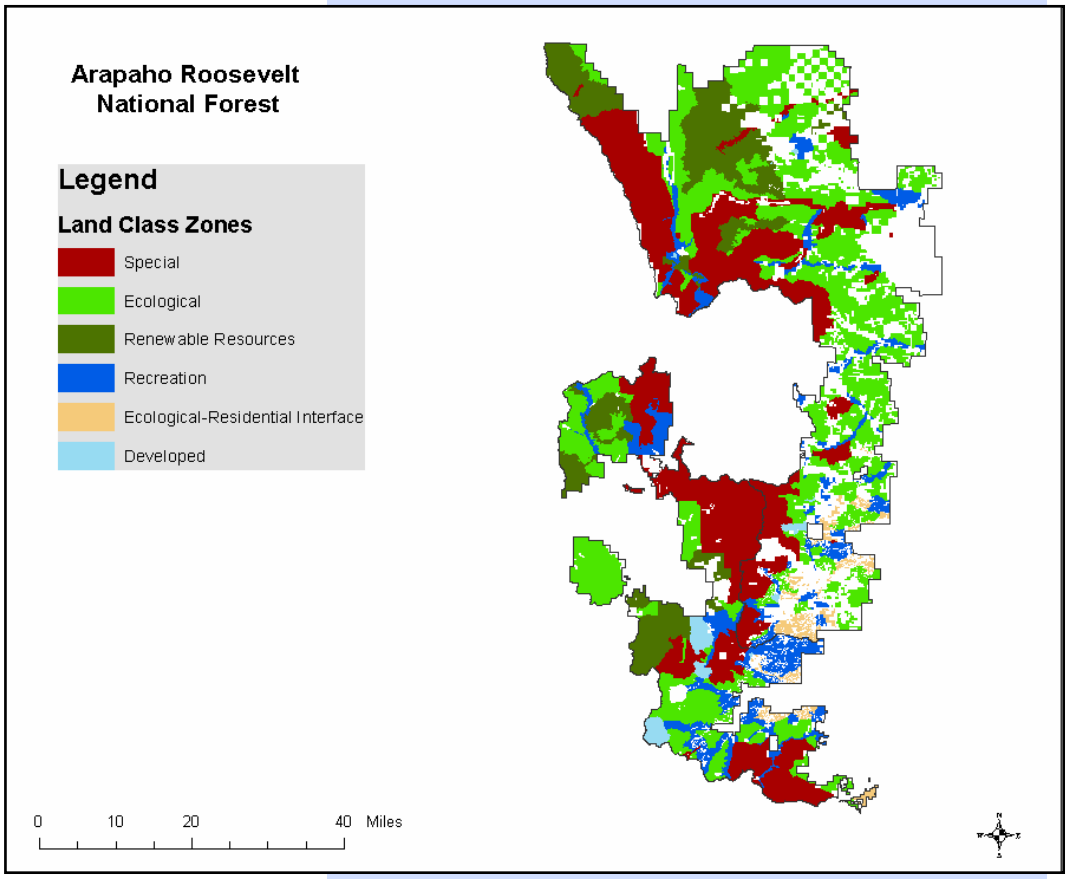
- Motorized off-highway vehicle use is limited to within 100 feet of roads.
- No surface occupancy for mineral development within 300 feet of campgrounds.
- No timber harvest is permitted in the Blue River watershed.
- No timber harvest is allowed on soil types B-2 and C-5 as defined in the Forest Soil Handbook.
- No livestock grazing is allowed in aspen stands less than 10 years old.
- No firewood cutting is allowed west of U.S. highway 17.

Maps are helpful, but not required. Suitable lands could be identified by a narrative description or other means.



Since some people will read for graphics and others for narrative, consider describing suitable lands in different ways.

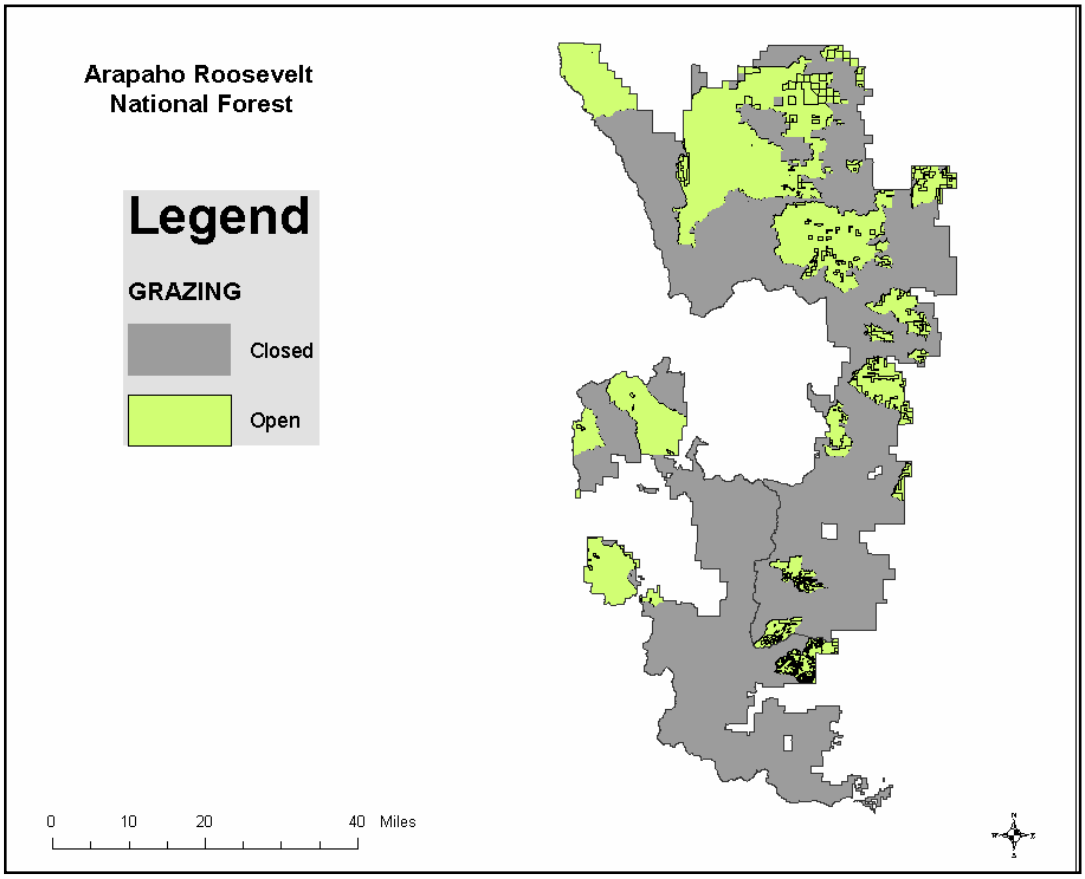
Examples of Broadly Mapped Zones



Use	Special Designation	Ecological Processes Emphasis	Renewable Resource Use Emphasis	Primary Recreation Emphasis	Ecological/ Residential Interface	Developed Areas
Timber Harvest	Not Suitable	Not Suitable	Suitable	Not Suitable	Not Suitable	Not Suitable
Livestock Grazing	Not Suitable	Suitable	Suitable	Suitable	Not Suitable	Not Suitable
Summer Motorized Recreation	Not Suitable	Suitable	Suitable	Suitable	Not Suitable	Not Suitable
Summer Non-Motorized Recreation	Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Oil and Gas Dvlpmnt	Not Suitable	Not Suitable	Suitable	Suitable	Not Suitable	Not Suitable

A Simple Suitability Map

Simple suitability maps can be overlaid on other maps.



Suitability is not an acre-by-acre decision, but a broad characterization of areas in the Forest. Care should be taken so that the scales of any maps reflect the accuracy of inventories upon which the decision is based. "Fuzzy lines" may be appropriate to indicate transition zones.

Describing Compatibility between Suitable Uses

	Grazing Allotments	Open to Minerals	Oil and Gas
Roads:	*Consistent*	*Consistent*	*Consistent*
Designated OHV:	*Consistent*	*Consistent*	*Consistent*
Nonmotorized:	*Consistent*	*Inconsistent*	*Unacceptable*
Owl Emphasis:	*Consistent*	*Restricted*	*Restricted*
Livestock Grazing:	*Consistent*	*Consistent*	
Minerals:	*Unacceptable*		

This approach could also indicate which use would override if uses are inconsistent.

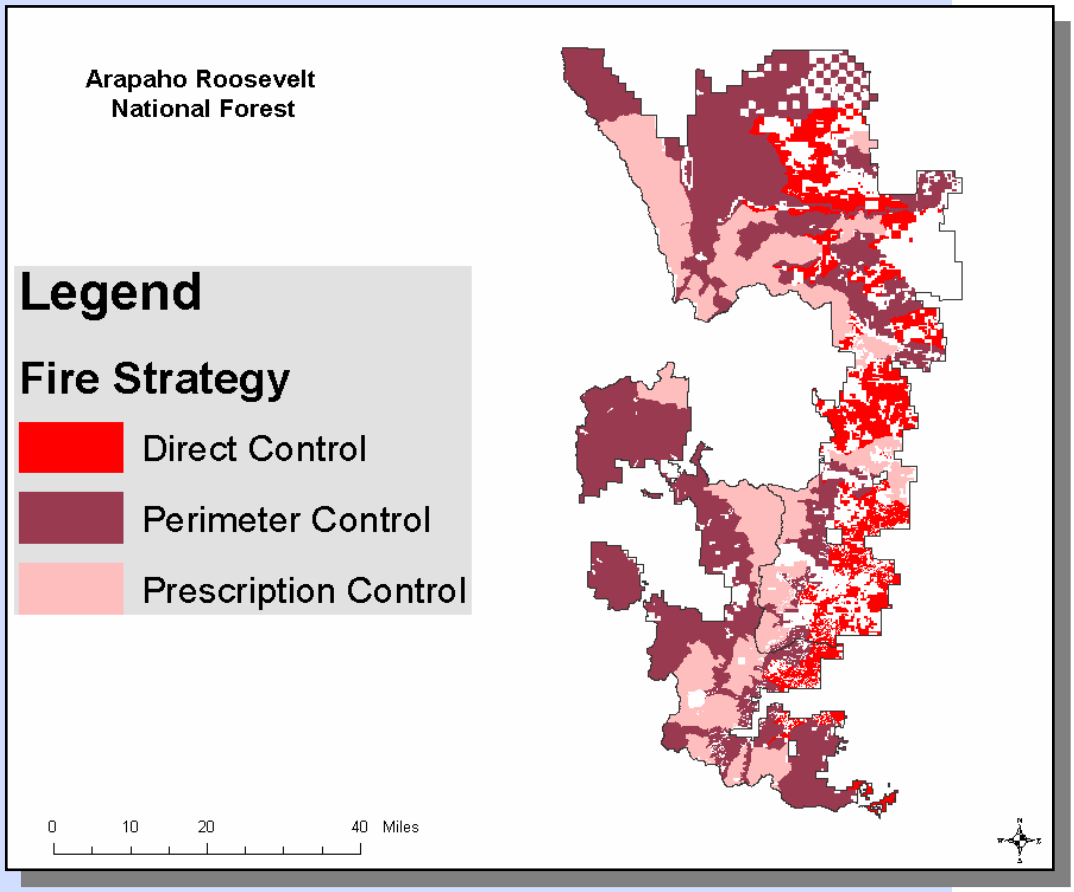
Linking Suitable Use Decisions with Standards or Other Design Criteria

Area	Summer Nonmotorized Recreational Use	Locatable Minerals Activity	Commercial Timber Harvest	Personal Use Special Products
Primitive	Yes	Constrained	No	Yes
Backcountry	Yes	Constrained	No	Yes
Municipal Watershed	Yes	Constrained	No	Constrained
Conservation Area	Constrained	Constrained	No	Yes
Forest Products	Yes	Yes	Yes	Yes

Part Three of the Plan discussed area-specific design criteria for "constrained" activities.

Suitable Use Strategies

Some uses are more complex and cannot be displayed as simply "suitable" or "not suitable." Examples include fire use and management, and the recreation opportunity spectrum. These categories of uses may require separate tables or maps to indicate the ways in which the patterns of these uses might vary across the Forest.



Proposed Special Area Designations

Through the planning process, the Responsible Official can propose special areas and indicate what further studies or formal recommendations are required. These proposals should be related to desired conditions (articulated in the Vision) and use strategies and program objectives. If any proposed special areas are extensions of—or additions to—existing areas, the relationship between the existing and proposed areas may be described.

Existing special areas are described in the Vision document. The desired conditions for additional geographic areas that may qualify as Special Areas should be broad enough to accommodate this decision in the strategy.

Remember that desired conditions in the Vision can be written for geographic areas, including those that may be candidates for Special Area Designations. These desired conditions should be broad enough to allow for both designation and non-designation. The motivation for the designation should flow from the Vision.

Categories

Recommendations to Congress:

- Wilderness
- Wild and Scenic Rivers (Wild, Scenic or Recreational)
- National Monuments
- National Trails
- National Recreation Areas
- National Scenic Areas

Recommendations to Regional Forester:

- Research Natural Areas
- Experimental Forests

Designated in Plans:

- Special Interest Areas (Botanical Areas, etc.)

A Prospectus

NFMA calls for plans to "reflect proposed and possible actions, including the planned timber sale program." The first generation of forest plans responded to this need by developing detailed projections of future outputs and activity levels. Unfortunately, these projections were rarely, if ever, fully realized, and were inconsistent with the programmatic nature of forest plans.

A prospectus is defined as a preliminary statement that describes an enterprise that is distributed to prospective buyers, investors, or participants. The prospectus offers a way to avoid making predictions that appear to be precise, but actually are quite speculative. The pitfalls of these seemingly precise projections include being drawn into lengthy and detailed analyses of supposed environmental effects that are inconsistent with the programmatic nature of forest plans. Another danger is the risk of creating unrealistic expectations among stakeholders regarding the delivery of programs. A forests plan prospectus should indicate the future course or direction of change in programs, without making precise estimates of quantities. This will allow the use of plan objectives and program forecasts as a way to compare the relative merits of alternatives.

"Forest planning…models were not intended by their developers to provide precise information. Rather they were intended to provide indications of direction of change, rough estimates of the magnitude of change, and the timeframes surrounding such change."
—Former Chief Jack Ward Thomas, Forest Watch, Jan/Feb 1992

Plans shall be embodied in appropriate written material, including maps and other descriptive documents, reflecting proposed and possible actions, including the planned timber sale program and the proportion of probable methods of timber harvest within the unit necessary to fulfill the plan.

—NFMA Section 6(f)(2)

Use of a Prospectus in the Private Sector

The idea of a prospectus was derived from private-sector financial offerings. Anyone who has invested in a mutual fund is aware of the mantra "past performance is no indication of future performance."

A typical prospectus for a mutual fund describes the fund's objective, a principal strategy, main risks, past performance, and comparative returns.

Outline of the Prospectus

The prospectus describes the anticipated forest program. Begin the prospectus with a discussion of factors causing recent trends and expectations for changes in these factors over the planning horizon. Provide general statements of the direction and/or magnitude of expected changes in summary or aggregate plan outputs and activities.

1. Performance History

This section describes our past achievement of the planned outcomes. Provide a table or chart of performance in key program areas, covering the last 3 to 5 years (after the first Strategy is published, this would cover the elapsed period since the previous document). The focus should be the presentation of outputs and on-the-ground activities, with each item being repeated in the forward-looking "Program Objectives" section. A key message to be communicated in this section is that the Forest is an ongoing enterprise, with a history that influences (but does not dictate) future choices.

2. Program Priorities

Briefly describe the principal management strategies the plan will employ. These should derive from and be responsive to the Vision, and should encompass the Program Objectives which follow this section. They should convey a sense of priority among objectives, so that the public will know where to expect the greatest management emphasis.

The first three parts of the prospectus build on each other, showing a reader how planned outcomes are built on trends from the recent past, while also reflecting movement toward a desired condition.

3. Program Objectives

Develop a series of brief (1/2 page) descriptions of recent trends and future expectations in both outcomes and activities that lead toward achievement of the desired conditions described in the Vision. These could be organized under the GPRA objectives outline, or under the program priorities listed in the previous section of the prospectus.

Summarize activities into logical programs, such as "terrestrial wildlife habitat" and "management of natural fuels." This should be a moderately "high altitude" look at what the business of the Forest is—not a fine-grained depiction of all the projects and activities that must be carried out in order to reach the objectives. This Strategy will guide the unit in preparing "tactical" plans that depend on more localized information.

Use tables or graphs to depict trends when appropriate, but avoid creating the impression of great precision. Qualitative descriptions of direction of change, ranges in accomplishment, and relative indications of the magnitude of change (rapid growth, steady decline, etc.) are acceptable. The key message of this section should be disclosure of the future trend as it related to past performance.

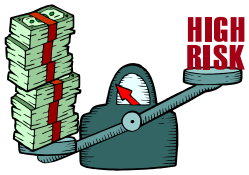
4. Performance Risks

Discuss internal and external factors that could influence the timing or magnitude of accomplishment of Program Objectives. Disclose any uncertainties around these strategies, such as the need for cooperation by partners, funding issues, or limitations on the use of fire (prescription burn windows). While recognizing the ongoing nature of the Forest "enterprise," this section should convey the idea that circumstances beyond the agency's control may affect performance. The dynamic nature of the physical, social and economic systems within which the unit operates should be described, along with an assessment of the unit's ability to respond to changes.

The discussion of performance risks is essential to creating a realistic expectation regarding any unit's ability to achieve the program objectives.

Dealing with Scientific Uncertainty

The proposed rule requires that the Responsible Official ensure that science is considered, correctly interpreted, and applied in planning, and that incomplete or unavailable information, scientific uncertainty, and risk be evaluated and disclosed. When conducted independently, this evaluation and disclosure of uncertainty and risk provides a crosscheck to an appropriate interpretation and application of science and help to clarify the limitations of the information base.



Examples of Performance Risks

Risks related to the natural environment:

- Fire, disease, insect or other disturbances
- Species receiving special management emphasis which could experience a change in status

Risks related to the institutional environment:

- Budgets different than original projections
- National or regional strategic initiatives which may emerge in response to broad-scale issue
- Litigation
- Changing National direction
- Organizational capability

Risks due to scientific uncertainty:

- Current information is inconclusive
- Interrelationships between resources are uncertain.
- Models have limitations

Dealing with Budgetary Uncertainty

Plans are not budget documents. However, Plans should be developed with budgets in mind. In most cases, a reasonable assumption is that budgets will stay at levels from the past three to five years. The program objectives should be designed accordingly. One approach might be to look at reasonable budget levels in some alternatives, shifting between line items depending on the emphasis of the alternative. No alternative should expect large budget increases.

Budget priorities will change over time, and it will be necessary to update the Plan Strategy every three to five years to reflect these changes.

Examples for Displaying Program Objectives

Narrative:

Non-point pollution will be treated. Priority will be given to Class II and III watersheds and streams that are not fully supporting uses designated by the State of Colorado. Major sources of pollution include abandoned mines as well as human-induced sedimentation.

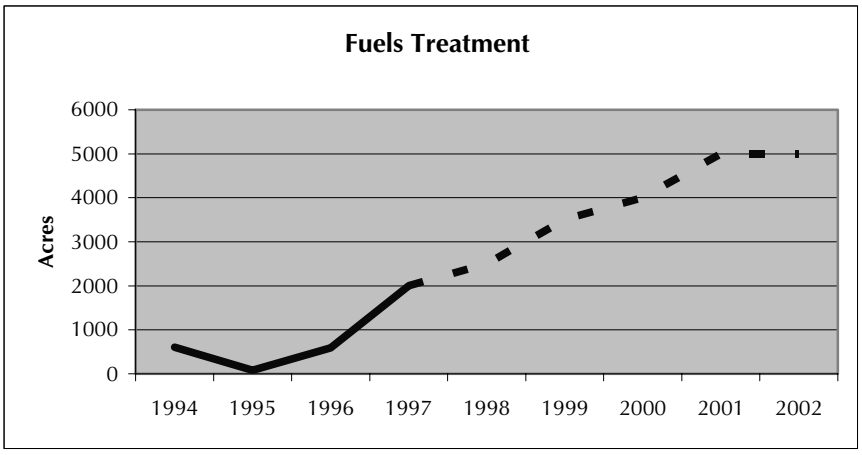
Use narratives, tables, charts, or other means to depict general trends, but avoid creating the impression of great precision.

Tables:

Number of Watersheds by Condition Class			
	Class 1: Functional	Class 2: At Risk	Class 3: Non-functional
Existing	41	87	19
10-year trend	42-48	83-86	16-19

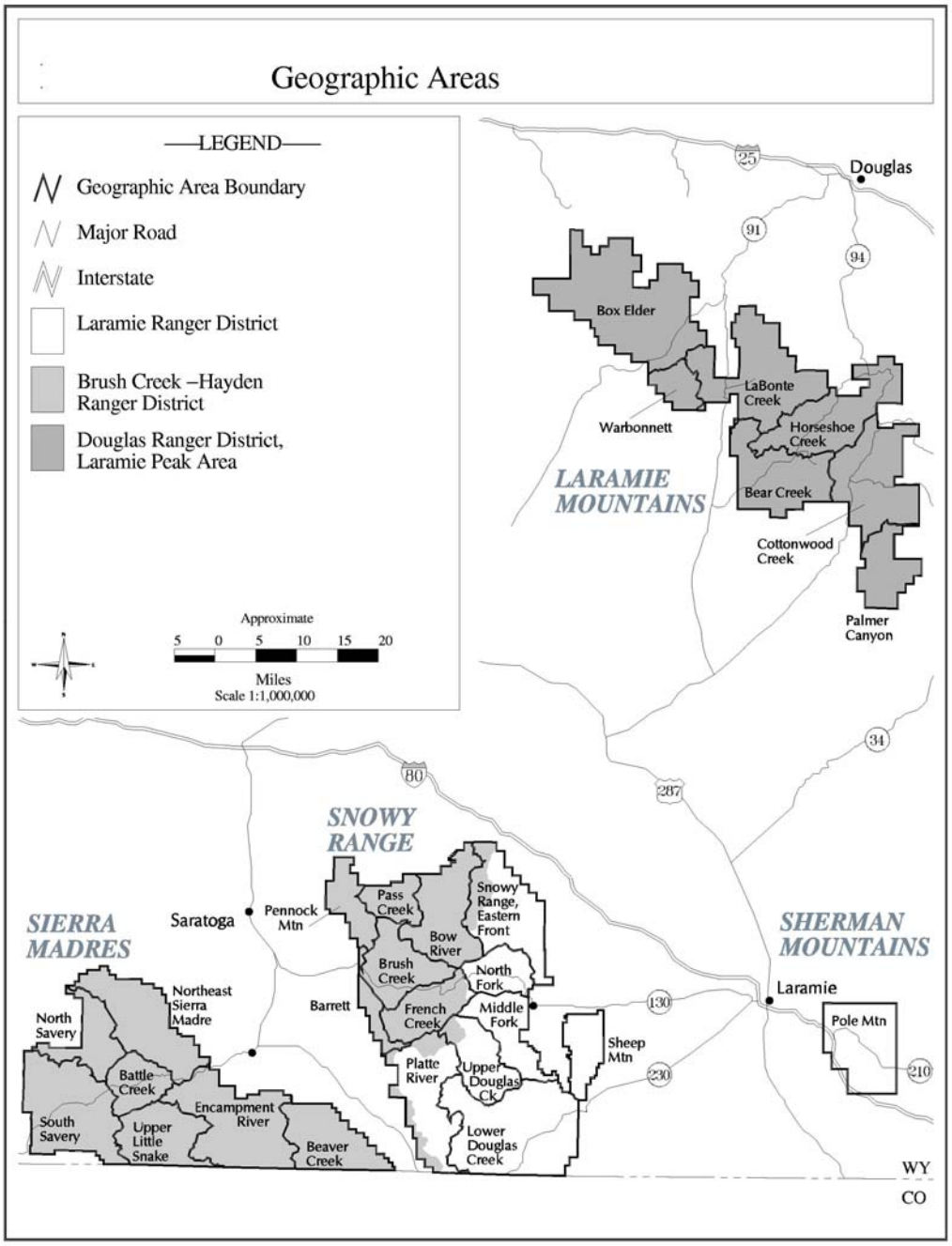
Charts:

The number of high risk/high value and high and moderate risk acres will be reduced. Both mechanical and prescribed fire treatments may be used.



Program Objectives by Geographic Area

To the extent that detailed information is available, Forests may wish to develop specific objectives for some or all of their individual geographic areas.



Requirements for Compliance, Prevention, or Improvement

In the past, statements calling for compliance, prevention, or improvement have been included as standards and guidelines in Plans. However, these statements are really strategies to reach desired conditions.

As explained later in this document, true standards, or design criteria are specifications for projects, rather than overall program direction. Following are examples of strategy statements that might be included in a prospectus.

- Maintain or increase numbers and sizes of open meadows to meet the management area and geographic area desired conditions.
- The percent of secure habitat within each bear management subunit must be maintained at or above levels that existed in 1998.
- Place high priority on fuel reduction and treatment activities in fire regimes I, II and III, and condition class 2 and 3 (shrub-lands, lower elevation mixed conifer, lodgepole pine and aspen). High priorities are wildland urban interface, municipal watersheds and threatened and endangered species habitat.
- Ensure that all applicable recreation facilities are available to people with disabilities.

Choices in Relating Objectives and Desired Conditions

The visioning process described for desired conditions in Part One will lead to a discussion about objectives. It is often difficult to separate desired conditions from the approaches to achieving them. It's difficult to talk about the ends without talking about the means. The relationship between objectives and desired conditions may be simple and direct, or complex and indirect. There are many ways to think about the relationship, and six examples are shown below. Objectives may be developed using any one or some combination of these approaches. When desired conditions are developed, participants in the process should also define the subsequent process for developing objectives.

- **Objectives might be framed as the difference between existing and desired conditions.** Objectives would be described and measured the same way as desired conditions and the objective values would simply be the difference between existing and desired.
- **Objectives could be an intermediate step to desired conditions**. Units of measure and descriptions would be the same.
- **Objectives could be the same as desired conditions if achievable during the life of the plan.**
- **Objectives and desired conditions might have a functional relationship.** The nature of that relationship would be the focus of monitoring. In many cases, a relationship between a Forest Service program and resulting conditions is either known or assumed. Both the program objectives and the desired condition are measurable. For instance, a desired condition might be the presence and genetic purity of greenback cutthroat trout in specified streams. The population of trout might be a function of water quality, and water quality might be a function of sedimentation. The objective might be to complete a certain number of acres of watershed improvement projects to reduce sedimentation to allow trout to flourish.
- **Objectives can be expressed as quantitative descriptions of qualitative desired conditions.** In this case the objective and the desired condition are interchangeable depending upon how they are being communicated.
- **Objectives are sometimes multiple-use driven and must be guided by standards to be consistent with desired conditions.** In this design, multiple-use objectives, essentially outputs, have values unrelated to desired conditions, but are constrained by standards which protect existing and desired conditions.

Monitoring and Evaluation in the Strategy

Evaluation requirements should be interwoven throughout the strategy.

Following are types of questions that a monitoring and evaluation program could answer.

Evaluation of Suitable Uses

- Is the availability meeting the demand?
- Are the suitable areas being used?
- Are uses consistent with the desired condition?
- Are conflicts occurring?
- Have changes in use (patterns, equipment, levels) created a need to revisit suitability determinations?

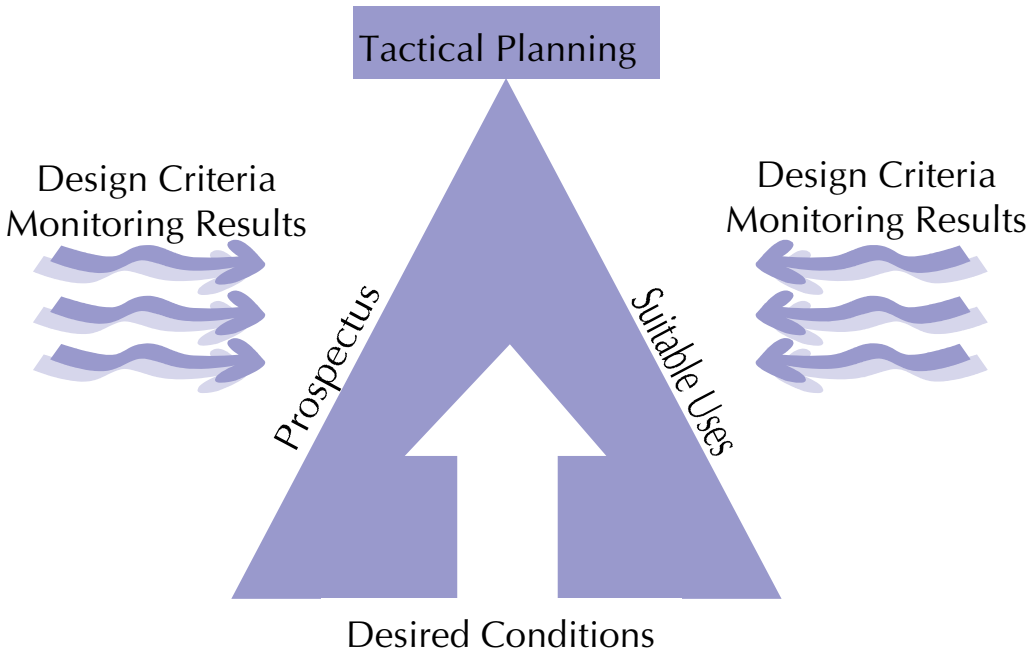
Evaluation of the Prospectus

- Are there results?
- Are objectives being achieved?
- Are risks to implementation changing?
- Can uncertainty be reduced? Are the assumptions valid?
- Monitoring of monitoring: Is monitoring itself effective?

The Relationship between the Strategy and Tactical Planning

The prospectus and suitable use decisions form the support for subsequent tactical planning. These two parts of the strategy have the desired conditions as the foundation and are influenced by the design criteria and the results of monitoring.

Tactical planning, the next level of planning, includes functional plans (fire management plans, timber plans, oil and gas leasing decisions, recreation plans, etc.), area plans (Research Natural Area establishment, Wilderness Implementation Strategy, etc.) and annual budgeting.



Part Three—Design Criteria

- Standards governing the implementation of projects and activities contemplated in the Strategy.
- References to other sources of direction and guidance.

"[the] demand [for] more and more accountability of public officials through the issuance of laws, edicts, and rules to control behavior, will invariably fail"
—Roberts, *Keeping Public Officials Accountable Through Dialogue: Resolving the Accountability Paradox*, 2001

The design criteria bound the strategy and subsequent projects designed to implement the strategy. The design criteria include standards and references to other applicable guidance.

Design criteria provide the sideboards within which strategies may operate. In the absence of a proposal for a use or activity, design criteria are inert and have little significance.

Three parts of a Forest Plan:

Vision (Desired Condition and Roles and Contributions)

Strategy (Suitable Uses and Prospectus)

Design Criteria (Standards and Other Guidance)

The collection of standards and guidelines in contemporary forest plans is typically unfocused and bloated. It is not uncommon to find statements that are actually goals or objectives, or that belong in the directives (Forest Service Manual or Forest Service Handbook.)

The concept of Design Criteria presupposes that all the extraneous information will be deleted and housed where it belongs, i.e., with goals in the Vision document, with Objectives in the Strategy document, or in the directives system for particular resources.

Typical Statements that are Not Standards

Process Direction

"When newly discovered species habitat is identified, conduct an analysis."

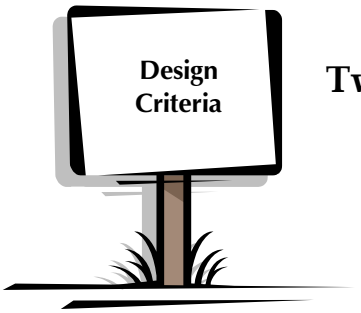
Statements of Desired Conditions

"Maintain the function of key habitats."

Strategic Statements or Objectives

"Manage for a minimum of 12 prairie dog towns on 200 acres, in clusters of three or more."

True design criteria are the technical and scientific specifications that must be met to create an acceptable project. They are analogous to building codes in providing the minimum requirements that are needed to protect resources and ensure fulfillment of plan outcomes.



Two types of design criteria:

- Standards
- Other referenced direction

Examples of Standards:

In riparian areas, corridor interruptions affecting both sides of the drainage should be of minimum width needed and no more than 60 feet in length. Interruptions affecting one side of a drainage should be no greater than 300 feet (parallel to the drainage).

Exclude human activity in key elk-calving areas during a minimum period of May 15 to June 15 and in key winter range of elk and deer for a minimum period of December 1 through March 30 with the exception of through routes.

When developing new open roads and trails, do not reduce contiguous areas of effective habitat to less than 250 acres or further reduce effective habitat of 20 to 250 acres, except where access is required by law.

Regeneration harvests of even-aged timber stands should not be undertaken until the stands have generally reached (or surpassed 95 percent of the) culmination of the mean annual increment measured in cubic feet. Exceptions to this requirement include where specific management objectives have been identified in project planning for forest health, visual enhancement, wildlife diversity and ecosystem restoration and management.

Apply design criteria to projects early in their development in order to achieve consistency with the desired conditions and the strategy.

If standards cannot be met by a proposed activity or project, consider modifying the project, rejecting the project, or amending the forest plan.

To be useful, it must be easy to know if standards have been met. Vague standards such as "not destroying habitat" create problems if there is no clear way to evaluate if standards can be met.

NFMA Requirements for Timber Standards

A plan must include, but not be limited to, the following standards for timber harvest:

- Limitations on even-aged timber harvest methods.
- Maximum size openings created by timber harvest.
- Requirements that timber harvest projects be considered through interdisciplinary review.
- Requirements that the timber harvesting system used is not selected primarily because it will give the greatest dollar return or the greatest unit output of timber.
- Requirements for assuring that even-aged stands of trees scheduled for harvest during the planning period on suitable timber lands have generally reached culmination of mean annual increment of growth.

Other NFMA Requirements for Standards

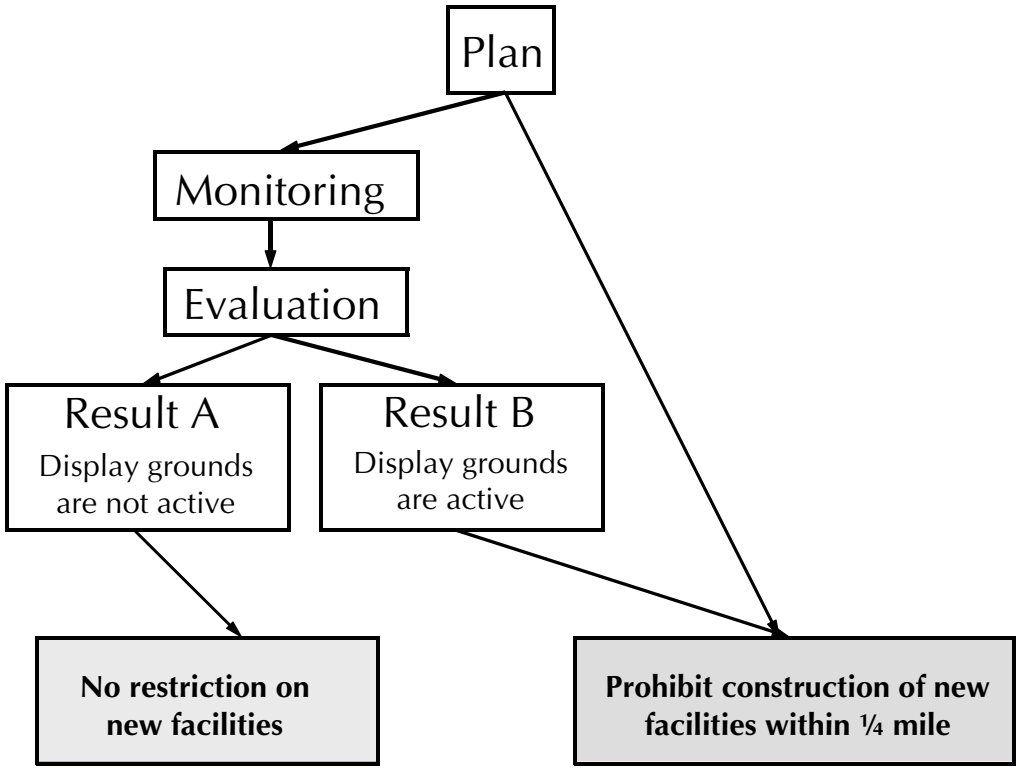
- Requirements for achieving aesthetic objectives.
- Requirements for maintaining or restoring ecological conditions that support desired characteristics of ecosystem and species diversity.
- Requirements for maintaining or restoring soil and water resources.

Adaptive Standards

Standards may be written to be adaptable and respond to monitoring.

Example:

To help reduce adverse impacts to breeding sharp-tailed grouse and their display grounds, prohibit construction of new facilities within ¼ mile of active display grounds. A display ground is no longer considered active if it is known to have been unoccupied during the current or most recent breeding season.



Examples of Other Sources of Design Criteria

- Oil and Gas Leasing Standard Stipulations
- Timber Sale Contract Clauses
- Special Use Authorization Standard Clauses
- Grazing Permit Standard Clauses
- Mineral Operations Permits
- Memoranda of Understanding between the USDA Forest Service and other agencies
- Congressional direction
- Best Management Practices Guidebooks
- Etc.

Linking Plans to Other Direction

Forest plans are not the only vehicle for making decisions about land management. The Design Criteria document should list these other sources of direction and provide a digest of the relevant standards they contain and how this information relates to the forest plan.

Use of the Forest Service Directives System

All Forest Service employees are responsible for consulting the Directives System in carrying out assigned work and for bringing, needed changes in directives to the attention of the issuing unit through appropriate channels. (FSM 1104.1)

Policies and procedures are in the Directive System (manual and handbook) and not the Forest Plan.

Agency-wide management policy and procedure relevant to planning and resource management are issued through the Forest Service Directive System.

Mandatory direction in the directives system must be followed unless there are extreme or highly unusual situations and it is legal to do so. In such a case, the line officer must promptly document and inform higher-level officials of the reasons for taking such exception to established policy and procedure. (FSM 1103(6))

A weakness of relying on directives is that some parts tend to be functional and lack true interdisciplinary review. Line officers should carefully review changes to the directives from a broad perspective.

The Forest Service Manual is intended for line officers and primary staff officers (with application to all employees) and the Forest Service Handbook contains detailed procedures, standards, practices, and techniques needed primarily by technicians and specialists. Employees are expected to follow Manual and Handbook direction unless there are good reasons for not doing so. (FSM 1111 and 1112)

Final Thoughts:
A New Way to Think about Forest Plans

Focus on vision instead of detail.

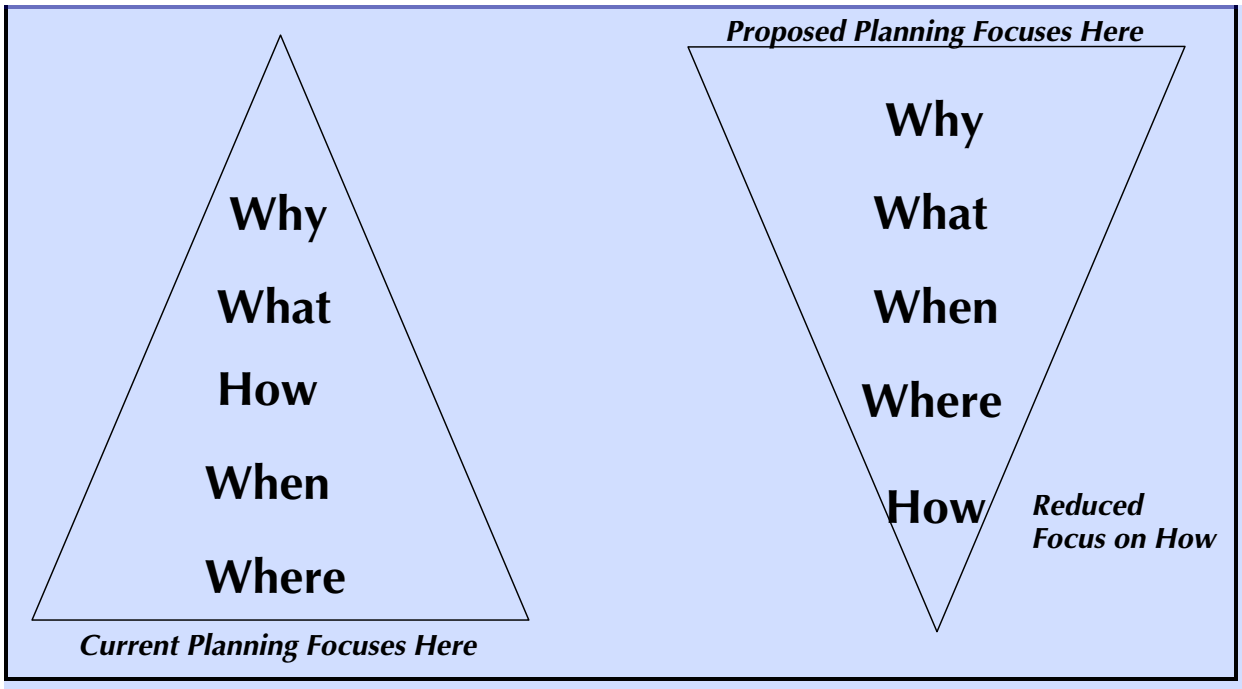
Three parts, with a planning process tailored to each part.

An adaptive approach with frequent updates.

The widths of these triangles correspond to the amount of time devoted to types of planning questions.

Past planning efforts have focused mainly on "where," "when," and "how" and not as much on "what" and "why."

Instead, planning should emphasize strategic decisions: "why" and "what," and to a lesser extent, "when" and "where." The "how" decision should generally be left to tactical or project plans.



Based on an earlier Forest Planning Framework developed by Regions 1 and 4.

Website Reference List

http://www.cedpa.org/publications/pdf/stratplan_english.pdf

http://www.pps.org/topics/parkuse/appreciativeinquiry

http://www.epa.gov/customerservice/2002conference/08071b.pdf

http://www.hr.com/hrcom/uploads/articlefiles/Final_Brochure_AI.pdf

http://www.new-paradigm.co.uk/Appreciative.htm

http://www.columbiarg.com/NASA.pdf

http://www.iisd.org/ai/default.htm

Model of a Forest Plan (Volume 1/Version 1.0)