United States
Department of
Agriculture

Forest
Service

**Southwestern
Region**

July/2011

Scenery Specialist Report

Forest Plan Revision DEIS

Submitted by: __/s/ _____
Nicole R. Hill
Landscape Architect, TEAMS Enterprise Unit
Prepared for the Coconino National Forest, July 22, 2011

For DEIS Chp 4's Preparers and Contributors section:

Education: Bachelor of Science, Landscape Design and Bachelor of Science, Environmental Management South Dakota State University (2003)

Years of Experience: 8 years of experience as a Forest Service Landscape Architect in planning and managing Scenery, Recreation, and Special Areas

The U.S. Department of Agriculture (USDA) prohibits discrimination against its customers, employees, and applicants for employment on the bases of race, color, national origin, age, disability, sex, gender identity, religion, reprisal, and where applicable, political beliefs, marital status, familial or parental status, sexual orientation, or all or part of an individual's income is derived from any public assistance program, or protected genetic information in employment or in any program or activity conducted or funded by the Department. (Not all prohibited bases will apply to all programs and/or employment activities.)

Preface

The information in this specialist report reflects analysis that was completed prior to and in conjunction with the completion of the Draft Environmental Impact Statement (DEIS) for the revision of the 1987 Coconino National Forest Land Management Plan (the Plan). The primary purpose of specialist reports associated with the DEIS is to provide detailed information to assist in the preparation of the DEIS. As the DEIS was prepared, review-driven edits to the broader DEIS resulted in modifications to some of the information contained in some of the specialist reports. As a result, some reports no longer contain information and analysis that was updated through an interdisciplinary review process and is included in the DEIS in its entirety. This is a complete specialist report which includes all the information that was summarized in the DEIS and other supplemental information. Efforts have been made to ensure that the retained information in the specialist reports is consistent with the DEIS. If inconsistencies exist between specialist reports and the DEIS, the DEIS should be regarded as the most current, accurate source of analysis

Contents

Introduction

Scenery as well as other natural resources must be cared for and managed in order to maintain quality scenery for generations to come. Scenic resources vary by location and by existing natural features including vegetation, water features, landform and geology, and human-made elements. All activities that forest visitors experience are performed in an scenic environment where scenery is defined by the arrangement of the natural elements of the landscape along with components of the built environment. When we experience the landscape, scenery combines all the ecological features and the human elements. The composition of these attributes is what gives a landscape its character or image.

The report of the President's Commission on America's Outdoors (1987) states that America's most important attribute for a recreation area is natural beauty. Viewing natural scenery, sightseeing, driving for pleasure, and photographing flowers, trees, scenery, and wildlife are among the nation's highest ranking recreational activities (Cordell 2008). The Coconino National Forest (Coconino NF or Forest) is a regional, national, and international year-round recreation destination. On the Coconino NF, the activities seeing the greatest number of participants are hiking/walking, viewing natural features, relaxing, driving for pleasure, and visiting historic sites (U.S. Department of Agriculture Forest Service (USDA FS) 2011a). Scenic forest and grassland settings contribute to these and all outdoor recreational experiences. It is important to manage the scenic resources to ensure a quality sightseeing experience for the public. Scenery is an integral component of all forest settings, and contributes to the quality of the users' experience. Providing a natural-appearing landscape for these visitors is important. It is important to evaluate the management of multiple resources, the need for ecosystem restoration, and the possible effects associated with scenic resources. The scenery management system provides the framework to effectively inventory, assess, and manage scenic resources in a sustainable and multiple use context.

This specialist report evaluates and discloses the potential environmental consequences on scenic resources that may result with the adoption of a revised land management plan. It examines, in detail, four different alternatives for revising the 1987 Coconino National Forest Land Management Plan (1987 Plan). The terms scenic resources and scenery are used interchangeably in this analysis.

Relevant Laws, Regulations, and Policy that Apply

All alternatives are designed to guide the Coconino NF's management activities in meeting all applicable Federal and State laws, regulations, and policies

The National Environmental Policy Act of 1969 (NEPA) states it is the "continuing responsibility of the Federal Government to use all practicable means to assure for all Americans, aesthetically and culturally pleasing surroundings." Therefore, NEPA mandates agencies to develop methodologies for scenery management of "aesthetically and culturally pleasing surroundings" that are capable of being put into practice, even if they are not currently in use. NEPA also requires "a systematic and interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts into planning and decision-making which may have an impact on man's environment." To accomplish this, numerous federal laws require all Federal land management agencies to consider scenery and aesthetic resources in land

management planning, resource planning, project design, implementation, and monitoring. These Federal laws include the following:

- The Wilderness Act (1964) – The act dictates that Wilderness is an area of Federal land that will be managed to retain its primeval character and untrammeled setting. It is protected and managed so as to preserve its natural condition and the imprint of man's work must be substantially unnoticeable.
- The Wild and Scenic Rivers Act (1968) – The outstandingly remarkable scenic values of rivers eligible or suitable to be included in the system must be carefully managed. Any management activities that could negatively impact the scenic resources, where they are an identified outstandingly remarkable value, should not be conducted or mitigated according the river's comprehensive management plan.
- The National Trails System Act (1968) – This act states that trails should be established within scenic areas and along historic travel routes of the Nation, which are often more remotely located.
- The Environmental Quality Act (1970) – This act sets forth a national policy for the environment which provides for the enhancement of environmental quality.
- The Forest and Rangeland Renewable Resources Planning Act (1974) – This act provides direction to conduct aesthetic analysis and assess the impacts on aesthetics for timber harvesting. It also provides the framework for natural resource conservation.
- The National Forest Management Act (1976) – This act provides direction that the preservation of aesthetic values is analyzed at all planning levels. Part 219.21 requires that the visual resource shall be inventoried and evaluated as an integrated part of evaluating alternatives in the forest planning process, addressing both the landscape's visual attractiveness and the public's visual expectation.
- The Surface Mining Control and Reclamation Act (1977) – The act states that "a surface area may be designated unsuitable for certain types of surface coal mining operations if such operations will result in significant damage to important aesthetic values and natural systems."
- The Public Rangelands Improvement Act (1978) – This act declares that "unsatisfactory conditions on public rangelands reduce the value of such lands for recreational and aesthetic purposes."

In addition, the Forest Service has routinely included both scenery and recreation as part of the 1960 Multiple Use-Sustained Yield Act. The following USDA handbooks establish a framework for management of scenic resources. These handbooks were written when the visual management system (VMS) was in place. Although the VMS has now been replaced by the scenery management system, the handbooks still apply to management of scenic resources.

- National Forest Landscape Management Volume 1. Agriculture Handbook 434: 1973
- Utilities, Chapter 2, Agriculture Handbook 478: 1975
- Range, Chapter 3, Agriculture Handbook 484: 1977
- Roads, Chapter 4, Agriculture Handbook 483: 1977
- Timber, Chapter 5, Agriculture Handbook 559: 1980
- Fire, Chapter 6, Agriculture Handbook 608: 1985
- Ski Areas, Chapter 7, Agriculture Handbook 617: 1984

- Recreation, Chapter 8, Agriculture Handbook 666: 1987
- Landscape Aesthetics, A Handbook for Scenery Management, Agriculture Handbook 701: 1995

Forest Service manual direction provides further clarification to utilize the Scenery Management System in forest and project planning and implementation, including sections 2380.3, 2382, and 2382.3:

2380.3, Policy: It is Forest Service policy to:

1. Inventory, evaluate, manage, and, where necessary, restore scenery as a fully integrated part of the ecosystems of National Forest System lands and of the land and resource management and planning process.
2. Employ a systematic, interdisciplinary approach to scenery management to ensure the integrated use of the natural and social sciences and environmental design.
3. Ensure scenery is treated equally with other resources.
4. Apply scenery management principles routinely in all National Forest System activities.

2382, Scenery Management: Managing scenery on National Forest System lands entails:

1. Completing and maintaining an inventory of landscape aesthetics and scenery resources.
2. Establishing goals and objectives for the management of scenery on all National Forest System lands.

2382.3 - Forest Plan Revisions and Scenery Management System

Update the scenery inventory using the Scenery Management System in Agriculture Handbook 701 (FSM 2380.61, para. 2). The recommended timeframe for updating the scenery inventory is prior to or at initiation of Forest land and resource management plan revisions. The applicable scenery inventory components in the Forest land and resource management planning process are landscape character, scenic integrity, scenic class, and constituent information.

Methodology and Analysis Process

In 1987, when the Coconino National Forest Plan was adopted, scenic resources were inventoried and analyzed using the visual management system as outlined in Forest Service Handbook 462 (USDA FS 1974). This system, which was released in 1974, established standards of measurement (i.e. visual quality objectives) for assessing proposed and existing impact to scenic quality.

In 1995, after 20 years of experience with the visual management system and after additional research in the public and private sectors, the Forest Service revised the visual management system and replaced it with the scenery management system. This revised system is described in Agricultural Handbook 701, Landscape Aesthetics: A Handbook for Scenery Management (USDA FS 1995). The scenery management system was used in combination with the visual management system in this analysis because the scenery management system will not fully replace the visual management system on the Coconino NF until the revised Forest Plan is adopted.

Although the visual management system and scenery management system both manage scenic resources, differences between the systems exist. Most concepts are the same in both systems, but often terminology has changed. Both systems establish objectives (visual quality objectives or scenic integrity objectives) to measure the degree of alteration or deviation permissible in a landscape. The definitions for these objectives are similar, but application is slightly different.

The visual management system measures alterations in terms of the degree of acceptable alteration of the characteristic landscape. Any human alterations or changes in the landscape, which do not repeat or borrow from features of the characteristic landscape, would be considered negative. The visual management system handbook also establishes durations of impact for visual quality objectives: retention should be accomplished during project operation or immediately after project completion; partial retention should be accomplished as soon after project completion as possible or at a minimum within the first year; modification should be accomplished in the first year; and maximum modification within five years (USDA FS 1974).

The scenery management system measures deviations from the existing landscape character, and ecosystems provide the environmental context for the scenery management system. With ecosystems providing the context, no specific duration of scenic impacts are assigned to a scenic integrity objective, but rather the focus is on movement toward the desired landscape character (USDA FS 1995, 20). It should be noted that although specific timeframes are not assigned in the SMS Handbook, duration of impacts are always considered in site specific project planning and analysis with the direct intent to provide high quality scenery and achieve the highest scenic integrity possible (USDA FS 1995, 5-9). The scenery management system also recognizes positive cultural landscapes or cultural scenic attributes where some human alterations have become accepted over time to become expected images or valued features in the landscape contributing to high-quality scenery. The scenery management system also places emphasis on constituent analysis which is discussed in more detail later in this report.

The scenery management system, as outlined in Agricultural Handbook 701, is today's best science to achieve high-quality scenery as an outcome of National Forest ecosystem management practices. Scenery management system inventories were completed for the Coconino NF as part of the land and resource management plan revision process.

ArcMap and geographic information system (GIS) data layers were used to analyze current forest plan direction for scenic resources (referred to in the current forest plan as visual resources), inventory scenic resources as outlined in the scenery management system to determine the existing condition of scenic resources, develop scenic integrity objectives for the action alternatives, and analyze the alternatives in regards to desired conditions for scenic resources (i.e., visual quality objectives or scenic integrity objectives). Scenery inventories were completed through site visits to various parts of the Forest, interdisciplinary meetings with Forest personnel, review of photos of the Forest, use and interpretation of GIS data to develop data layers for all scenery inventories, and review and analysis of research and similar projects.

This analysis will provide key findings of the scenery inventory process to describe the existing condition of scenic resources. The scenery inventory process is fully documented in the Scenery Management System Inventory Report for the Coconino National Forest Land and Resource Management Plan Revision (SMS Inventory Report) (USDA FS 2011d).

The effects analysis will consider how each alternative manages scenic resources by considering the goals, objectives, standards, and guidelines in each alternative for the management of scenery and the amount of each visual quality objective established or scenic integrity objective proposed on National Forest System lands in each alternative. To ensure clarity, the following cross walk between visual quality objectives and scenic integrity objectives is provided (Table 1).

Table 1. Scenic integrity, visual quality objective, and perception crosswalk (USDA FS 1995, 2-4).

Scenic Integrity (both Existing and Objective)	Visual Quality Objective	The Forest's Scenic Integrity as people perceive it
Very High	Preservation	Unaltered; landscape character is intact
High	Retention	Appears unaltered; deviations to landscape character are not evident
Moderate	Partial Retention	Slightly altered; deviations are subordinate to landscape character being viewed
Low	Modification	Moderately altered; deviations begin to dominate the valued landscape character being viewed
Very Low	Maximum Modification	Appears heavily altered; deviations may strongly dominate the valued landscape character.
Unacceptably Low	Unacceptable Modification	Appears extremely altered; this level is only used to inventory existing scenic integrity. It is never an objective on National Forest System lands

The effects analysis will also consider how each alternative provides for management of natural-appearing scenery and desired landscape character. Desired landscape character is expressed through landscape character goals and may be referred to as either desired landscape character or landscape character goals.

The very high, high, and moderate scenic integrity objectives result in a relatively natural-appearing landscape. It is important for National Forests to manage scenery at this level. "Research has shown that high-quality scenery, especially that related to natural-appearing forests, enhances people's lives and benefits society" (USDA FS 1995, 17). It should also be noted that according to "Floyd Newby's findings that "people expect to see natural or natural-appearing scenery,"" (quoted in USDA FS 1995, 2-3). Furthermore, "research shows that there is a high degree of public agreement regarding scenic preferences. This research indicates that people value most highly the more visually attractive and natural-appearing landscapes" (USDA FS 1995, 30).

Gobster (1994) summarizes preferred scenic settings as having four common attributes: large trees; smooth, herbaceous ground cover; an open midstory canopy with high visual penetration; and vistas with distant views and high topographic relief. Visual access, or how far one can see into a forest, is also a preferred scenic setting (Ryan 2005). In the long term, when these scenic

preferences are part of the desired landscape character, scenic resources will have higher scenic quality if visual access is achieved or enhanced.

The 1992 visual quality objectives GIS corporate data layer (VQO GIS data layer) was reviewed as part of this analysis Two errors were found and corrected in order to accurately compare the VQO GIS data layer with SMS GIS inventories and proposed scenic integrity objectives (Dechter and Minor, personal communication). Even with these corrections, the VQO GIS data layer did not always have a direct correlation to SMS inventories due to differences in handbook direction and how these inventories were completed. For example, the SMS inventories were completed for all Forest lands, while VQO GIS data layer did not include full VMS inventory mapping in designated wilderness areas.

Methodology in mapping Scenery Management System Components

As part of the plan revision process, the Coconino NF inventoried scenic resources using the scenery management system. When completing the scenery inventories, inventories from the visual management system, when available or relevant, were used as a starting point. For more detailed information on the development of the scenery inventories and GIS analysis methods used, the reader is referred to the SMS Inventory Report (USDA FS 2011d).

The scenery management system process involves identifying scenic components as they relate to people, mapping these components and assigning a value for aesthetics. These maps provided information to the planning team to assist them in making a decision relative to scenery as a part of ecosystems and in determining the tradeoffs related to forest plan management scenarios.

Landscape Visibility and Concern Levels

Landscape visibility is composed of two parts: human values as they relate to the relative importance to the public of various scenes (concern levels) and the relative sensitivity of scenes based on distance from an observer (seen areas and distance zones).

Human values that affect perceptions of landscapes are derived from constituent analysis. Constituent analysis serves as a guide to perceptions of attractiveness, helps identify special places, and helps to define the meaning people give to the landscape. The constituent analysis for the Coconino NF involved the following: reviewing and incorporating key direction from Sedona-Oak Creek Ecosystem (Amendment 12) and the Flagstaff/Lake Mary Ecosystem Analysis (Amendment 17) as these amendment were developed through extensive public involvement; reviewing requests for special area designations made by the public; reviewing SMS inventories in interdisciplinary workshops; reviewing SMS inventories, particularly the proposed SIOs during the March public meetings; and having the SMS inventories available for review during the February/March “office hour” sessions.

Constituent analysis leads to a determination of the relative importance of aesthetics to the public. This importance is expressed as a concern level. Sites, travel ways, special places and other areas are assigned a concern level value of 1, 2, or 3 to reflect the relative high, medium, or low importance.

The Forest Social Science Analyst along with the Forest and District Landscape Architects interviewed the district recreation staffs and identified concern levels for the Forest’s travel routes and use areas. Routes identified as dispersed camping corridors in the Travel Management

process were also reviewed as a proxy to determine where people desire to go car camping. The road, trail, and stream systems of the Forest were rated as a concern level 1, 2, or 3, primary, secondary, and secondary with low use and moderate to low interest in scenery respectively, as defined in the SMS handbook. All recreation use areas on the Coconino NF were assigned concern level 1 and are shown on the concern level map as use points. This system was also applied to travelways outside of the Forest that can see into the Forest. A map of concern levels can be found in Appendix A of this report, displaying the concern level travelways and use points identified for the Coconino NF.

Seen areas and distance zones are mapped from concern levels to determine the relative sensitivity of scenes based on their distance from an observer. These distance zones are identified as:

- Foreground – up to 1/2 mile from observer
- Middleground – 1/2 to 4 miles from the observer
- Background – 4 miles from the observer to the horizon

The visibility analysis was generated in ArcInfo GIS, using the concern level data layers. Viewpoints were generated at roughly 1/4-mile intervals for concern level 1 roads, trails, and streams and roughly 1/4-mile intervals for concern level 2 roads and trails. A viewpoint layer of concern level use points, which included points not generated from the travel route intervals, was also used to determine seen areas. These use points included overlooks, developed recreations areas, lookouts, and points identified by Forest personnel for key views. The visibility analysis was completed for concern levels 1 and 2 only since areas seen by concern levels 1 and 2 would override most areas seen by concern level 3.

The viewpoints were analyzed in combination with the 30 meter digital elevation models (DEM) of the forest. The DEM was processed in GIS to run the visibility commands. Only the topographical/elevation information was used to determine seen areas. Vegetation was not considered in this analysis, because vegetation, being dynamic, may change over time due to natural disturbance or human activity. Vegetative screening is important for short-term detailed planning at the project level. However, vegetative screening is inappropriate to consider in long-term, broad-scale planning, such as forest planning (USDA FS 1995, 4-5). A background viewing distance of four to 15 miles was used for this analysis since little detail is discernable beyond 15 miles. When an area was assigned to more than one distance zone, the distance zone reflecting the highest concern level use point or travelway was assigned, according to the matrix outlined in the SMS handbook (USDA FS 1995, 4-12).

Inevitably the visibility computer analysis results in some acres that are “unseen.” These areas are referred to in the SMS handbook as seldom seen since they may be seen, at a minimum, from aircraft and an occasional viewer wandering through the forest (USDA FS 1995, 4-11). Seldom seen areas are areas not seen from travel routes or identified use points. These areas are assigned a concern level 1, 2, or 3, based on concern for a specific area and may occur in any distance zone or scenic attractiveness class. A concern level use areas layer, including designated wilderness areas and potential wilderness areas with high capability, was used to determine and assign a concern level to these “unseen” areas. Designated wilderness areas and potential wilderness areas with high capability were assigned concern level 1. All other unseen areas were assigned concern level 2. A map of landscape visibility can be found in Appendix A of this report

Scenic Attractiveness

Scenic attractiveness is the primary indicator of the intrinsic scenic beauty of a landscape and of the positive responses it evokes in people. Scenic attractiveness classes are developed to determine the relative scenic value of lands within a particular landscape character. It helps determine landscapes valued for scenic beauty, based on commonly held perceptions of the beauty of landform, rock form, vegetation pattern, composition, water characteristics, land use patterns, and cultural features. Scenic attractiveness indicates varying levels of long-term beauty of the landscape character, regardless of existing conditions. The three scenic attractiveness classes are: Class A-distinctive; Class B-typical; Class C-indistinctive.

When the 1987 plan was adopted, variety class (a particular level of visual variety or diversity of landscape character) was inventoried as part of the visual management system (USDA FS 1974, 1987). The variety class inventory is replaced with the scenic attractiveness inventory in the scenery management system.

The scenic attractiveness inventory was derived by updating the VMS variety class inventory completed for the 1987 plan. Data used in this update includes water features of lakes and streams, slope classes, Terrestrial Ecosystem Survey units and vegetative cover types. Wilderness Areas and variety class A and C areas were evaluated for scenic attractiveness and updated to provide the overall scenic attractiveness for the Forest. Areas not identified and verified as class A or C, were assigned class B, typical. Several areas on the Forest were determined to be distinctive based on their cultural values and historic properties, since they strongly contributed to the character of the landscape. Those areas included Crescent Moon Ranch and lands between the General Crook National Historic Trail and the Mogollon Rim.

The SMS Inventory Report (USDA FS 2011d) provides the detailed process used to evaluate, update, and verify the scenic attractiveness classes for the Coconino NF.

Scenic Classes

All national forest landscapes have value as scenery. Using the data gathered and mapped for scenic attractiveness and landscape visibility, a numerical scenic class value is assigned to Forest lands. The ratings 1-7 indicate the scenic value of landscape areas, irrespective of existing scenic integrity

Scenic classes are determined and mapped by combining the three classes of scenic attractiveness with the distance zone and concern levels of landscape visibility as outlined in the Scenic Class Matrix found in the SMS handbook and shown in Table 2.

Table 2. Scenic Class Matrix

		Distance Zones/Seldom Seen & Concern Levels							
		Fg1	**Mg1**	**Bg1**	**Fg2**	**Mg2**	**Bg2**	**ss1**	**ss2**
Scenic Attractiveness	**A**	1	1	1	2	2	2	1	2
	B	1	2	2	2	3	4	2	3
	C	1	2	3	2	4	5	3	5

Note: Only the portions of the Scenic Class Matrix applicable to the Coconino NF SMS inventory process are shown in this table. For the full Scenic Class matrix see the SMS handbook (USDA FS 1995, 4-16).

Existing Scenic Integrity

Existing scenic integrity (ESI) indicates the degree of intactness and wholeness of the landscape character. Conversely, ESI is a measure of the degree of visible disruption of the landscape character. Disruptions in the landscape character most often come from human alterations to the landscape, such as roads or vegetation management. A landscape with very minimal visual disruption is considered to have high ESI, while landscapes with more noticeable disruptions are viewed as having lower ESI. Existing scenic integrity is expressed and mapped in terms of very high, high, moderate, low, very low, and unacceptably low.

Existing scenic integrity levels were determined for the Coconino NF landscapes using GIS data layers. Activities altering the landscape that were used include: utility corridors, travel management, and livestock grazing activities. Other GIS data used includes: designated wilderness areas, potential wilderness areas, roadless inventory, Recreation Opportunity Spectrum, wildland fire, and insect and disease outbreaks. NAIP (National Agricultural Imagery Program) aerial imagery from 2008 was used as a reference (at a general scale of 1:24,000) to identify changes in the landscape that may not be found in the available GIS data layers and may be noticeable from aerial views. Due to time constraints which limited field review, most ESI levels were rated from an aerial view, which is consistent with SMS Handbook direction (USDA FS 1995, 2-6). Activities and lands in other ownerships were not reviewed or rated in detail but were generally rated the same as adjacent Forest lands.

This report provides a summary of the existing scenic integrity inventory. The SMS Inventory Report (USDA FS 2011d) provides the detailed process used to determine and rate existing scenic integrity for the Coconino NF.

Proposed Scenic Integrity Objective development process

Scenic Integrity Levels are discussed and proposed for all National Forest System acres during the forest planning process using the information in the scenery inventories as guidance. Once a final plan alternative is adopted, the Scenic Integrity Levels become Scenic Integrity Objectives (SIOs) which are then used to manage the scenery resource (USDA FS 1995, 4-16). SIOs become part of the new forest plan and along with the desired landscape character provide a system to support future improvements to and maintenance of scenic resources.

For clarity and to reduce confusion with existing scenic integrity levels, the planning team opted to use the term proposed SIOs during the forest planning process for all action alternatives. To help determine proposed SIOs, a composite scenery base map was produced by combining scenic classes and existing scenic integrity levels. This map was used as a starting point for determining proposed SIOs during the interdisciplinary Forest planning process. The mapping process is fully discussed in the SMS Inventory Report (USDA FS 2011d).

Proposed SIOs were initially determined regardless of the theme or focus of any proposed management areas. The desired condition of scenery for the area was the main consideration. An interdisciplinary team reviewed the proposed SIOs in two meetings and made refinements based on local knowledge and expertise. The refinements made to determine the proposed SIOs are documented in meeting notes from forest planning meetings. Further refinements to proposed SIOs were made throughout the forest planning process using the proposed management areas, information gathered during the March public meetings, and input from the extended forest planning interdisciplinary team. Proposed SIOs of adjacent forests were reviewed to ensure as much consistency as possible of SIO allocation across forest boundaries. A map of proposed SIOs for Alternative B can be found in Appendix A of this report.

Scenery Rehabilitation Development Process

To develop a scenery rehabilitation map, the existing condition of scenic integrity (existing scenic integrity inventory) and desired condition of scenic integrity (proposed SIOs) were compared to see where the existing scenic integrity condition is currently lower than the desired condition for scenic integrity. For example, areas with moderate existing scenic integrity, but a high SIO, are shown on the scenery rehabilitation map as rehabilitate by one level. In some cases, a deviation of three levels may occur (i.e., areas with an existing scenic integrity of very low, but a high SIO). Management activities identified to rehabilitate scenery are anticipated to be able to improve scenic integrity by one level on a site-specific basis during the life of the plan. Areas identified to be rehabilitated by more than two levels may not realize the overall desired scenic integrity for several planning cycles.

Assumptions

In the analysis for this resource, the following assumptions have been made:

- The land management plan provides a programmatic framework for future site-specific actions.
- Land management plans do not have direct effects. They do not authorize or mandate any site-specific projects or activities (including ground-disturbing actions).
- Land management plans may have implications, or environmental consequences, of managing the forests under a programmatic framework.
- The plan decisions (desired conditions, objectives, standards, guidelines, management areas, monitoring) will be followed when planning or implementing site-specific projects and activities.
- Laws, regulations, and policies will be followed when planning or implementing site-specific projects and activities.
- Monitoring will occur and the land management plan will be amended, as needed.
- We will be funded similar to past budget levels (past 5 years).

- The planning timeframe is 15 years; other timeframes may be analyzed depending on the resource (usually a discussion of anticipated trends into the future).
- The principles of scenery management and environmental design will be applied in project-level planning in all National Forest System activities.
- Scenery management techniques and principles will be used to mitigate any future site-specific land altering activity or introduced elements on the land, to achieve and maintain desired scenic integrity objectives and landscape character goals.
- Scenery management accomplishments and success of mitigation measures in meeting scenic integrity objectives will be measured. Monitoring will be conducted to determine how projects and programs are affecting scenery.
- Changes in scenery and changes in public expectations related to landscape aesthetics and scenery will be monitored and documented (FSM 2382 – Scenery Management). Changes in public expectations related to landscape aesthetics and scenery would most likely be monitored at a regional or national level, but may also be assessed during scoping for site specific projects and review of current research when completing scenery analyses for site specific projects.
- Scenery inventory GIS data layers will be reviewed during future project level analysis and updated as ground-truthing occurs to keep the data layers accurate and relevant.

Issues Addressed in this Analysis

During public meetings and public feedback periods scheduled throughout the plan revision process, the public identified no key issues in regards to scenic resources. However, a need for change identified in the Analysis of the Management Situation was the need to change from the Visual Management System to the Scenery Management System as the tool to manage scenery. Additionally, the interdisciplinary team identified that the proposed revised Plan would affect how scenic resources are managed, and these effects should be analyzed. The following issues regarding scenery are analyzed in this analysis.

Issue – The best available science for managing scenic resources may not be used in each alternative. Indicator – Whether the scenery management system is being implemented to manage scenery.

Issue – Existing or proposed plan direction provides for varying amounts of natural-appearing scenery for forest visitors. Indicator – Acres provided by plan language (VQO or proposed SIO allocations) of natural-appearing scenery

Issue – Identification of areas for scenery rehabilitation is important in managing for natural-appearing scenery and provided at varying levels across alternatives. Indicator – Whether rehabilitation opportunities are identified for scenery.

Issue – Climate change (resiliency, etc.) may affect scenic resources. Indicator – Discussion of potential effects of climate change to scenery.

Another issue identified is the recommendation of a National Scenic Area designation for the Sedona-Oak Creek area (the area covered by Amendment 12 of the 1987 plan). An alternative for this issue was eliminated from detailed consideration because the plan direction central to the National Scenic Area proposal has been carried into the proposed revised Plan and alternatives,

and the values sought through such a designation have been incorporated. The scenery analysis also will not analyze this issue in detail for the same reasons. The development of the proposed scenic integrity objectives and proposed scenery direction is in line with the intent of a National Scenic Area and will be discussed briefly in the analysis.

Summary of Alternatives

Four alternatives are analyzed in detail in this Specialist Report: Alternatives A through D. Alternative A is the current 1987 Coconino National Forest Plan, and Alternative B is the Preferred Alternative/Proposed Action, drafted over the past several months and refined with several tranches of internal and informal public feedback. Alternative C considers increases in the amount of wilderness and special areas, as well as increased opportunities for quiet semi-primitive recreation, while Alternative D considers slightly fewer restrictions than Alternatives B and C on human access and use of the Forest and its resources.

Alternative A. 1987 Plan

For a full description of Alternative A, see Chapter 2 of the DEIS. In 1987, when the Coconino National Forest Plan was adopted, scenic resources were inventoried and analyzed using the visual management system as outlined in Forest Service Handbook 462 (USDA FS 1974). This system, which was released in 1974, established standards of measurement (i.e. visual quality objectives) for assessing proposed and existing impact to scenic quality.

As the 1987 Plan has been amended, some aspects and terminology of the scenery management system have been incorporated. However, the majority of the 1987 plan, uses and would continue to use visual quality objectives, developed from the 1987 visual management system inventories, to manage scenic resources. Visual quality objectives of preservation, retention, partial retention, modification, and maximum modification are allocated to National Forest System lands. A full breakout of the visual quality objectives allocation and acres will be discussed later in this report.

Alternative B

Alternative B provides strategic, program-level guidance for managing the Forest and its natural resources over the next 10 to 15 years. For a full description of Alternative B, see Chapter 2 of the DEIS. During the development of the proposed revised Plan, a full inventory of scenic resources was conducted using the scenery management system as outlined in the SMS Handbook (USDA FS 1995). As part of the interdisciplinary revision process, landscape character goals and scenic integrity objectives were developed from the scenery management system inventories. Scenic integrity objectives have been proposed for every acre of National Forest System lands and vary from very high to low. It is part of the proposed revised Plan to fully implement the scenery management system including goals, objectives, standards, and guidelines to manage scenic resources in the context of ecosystem management.

Alternative C

Alternative C proposes more wilderness areas on the Forest, as well as other special areas to provide additional protection to botanical and wildlife resources. For a full description of Alternative C, see Chapter 2 of the DEIS. Alternative C would also fully implement the scenery management system to manage scenic resources. Scenic integrity objectives proposed in this

alternative do not differ from those proposed in the proposed revised Plan. The goals, objectives, standards and guidelines to managed scenic resources would be same as Alternative B.

Alternative D

Alternative D proposes no additional wilderness areas and allows biking in botanical and geological areas. For a full description of Alternative D, see Chapter 2 of the DEIS. Alternative D would also fully implement the scenery management system to manage scenic resources. Scenic integrity objectives proposed in this alternative differ slightly from those in the proposed revised Plan between Sycamore and Red Rock Secret Mountain Wilderness and along State Highway 87. The goals, objectives, standards and guidelines to managed scenic resources would be same as Alternative B with one additional guideline affecting scenery proposed in Alternative D.

Description of Affected Environment

The Coconino NF's natural, cultural, and historic resources attract visitors, making it a regional, national, and international year-round recreation destination. One of the main attractions is the Forest's natural beauty and opportunities to experience nature (USDA FS 2010a). The activities seeing the greatest number of participants on the Coconino NF are hiking/walking, viewing natural features, relaxing, driving for pleasure, and visiting historic sites. Downhill skiing, bicycling, fishing and viewing wildlife were also very popular primary activities (USDA FS 2011a).

Currently, the scenic resources of the Coconino NF are managed using the visual management system and visual quality objectives (USDA FS 1974, 1987). Visual quality objectives of preservation, retention, partial retention, modification, and maximum modification are allocated to National Forest System lands. The existing condition of scenic resources is a result of implementing the 1987 plan.

Management of multiple resources has, to varying degrees, altered the natural landscape character. The most obvious effects on scenic resources are from vegetation and landform alterations. Resource management activities which have altered scenic resources include but are not limited to vegetation management, mineral extraction, roads and trails, campgrounds and picnic grounds, fire management (suppression and prescribed burning), and livestock grazing.

This affected environment section will first cover a general description of the Coconino NF scenic resources, and then discuss the existing condition of scenic resources determined through the scenery management system inventories.

General Description of Scenic Resources on the Coconino NF

The landscapes of the Coconino NF have a wide variety of features providing for some of the most spectacular scenery in the southwest. The approximately two million-acre Coconino NF is located in north central Arizona and is at the southern end of the Colorado Plateau with elevations varying from 2,600 to 12,633 feet. Dramatic landforms dominate the landscape. Numerous cinder hills and volcanoes of the San Francisco Peaks volcanic field are scattered across the northern portion. The San Francisco Peaks, including the highest point in Arizona, tower over the flat, heavily timbered Colorado Plateau, which is home of the largest contiguous stand of ponderosa pine in the world. The colorful collection of buttes, pinnacles, mesas, and canyons surrounding

Sedona is world famous for its red rock vistas. The remains of ancient wetlands, these crimson cliffs have been carved by the forces of the desert into one of nature's most magnificent masterpieces (USDA FS 2011c). The Mogollon Rim, a high rocky 1,000 foot escarpment that runs for about 200 miles across central Arizona, delineates the southeast border of the Forest. Deep canyons and natural lakes are an important part of this Forest's character.

The scenic qualities of the Forest attract millions of visitors each year to participate in diverse outdoor recreation activities. Grasslands, plateaus, rugged desert canyons, volcanic highlands, and mountain peaks provide a range of topography. Landscapes have dramatic red rock formations, forested mountains, and picturesque cinder cones and rough lava flows, evidence of landscapes shaped by volcanoes. The vegetative mosaic varies across the Forest with semi-arid desert communities, pinyon-juniper shrublands, grasslands, scattered aspen and maple, and conifer forests consisting mostly of ponderosa pine with some spruce-fir forests located at higher elevations on the San Francisco Peaks.

The Coconino NF contains more water than most of the surrounding landscapes, including but not limited to the following natural or man-made lakes: Upper Lake Mary, Lower Lake Mary, Mormon Lake, Stoneman Lake, and Kinnikinick Lake. The Wild and Scenic Verde River runs along the southwestern end of the Forest. Oak Creek, West Clear Creek , Wet Beaver Creek and Fossil Creek, also a designated Wild and Scenic River, emerge from deep cottonwood and mixed broadleaf lined canyons cut into the Mogollon Rim and continue a ribbons of riparian vegetation across the pinyon juniper and semi-desert grasslands before merging with the Verde River. These other major streams flowing through the forest, including East Clear Creek, provide aesthetic and recreational settings.

Visitors are drawn to the diversity of settings provided, which range from: warm grasslands in the Verde Valley, cool riparian respite in canyons, and prominent red rock spires and buttes around Sedona to Flagstaff's snow covered peaks and forests. They visit the Coconino NF for a cool escape from desert climates and city living and for its outstanding recreation opportunities such as hiking, viewing scenery, boating, fishing, horseback riding, river floating, winter sports, motorized recreation, and cabin and lookout rentals. Recreation experiences vary from crowded to uncrowded in open and undeveloped landscapes. The Forest has ten designated wilderness areas and many rugged canyons offering opportunities for solitude and backcountry experiences.

Many scenic drives wind through the Forest offering scenery viewing opportunities. Red Rock All-American Road winds through Sedona's Red Rock Country amazing travelers with the high desert's power, diversity, and sense of intimacy with nature. Sedona-Oak Creek Canyon Scenic Road connects with Red Rock All-American Road and is known for colorful rocks and unique formations; Oak Creek Canyon is famous the world around for its spectacular scenery. Historic Route 66 All-American Road allows travelers to experience a unique cultural landscape full of the charm and history of the 1950s and 1960s. The San Francisco Peaks Scenic Road on Highway 180 is a major route to the Grand Canyon. Other popular scenic drives include: Desert Canyon Scenic Drive, Around the Peaks Loop, Red Rocks and Sycamore Canyon Loop, and Volcanoes and Ruins Loop to name a few.

The Forest also has many prehistoric and historic ruins. American Indians and ranchers are a significant part of the Forest history, and their traditional uses remain an important part of the cultural landscape of the Coconino NF.

Overview and Components of the Scenery Management System Process

The scenery management system provides a systematic approach for determining the relative value and importance of scenery in National Forest lands. Ecosystems provide the environmental context for the scenery management system. Ecosystems as recreational settings greatly affect the quality and effectiveness of the recreation experience. A key attribute of recreation settings is the quality of aesthetics. The scenery management system is to be used in the context of ecosystem management to inventory and analyze scenery on National Forest lands, to assist in establishment of overall resource goals and objectives, to monitor scenic resources and to ensure high quality scenery for future generations. The following scenery management system inventory components provide the existing condition of scenic resources.

Landscape Character Description

The landscape character description is an objective description of the biological and physical elements drawn from data available for ecological or planning units and combined with identified landscape character attributes in combination with the human elements of the landscape. Landscape character embodies distinct attributes existing throughout an area, and descriptions concentrate on positive attributes. The landscape character description gives a geographic area its scenic and cultural image, and consists of the combination of physical, biological, and cultural attributes that make each landscape identifiable or unique. The descriptions represent the combination of the human habitat, heritage, and social ties to the landscape in combination with the physical and biological characteristics of the landscape. The landscape character description provides the frame of reference for defining the scenic attractiveness classes and existing scenic integrity and aids in determining landscape character goals.

The Coconino NF landscape character descriptions were written using the landscape character zones identified by the Forest planning team. These zones best reflect the cultural values and perceptions people assign to landscapes. The landscape character descriptions also used the objective information contained within formal ecological unit descriptions, as described in the Ecological Subregions of the United States (McNab and Avers 1994a,b). The Coconino landscape character descriptions are in a separate document from this report (USDA FS 2011c). A map of the landscape character zones used to write the descriptions can be found in Appendix A of this report.

Landscape Visibility and Concern Levels

Landscape visibility is composed of two parts: human values as they relate to the relative importance to the public of various scenes (concern levels) and the relative sensitivity of scenes based on distance from an observer (seen areas and distance zones).

As stated in the methodology section of this report, sites, travel ways, special places, and other areas were assigned a concern level value of 1 or 2 to reflect the relative high or medium concern for scenery. The concern for scenery has increased since the 1987 plan was adopted due to increased visitation and increased demand on the Forest for a wide variety human uses, including higher demand for diverse recreation activities and high quality scenic landscapes. One of the main attractions is the Forest's natural beauty and opportunities to experience nature (USDA FS 2010a). Scenery is an integral component of all the Forest's settings, contributing to all outdoor recreational experiences and to the quality of the users' experience. More travel ways and use areas were mapped as concern level 1 or 2 than were identified in the 1987 plan due to the

increased concern for scenery. A map of concern levels can be found in Appendix A of this report, displaying the concern level travel ways and use points identified for the Coconino NF.

As discussed in the methodology section of this report, seen areas and distance zones were mapped from concern levels to determine the relative sensitivity of scenes based on their distance from an observer.

The 1992 VQO GIS data layer included seen area mapping showing about 35 percent of the Forest was seen from concern level 1 routes, about one percent was seen from concern level 2 routes, and about 55 percent of the Forest was seldom seen. The SMS visibility analysis shows the increased scenic sensitivity of the Forest's landscapes with about 82 percent of the Forest seen from concern level 1, about 6 percent seen from concern level 2, and about 11 percent of the Forest as seldom seen. Table 3 displays the acres in each visibility, distance zone and concern level class; a map of the Forest's landscape visibility can be found in Appendix A of this report.

Table 3. Visibility, Distance Zones, and Concern Level Acres

Distance Zones/Concern Level	Acres	Percent of Forest
Foreground Level 1 (Fg1)	491,388	27
Middleground Level 1 (Mg1)	761,800	41
Background Level 1 (Bg1)	262,887	14
Seldom Seen Areas Level 1 (ss1)	31,663	2
Foreground Level 2 (Fg2)	60,203	3
Middleground Level 2 (Mg2)	44,153	2
Background Level 2 (Bg2)	23,271	1
Seldom Seen Areas Level 2 (ss2)	167,843	9

Note: The acres calculations only include National Forest System lands.

Scenic Attractiveness

Scenic attractiveness is the primary indicator of the intrinsic scenic beauty of a landscape and of the positive responses it evokes in people. Scenic attractiveness classes are developed to determine the relative scenic value of lands within a particular landscape character. It helps determine landscapes valued for scenic beauty, based on commonly held perceptions of the beauty of landform, rock form, vegetation pattern, composition, water characteristics, land use patterns, and cultural features. Scenic attractiveness indicates varying levels of long-term beauty of the landscape character, regardless of existing conditions. The three scenic attractiveness classes are: Class A-distinctive; Class B-typical; Class C-indistinctive. Full definitions for these classes can be found in the glossary of this report.

When the 1987 plan was adopted, variety class (a particular level of visual variety or diversity of landscape character) was inventoried as part of the visual management system (USDA FS 1974, 1987). The variety class inventory is replaced with the scenic attractiveness inventory in the scenery management system.

The 1992 VQO GIS data layer shows the Forest's variety class as follows: about 7 percent as class A (distinctive); about 75 percent as class B (typical or common); about 9 percent as class C (indistinctive); and about 8 percent with no variety class value. There is no documentation on why portions of the Forest do not have a variety class value on the VQO GIS data layer.

All Forest lands were assigned a scenic attractiveness class resulting in more lands (about 19 percent) being rated class A (distinctive) in the scenic attractiveness inventory. Some cultural features which contributed to the character of the landscape were rated class A, also adding to the increase. Fewer lands were rated class C (indistinctive), while lands rated as class B (typical) stayed about the same. It is typical for most lands in a National Forest to be rated as typical. The character and value of scenic attractiveness elements may vary through time, but the change is usually slow and not detectable for several planning cycles, unless strongly manipulated (USDA FS 1995, 1-16). Table 4 displays the acres in each scenic attractiveness class, and a map of the Forest's scenic attractiveness can be found in Appendix A of this report.

Table 4. Scenic Attractiveness Classes Acres

Class	Acres	Percent of Forest
A – Distinctive	360,398	19
B – Typical	1,397,861	76
C – Indistinctive	92,252	5

Note: The acres calculations only include National Forest System lands.

Scenic Classes

Scenic classes are a measure of the value of scenery in a national forest and used during forest planning to compare the value of scenery with the value of other resources, such as timber, wildlife, old growth, or minerals (USDA FS 1995, 4-15). They are a product of the inventory process used for analysis and forest planning purposes. Scenic classes are determined and mapped by combining the three classes of scenic attractiveness with the distance zone and concern levels of landscape visibility as outlined in the Scenic Class Matrix found in the SMS handbook (USDA FS 1995, 4-16)

Generally, scenic classes 1 and 2 have high public value, classes 3-5 have moderate value and classes 6 and 7 have low value (USDA FS 1995, 4-15). Approximately 88 percent of the Coconino NF has high public value, and 12 percent has moderate public value. No lands on the Coconino NF have low public value for scenery. Table 5 displays the acres in each scenic class, and a map of the Forest's scenic classes can be found in Appendix A of this report.

Table 5. Scenic Classes Acres

Scenic Class	Acres	Percent of Forest
1 - High Public Value	664,081	36
2 - High Public Value	955,472	52
3 - Moderate Public Value	187,606	10
4 - Moderate Public Value	22,491	1
5 - Moderate Public Value	13,838	1
6 - Low Public Value	0	0
7 - Low Public Value	0	0

Note: The acres calculations only include National Forest System lands

Existing Scenic Integrity

The landscape character description is used as a reference for determining existing scenic integrity. Existing scenic integrity (ESI) indicates the degree of intactness and wholeness of the landscape character. Conversely, ESI is a measure of the degree of visible disruption of the landscape character. Disruptions in the landscape character most often come from human alterations to the landscape, such as roads or vegetation management. Human alterations can sometimes raise or maintain integrity. More often scenic integrity is lowered depending on the degree of deviation from the valued landscape character. A landscape with very minimal visual disruption is considered to have high ESI. Those landscapes having increasingly discordant relationships among scenic attributes are viewed as having lower ESI. Existing scenic integrity is expressed and mapped in terms of very high, high, moderate, low, very low, and unacceptably low.

Following is a summary of the existing scenic integrity inventory. The SMS Inventory Report (USDA FS 2011d) provides the detailed process used to determine and rate existing scenic integrity for the Coconino NF.

The majority of the landscape, about 56 percent of the Forest, appears slightly altered due to the transportation system, recreation developments, special use permits, vegetation management, fuels reduction activities, livestock grazing and improvements, and other forest management activities and has an ESI of moderate. Moderate ESI was assigned to those lands not designated as very high, high, low or very low ESI.

Lands with very high ESI make up about 13 percent of the Forest. Specific land management designations, such as designated wilderness areas, were rated very high since they appear unaltered, expressing the highest possible level of intactness with a primitive and natural sense of place

Lands with high ESI make up about 24 percent of the Forest. Specific land designations, such as semi-primitive non-motorized ROS class or potential wilderness areas with medium or low capability, were determined to be natural-appearing; the landscape appears intact and deviations from the landscape character are not evident, giving these areas an ESI level of high.

About four percent of the Forest was rated as low ESI. Deviations in low ESI may dominate the valued landscape character but borrow from valued attributes such as shape, edge effect, and pattern of natural openings and result in a landscape which appears moderately altered. In general, the following areas were rated as low ESI: Arizona Snowbowl from an aerial view, Cinder Hills OHV area, some utility corridors, juniper push areas, high burn severity portions of both the Brins Fire and the Schultz Fire of 2010, and some insect and disease epidemic areas.

About three percent of the Forest was rated as very low. Alterations in these areas may strongly dominate the valued landscape character and borrow little from valued attributes, such as size, shape, edge effect and pattern of natural openings and vegetative type changes within or outside the landscape being viewed. Most utility corridors, gravel pits and other surface mining activities, communications sites, and vegetation management activities with unnatural-appearing shapes and edges and/or an extensive network of roads were assigned very low ESI.

The pumice mine pit located north of Flagstaff was rated as unacceptably low, being extremely altered due to very noticeable deviations in form, line, color and texture when viewing this activity. The mine has altered the landform with an unnaturally shaped pit and has exposed stark white soils against a dark green, conifer covered hillside. Landscapes at this level of integrity need rehabilitation.

For full definitions of the scenic integrity levels discussed above see the glossary of this report. Table 6 displays the acres in each ESI level, and a map of the Forest's existing scenic integrity can be found in Appendix A of this report.

Table 6. Existing Scenic Integrity Level Acres

Existing Scenic Integrity Level	Acres	Percent of Forest
Very High	237,623	13
High	450,210	24
Moderate	1,034,619	56
Low	75,355	4
Very Low	48,414	3
Unacceptably Low	341	0

Note: The acres calculations only include National Forest System lands.

Environmental Consequences and Cumulative Effects

The land management plan provides a programmatic framework that guides site-specific actions but does not authorize, fund, or carryout any project or activity. Because the land management plan does not authorize or mandate any site-specific projects or activities (including ground-disturbing actions), there can be no direct effects. However, there may be implications, or long-term environmental consequences, of managing the forests under this programmatic framework. Long-term and short-term would be defined in the project-level analysis based on the potential effects of the proposed activities.

This section of the report first describes the environmental consequences common to all alternatives, then describes the environmental consequences of each alternative in more detail including the proposed management direction of each alternative in regards to scenic resources.

Environmental Consequences Common to All Alternatives

There is potential to temporarily impact the existing landscape and scenic integrity from mechanical vegetation treatment activities under all alternatives. Vegetation management practices can directly affect scenery and the perception of scenic beauty (Ribe 1989). Activities including tree removal, depending on the intensity of the treatment, can have varying consequences on scenery. Mechanical treatments targeting aspen regeneration or other vegetative conditions could change the short-term character of the landscape in some local areas. Short-term effects to scenery from these types of activities include unnatural appearing slash piles, stumps, bare soil, and scars on remaining vegetation. Stumps, slash, and edge effects of newly treated areas, depending on the intensity of the treatment, can result in a forest that appears moderately altered in the short term. In the short term, reducing the amount of slash, woody debris, and visible stumps after vegetation treatment greatly reduces negative effects to scenic resources, as numerous studies have found that the public responds negatively to downed wood, slash, visible tree stumps, and other debris from vegetation management activities (Daniel and Boster 1976, Ribe 1989, Ryan 2005). Project design and/or mitigation would consider scenic resources under any alternative so that vegetation would appear natural, in the short term to the extent possible but particularly in the long term.

The cutting of understory vegetation component, which may occur in fuels reduction activities, typically opens up forested stands to a more park-like vegetative mosaic and provide more visual access into forested stands, a preferred scenic setting in some landscapes. In many instances, variety, texture, and color are actually enhanced along with the primary goal of improving wildlife and/or vegetative conditions. If properly mitigated for scenery, vegetation treatments may provide visual access into the forest and promote large tree growth and a smooth herbaceous ground cover. Depending on the location and vegetation types, such features may be part of the desired conditions of a particular landscape character. Treatments promoting aspen or maple growth would increase variety and scenic attractiveness, especially during fall color changes in the long term. The proposed management direction addressing vegetation management activities in Alternative A differs from Alternatives B, C, and D. These differences in regards to scenery are discussed further in the environmental consequences for each alternative.

Prescribed fire activities would occur under all alternatives. All burning activities would be evident in the short term with burned, blackened vegetation, and charred ground surfaces. Grasses and shrubs typically resprout within one to two growing seasons after the burn, depending on when burning occurs and moisture conditions during the growing season. Burning control lines may be evident along concern level 1 and 2 travel routes, but are usually softened by the burning activities. In the long term, prescribed burning usually increases the diversity of texture, color, vegetative size classes, and distribution across the landscape. In the short and long terms, prescribed burning often creates a smooth, herbaceous ground cover, a preferred scenic setting in some landscapes. Less severe natural disturbances, such as low burn severity areas where understory burns but most mature trees are not killed, result in preferred forests over time (Taylor and Daniel 1984). Under the visual management system (Alternative A), any human caused change, including prescribed fire, would be considered negative if not properly mitigated. The scenery management system (Alternatives B, C, and D) would consider whether the effects of

prescribed fire move scenery toward the desired landscape character and whether those effects are part of the valued landscape character for the area.

Indirect effects resulting from some methods used to fight wildfire have the potential for long-term visual impacts. Fuel-breaks created with heavy equipment often leave lasting scars on the landscape. In wilderness and roadless areas, fire suppression techniques are typically more restrictive than in general forest areas. The more restrictive methods reduce permanent scarring such as those created by heavy equipment. Therefore, it is anticipated that potential negative indirect effects associated with wildfire suppression would be less if the amount of recommended wilderness or inventoried roadless area increases in an alternative. Alternative C proposes the greatest area for recommended wilderness, while Alternatives A and D propose the least. Smoke from prescribed fire activities may affect the ability to view an area or see clearly in the short term; however, unless the air quality deteriorates to the point that vegetation dies at visually apparent levels, no lasting effects to scenery are anticipated. Any effect would be similar for each of the alternatives.

Livestock grazing would continue under all alternatives. Livestock grazing and range facilities, such as fences and watering tanks, may be evident in the landscape. These facilities are typically small and localized, and when properly located, have minimal effects on scenic quality of the landscape. Livestock watering areas with extensive trailing may begin to dominate the landscape on a small scale when viewed. Use is balanced with capacity and allotment management plans that require permittees to move their livestock so they do not concentrate in sensitive areas. Although there could be an effect from seasonal use of bedding areas and heavy utilization of forage, the potential for change to the existing scenery is minimal in all alternatives.

Lands special use activities, such as utility and energy corridors, road use, communication sites, cell towers, and wind energy developments would continue in all alternatives. In the short term, active construction, vegetative clearing and other ground-disturbing activities can dominate the landscape. Utility and energy transmission corridors, along with communication sites, are generally long-term commitments of National Forest System lands. Increased demand is expected for additional utility lines, renewable energy sources, and state and federal public transportation systems to serve the growing populations of Arizona and the Southwest. In the long term, operations and maintenance of permanent structures are usually greatest when these developments occur in very high or high scenic integrity areas, where operations or structures do not borrow from the form, line, color, or texture found in the characteristic landscape, such as straight, dominant edges of utility corridors. Structures with strong vertical elements may especially dominate the characteristic landscape being viewed. Project mitigation/design would consider scenic resources under any alternative. The proposed management direction addressing lands special use activities in Alternative A differs from Alternatives B, C, and D. These differences in regards to scenery are discussed further in the environmental consequences for each alternative.

Land adjustments would continue in all alternatives. Land adjustments are typically beneficial for scenic resources since they help managing scenic resources more consistently across the landscape. All alternatives have guidelines emphasizing land adjustments to acquire open space, but Alternative B, C, and D include specific desired conditions related to naturally appearing scenery and considering areas contributing to very high or high scenic integrity for acquisition.

Low levels of mineral development and potential for geothermal development would continue in all alternatives. Mineral developments can dominate the form, line, color, and texture of the characteristic landscape by exposing soils, removing vegetation, or altering natural landforms in the short and long terms. All alternatives include standards or guidelines to identify withdrawal areas or areas of no surface occupancy. Alternative A includes management direction for no surface occupancy in foreground retention VQO and to locate mineral sources to be consistent with the VQO of the area. Alternatives B, C, and D include desired conditions to protect visually sensitive areas through surface occupancy restrictions, mitigation measures, and operating plan requirements. These alternatives also include guidelines to consider very high scenic integrity areas for no surface occupancy or no leasing. The management direction in all alternatives provides for considering scenic resources in the project design and/or mitigation of energy or mineral development in all alternatives.

Roads related activities, such as road maintenance or decommissioning, would continue under all action alternatives. Road reshaping and new road surfacing would be evident due to the fresh, lighter colored soils which would be added or exposed. Decommissioning of roads exposes light colored soils in the short term which could create noticeable color contrasts in foreground views of the concern level travel routes and use areas. In the short term, these areas visually recover quickly as the area revegetates. In the long term, road decommissioning is typically beneficial to scenery resources by recontouring slopes to mimic natural landforms and rehabilitating and revegetating exposed soils typically noticeable on cut and fill slopes created during road construction.

Outdoor recreation activities, both developed and dispersed, would continue in all alternatives. Developments for recreation activities are evident, such as roads, trails, and campground and trailhead facilities. When facilities are properly located and designed to blend with the surrounding landscape, they have minimal effects to scenery. Additionally, recreation activities have formed the current recreation opportunities and settings and form the viewing platform and opportunities for viewing scenery. All alternatives include desired conditions to not diminish aesthetic values of cave resources.

The anticipated effects of climate change on scenic resources would be the same in all alternatives. No direct effects to scenic resources are expected during the life of the plan. In the long term, beyond the life of the plan, climate change may affect forest and grassland ecosystems, and how people relate to them (USDA FS 2010b). Over time, the boundaries of the identified landscape character zones may shift due to changes in vegetation types. If climate change causes changes in the natural environment, an increased value may be placed on natural forested landscapes for recreation (USDA FS 2010b, 25-26), which in turn is likely in increase demand for high scenic integrity landscapes and a higher concern for scenic resources.

Environmental Consequences of Alternative A. 1987 Plan

When the 1987 plan was adopted, scenic resources were inventoried and analyzed using the visual management system as outlined in Forest Service Handbook 462 (USDA FS 1974). This system, which was released in 1974, established standards of measurement (i.e., visual quality objectives) for assessing proposed and existing impact to scenic quality.

Under Alternative A, scenic resources would continue to use visual quality objectives, developed from the 1987 visual management system inventories, to manage scenic resources. Visual quality

objectives of preservation, retention, partial retention, modification, and maximum modification are allocated to National Forest System lands in the 1987 plan.

1987 Plan Visual Resource Planning and Inventory forestwide standards and guidelines include, but are not limited to, the following:

> "Revise and update the visual resource inventory during the first decade. Inventory the visual absorption capacity and the existing visual quality level of the Forest in the first decade. Projects are planned to meet or exceed visual quality objectives (VQO).
>
> Review the VQO inventory as a part of project planning and make necessary corrections/refinements following field checking. Use VQO inventory to analyze impacts to VQO classes due to management activities such as timber sales, range projects, and firewood sales. Use the current Forest Visual Resource Management Inventory that lists VQO Forest-wide in conjunction with Forest Plan MA Map and descriptions to plan projects. Acceptable Forest-wide variation is + 15 percent in each VQO class and relates to the changes from the updated inventory, except no change is allowed in Preservation…[VQOs and percent of Net Forest Acres shown in Table 7]…
>
> Allow only one classification movement downward unless a larger movement is justified after doing an environmental analysis for emergency situations such as removal of fire damaged timber or I&DC control needs..." (USDA FS 1987, 60).

The corporate VQO GIS data layer was updated in 1992 resulting in the VQO allocations summarized in Table 7.

Table 7. Visual quality objectives allocated in the 1987 Plan

Visual Quality Objective	Acres	Percent of Forest	Percent of Forest (USDA FS 1987, 60)
Preservation	156,491	8	8
Retention	246,285	13	13
Partial Retention	453,914	24	11
Modification	930,661	50	68
Maximum Modification	65,735	4	

Note: The acres calculations only include National Forest System lands. These acres calculations are based on the corporate VQO GIS data layer dated 1992.

The last documented full update of the corporate VQO data layer occurred about 19 years ago, resulting in an increase in partial retention VQO and decrease in modification and maximum modification VQO. The guideline which allows for one VQO classification movement downward has been applied on numerous projects during the life of the 1987 plan, with updates to the corporate VQO data layer being inconsistent. Since any site specific project may move the VQO classification downward without a forest plan amendment, the corporate VQO data layer is likely not accurate and the scenic resources of the Forest are at risk to decline and move away rather than toward the desired condition for scenery. The percentage of retention and partial retention VQO is likely lower than what currently shows in the corporate VQO data layer and

may continue to decrease due to the guideline allowing one VQO classification movement downward.

Under the visual management system, any human alterations, which are not part of the characteristic landscape, would be considered negative, even positive cultural features. Most human alterations, even when planned to improve ecosystem processes, would also be considered negative. The established duration of impact for VQOs in the visual management system handbook would be beneficial for enhancing or maintaining high scenic quality in retention and partial retention VQO areas. However, this is offset by the forest plan guideline which allows for one VQO classification movement downward. By allowing for one VQO classification downward, scenery may be managed at a lower level than what is desired. This guideline especially puts scenery in retention and partial retention VQO areas at risk with evidence of activities being more evident or dominant in the landscape that what the desired condition would allow.

An indicator for this analysis is the acres of the Coconino NF managed for natural-appearing scenery. Managing for preservation, retention and partial retention VQOs would generally result in a natural-appearing landscape. Under Alternative A, about 46 percent of the Forest would be managed for natural-appearing scenery. This amount would be lower if the VQO classification is moved downward by one classification during any site specific project planning.

As the 1987 Plan has been amended, some aspects and terminology of the scenery management system have been incorporated. However, this has been inconsistent and not been based on the full spectrum of scenery management system inventories. Areas under Amendments 12 and 17 have management direction recognizing positive cultural attributes for their inherent scenic value and other management direction focusing on sustaining ecological processes. The terminology used for scenery in these amendments is from the scenery management system, but the scenery management system inventory process for these areas was not completed and scenic integrity objectives were not established, rather visual quality objectives are still used to manage scenery in the amendment areas.

Alternative A would not use best available science, the scenery management system, to manage scenic resources in the context of ecosystem management to sustain scenic resources in the long term. Forestwide direction for scenery does not focus on moving the landscape toward the desired condition for scenic resources. Alternative A also does not established landscape character goals to guide management of scenic resources.

Other Management Direction – Alternative A

This section discusses how the management direction in the 1987 plan relates to activities discussed in the environmental consequences common to all alternatives section. Most forestwide visual resource management direction is located under outdoor recreation in Alternative A.

For vegetation activities, the 1987 plan includes specific standards and guidelines for designing openings and timber stand management to be consistent with the characteristic landscape or to meet VQOs in the following management areas: pinyon-juniper woodlands on less than 40% slope; ponderosa pine and mixed conifer on less than 40% slope; aspen. This management direction would ensure that openings blend with the characteristic landscape to meet VQOs.

Alternative A proposes the least area for recommended wilderness, resulting in the most potential negative indirect effects associated with wildfire suppression as discussed in the environmental consequences common to all alternatives section.

For lands special uses, Alternative A includes a forestwide guideline to use existing corridors to capacity with compatible utilities where additions are visually acceptable before evaluating new routes. Alternative A does not include management direction for transportation specifically mentioning scenic resources. The Alternative A management direction specific to scenery for these activities would rely more on forestwide direction to meet desired conditions (VQOs), but these activities on a site specific basis may have a VQO one classification lower than what is desired due to the forestwide guideline allowing this movement downward. Alternative A includes some goals, objectives, and guidelines for blending infrastructure, facilities, and recreation developments specific to Amendment 12 and 17 areas, but not forestwide. Outside of the Amendment 12 and 17 areas, these activities on a site specific basis may have a VQO one classification lower than the established VQO, due to the forestwide guideline allowing this movement downward.

Environmental Consequences of Alternative B.

During the development of the proposed revised Plan, a full inventory of scenic resources was conducted using the scenery management system as outlined in the SMS Handbook (USDA FS 1995). As part of the interdisciplinary revision process, landscape character goals (desired landscape character) and proposed scenic integrity objectives were developed from the scenery management system inventories. It is part of the proposed revised Plan to fully implement the scenery management system including goals, objectives, standards and guidelines to managed scenic resources in the context of ecosystem management.

Alternative B uses best available science, the scenery management system, to manage scenic resources. The scenery management system measures deviations from the existing landscape character, and ecosystems provide the environmental context for the scenery management system. With ecosystems providing the context, no specific duration of scenic impacts are assigned to a scenic integrity objective, but rather the focus is on movement toward the desired landscape character (USDA FS 1995, 20). Although specific timeframes are not assigned in the SMS Handbook, duration of impacts are always considered in site specific project planning and analysis with the direct intent to provide high quality scenery and achieve the highest scenic integrity possible (USDA FS 1995, 5-9).

The proposed revised Plan also establishes desired landscape character or landscape character goals for most management areas to guide management of scenic resources. Scenic integrity objectives have been proposed for every acre of National Forest System lands and vary from very high to low (Table 8).

An indicator for this analysis is the acres of the Coconino NF managed for natural-appearing scenery. The importance of managing for natural-appearing scenery is discussed in detail in the methodology section of this report. Managing for very high, high, and moderate SIOs would generally result in a natural-appearing landscape. Under the proposed revised Plan, about 99 percent of the Forest would be managed for natural-appearing scenery. Any proposed activities, such as vegetation management or lands special uses, may need project design upfront or mitigation during site specific project planning to reduce an activity’s form, line, color, or texture

contrasts with the existing landscape character or be designed in such a way that the project is moving the scenery toward the desired landscape character.

Table 8. Proposed scenic integrity objectives

Scenic Integrity Objective	Acres	Percent of Forest
Very High	222,256	12
High	872,615	47
Moderate	733,059	40
Low	9,567	1
Very Low	0	0

Note: The acres calculations only include National Forest System lands.

Scenery Rehabilitation

The proposed revised Plan includes the following objective: "Rehabilitate at least 25,000 acres that do not meet or exceed their desired Scenic Integrity Objective (SIO) by at least one level within 15 years of plan approval (see Scenery Rehabilitation Map)." In the context of scenery management, rehabilitation is a short-term management goal used to return a landscape with existing visual impacts and deviations to a desired level of scenic quality formerly found in the natural landscape.

Most of the Forest (about 71 percent) currently meets or exceeds the desired condition for scenery. About 25 percent of the Forest would need scenic rehabilitation by one level to meet the desired condition for scenery. Table 9 shows the acres exceeding and meeting desired conditions for scenery and those acres identified for rehabilitation.

Table 9. Scenery rehabilitation acres

Summary	Acres	Percent of Forest
Exceeds SIO (desired condition)	65,337	4%
Meets SIO (desired condition)	1,236,516	67%
Rehabilitate (1 level to meet SIO)	468,720	25%
Rehabilitate (2 levels to meet SIO)	70,608	4%
Rehabilitate (3 or more levels to meet SIO)	5,382	< 1%

Note: The acres calculations only include National Forest System lands.

The proposed objective for scenery would move the landscape toward the desired condition for scenic integrity by providing direction to rehabilitate areas not currently meeting proposed SIOs. Management activities identified to rehabilitate scenery are anticipated to be able to improve scenic integrity by one level on a site specific basis during the life of the plan. In areas identified for rehabilitation, existing visual impacts may be managed through site specific projects, such as vegetation treatments, fuels reduction, prescribed fire, etc., to improve the scenic integrity in the long term. Any of the areas identified for rehabilitation, if improved by one SIO, would meet the

objective. Areas identified to be rehabilitated by two or more levels may not realize the overall desired scenic integrity for several planning cycles. The scenery rehabilitation map can be found in Appendix A of this report.

Management Direction of Alternative B

Alternative B includes forestwide desired conditions, objectives, and guidelines for scenic resources, desired landscape character sections for most management areas, and specific guidelines throughout the planning document to conserve or enhance scenic values of the Forest. Key scenery management direction, including goals and guidelines, from the 1987 plan amendments Sedona-Oak Creek Ecosystem (Amendment 12) and the Flagstaff/Lake Mary Ecosystem Analysis (Amendment 17) are also included in Alternative B. Scenery goals and guidelines similar to those in Amendments 12 and 17 may be in different management areas than Alternative A, but the intent is still found for the affected areas. For example, the Volcanic Woodlands Management Area includes desired conditions found in Amendment 17, and forestwide guidelines for scenery in Alternative B provide for natural-appearing scenery which would be applicable to all management areas. Providing for natural and natural-appearing scenery was a main focus of Amendment 12, and the proposed very high, high, and moderate SIOs for this area continue to provide that focus.

A forestwide guideline for scenery states that “management activities that are inconsistent with the scenic integrity objective and whose effects last more than five years should not occur unless a decision is made to change the scenic integrity objective”. This guideline allows an area to deviate from the allocated scenic integrity objective for up to five years, but also ensures that effects lasting longer than five years and changing the scenic integrity objective would be documented as such. Guidance would ensure that any decisions to change the scenic integrity objective would be documented in a project-level NEPA decision and in the plan desired scenic integrity objective map. Any changes to the desired conditions for scenery properly documented through this guidance would help monitor changes to scenery in the life of the plan.

The remainder of this section discusses how the management direction of Alterative B relates to activities discussed in the environmental consequences common to all alternatives section.

For vegetation treatments, it is part of the desired condition of all scenic resources of Alternative B to reduce the visibility of management-created debris such as slash and slash piles from concern level 1 travel routes. Guidelines are also proposed in Alternative B to reduce the visibility of stumps and minimize their impacts from concern level 1 travel routes. These guidelines, along with the proposed SIOs, would manage for natural-appearing scenery and reduce negative effects of vegetation management activities to scenery viewed in concern level 1 travel corridors.

In regards to fire management, Alternative B would allow fire to play a more natural role on the landscape. It is expected that effects of fire discussed in the effects common to all alternatives section would be evident across the Forest, particularly in fire adapted ecosystems such as ponderosa pine under this alternative. By implementing the scenery management system in Alternative B, the effects of fire, burning in the natural disturbance regime of fire adapted ecosystems, would be part of the desired condition of the landscape character. Typically, when fire burns with low intensity and severity or in a mosaic pattern, the valued landscape character attributes would be intact or mostly intact. However, large scale disturbances, such as when fire results in mortality across scales outside the historic range of variability, tend to change the

landscape character of an area by altering the physical appearance of the landscape that contributed to the area's identity and sense of place. "In general, natural forest disturbances that result in extensive areas of dead or dying trees (Haider and Hunt 2002, Ribe 1990) such as the destruction of the forest by fire or flooding are perceived negatively (Daniel 2001; Fanariotu and Skuras 2004; Gobster 1994, 1995)" (cited in Ryan 2005, 17). However, it should be noted that disturbances with high mortality, depending on vegetation types and ecosystem processes, may be part of the historic range of variability and natural disturbance regime (i.e., chaparral).

A proposed scenery guideline recognizes that effects of fire (burned ground surfaces and blackened vegetation) would be noticeable, but evidence of fire activities (control lines) should be dominant for no more than three years after burning in areas of high SIO and five years in moderate SIO. This guidance would help manage scenic resources in an ecosystem context, recognizing that some activities have effects which are common to the landscape character and help sustain scenic resources in the long term, but also ensure the proposed SIOs are met within five years.

For lands special use activities, Alternative B provides desired conditions and guidelines for meeting scenic goals and proposed SIOs in the long-term, including that corridors provide an aesthetic edge effect. A guideline in Alternative B also states that powerlines in moderate SIO should not be widened. These desired conditions and guidelines would manage for natural-appearing scenery and would help in meeting proposed SIOs for any future site-specific projects.

For roads related activities, Alternative B includes a forestwide guideline identifying very high or high scenic integrity areas as a factor for prioritizing the naturalization of decommissioned and unauthorized roads, which would move the landscape toward the desired SIOs in these areas. A guideline for all scenic resources includes direction for wildlife needed structures such as highway overpasses. The desired condition for all scenic resources also recognizes that some viewing platforms such as roads and parking areas often create more contrast than would be acceptable in areas designed for high and moderate SIOs and goes on to describe expectations of such structures. These desired conditions and guidelines would manage for natural-appearing scenery, while recognizing the need for viewing platforms and their improvements for access, safety, and scenery viewing opportunities.

Alternative B includes forestwide guidelines for infrastructure and facilities to ensure that the built features on the landscape use consistent design principles to reflect their place within the natural and cultural landscape and use natural colors, so that infrastructure and facilities would borrow from the form, line, color, and texture of the landscape character This guidance would help meet desired landscape character and SIOs in the long term for these types of activities.

Under Alternative B, the Sedona-Oak Creek management area is mostly managed for very high and high SIOs to maintain and enhance the natural and natural-appearing scenery of the area. The proposed SIOs, along with the scenery related desired conditions and guidelines would be in line with the intent of the potential National Scenic Area designation for this area.

Environmental Consequences of Alternative C.

Alternative C would also fully implement the scenery management system to manage scenic resources. Proposed SIOs in this alternative does not differ from those proposed in Alternative B. The goals, objectives, standards and guidelines to managed scenic resources would be same as

Alternative B. The consequences for Alternative C would be the same as Alternative B except for the following:

Alternative C has some differences from Alternative B which may indirectly affect scenic resources in that Alternative C: recommends 13 new wilderness areas; designates 8 additional Management Areas for wildlife habitat; and restricts grazing in Research Natural Areas unless grazing supports or would not affect the research purpose of that Research Natural Area.

The recommendation and designation of the mentioned areas would have positive indirect effects on scenic resources. Managing recommended wilderness areas for more primitive or pristine ROS settings and the management direction for wildlife habitat areas would improve the scenic integrity and result in more natural scenic conditions. Desired conditions to promote, restore, and maintain aspen and bigtooth maple in wildlife areas would provide for more distinctive scenic attractiveness in these areas. In the long term, the scenic integrity would achieve very high scenic integrity in recommended wilderness areas. In some cases, in the long term, the existing scenic integrity would exceed the proposed SIOs. Alternative C proposes the most area for recommended wilderness, resulting in the least potential negative indirect effects associated with wildfire suppression as discussed in the environmental consequences common to all alternatives section.

The restriction of grazing in Research Natural Areas would improve the scenic integrity in these areas in the short and long terms. Other differences between Alternatives B and C, including suitable uses regarding recreation, are not expected to affect scenic resources in those areas.

Environmental Consequences of Alternative D.

Alternative D would also fully implement the scenery management system to manage scenic resources. Scenic integrity objectives proposed in this alternative differ slightly from those proposed in the proposed revised Plan. A map of the proposed SIOs for Alternative D can be found in Appendix A of this report. The goals, objectives, standards and guidelines to managed scenic resources would be same as Alternative B with one additional guideline affecting scenery proposed in Alternative D.

Alternative D proposes about 2,348 acres of low SIO between Sycamore and Red Rock Secret Mountain Wilderness and along State Highway 87. See Table 10 for acres in each proposed SIO for Alternative D. The power line corridor between Sycamore and Red Rock Secret Mountain Wilderness is proposed as low SIO instead of moderate SIO, and an energy corridor along State Highway 87 is proposed as low SIO instead of moderate or high SIO. In these low SIOs areas, views from Sycamore and Red Rock Secret Mountain Wilderness and State Highway 87 would be managed for scenery which appears moderately altered and have human alterations which may dominate the landscape being viewed. When compared to high or moderate SIOs, less project mitigation would occur in low SIOs to borrow from the form, line, color, or texture found in the landscape character. The alternations in these areas may have features such as straight, dominant edges of utility corridors which may dominate the characteristic landscape being viewed.

The goals, objectives, standards and guidelines to manage scenic resources would be same as Alternative B with one additional guideline affecting scenery proposed in Alternative D. The additional proposed guideline would provide for more natural and natural-appearing scenery in the West Clear Creek Wilderness and the Verde and Fossil Creek Wild and Scenic Rivers by

rerouting power lines or expanding capacity for existing power line corridors to avoid or lessen scenic impacts in these areas. The environmental consequences of utility or energy transmission corridors are discussed in the environmental consequences common to all alternatives section. Power line projects which avoid scenic impacts in these areas would affect scenery elsewhere by changing SIOs to moderate or low without a site specific plan amendment for scenery. The guideline would also ensure that any changes in SIOs for these projects would be made to the Forest Plan SIO Map. The overall impact of this guideline would be more natural and natural-appearing scenery around West Clear Creek Wilderness and the Verde and Fossil Creek Wild and Scenic Rivers and more altered scenery elsewhere on the Forest. Project mitigation/design would be applied to these projects to meet moderate or low SIO providing for slightly or moderately altered scenery.

These changes to proposed SIOs would affect the identified rehabilitation for scenery. Proposed SIO changes would affect about 1,600 acres between Sycamore and Red Rock Secret Mountain Wilderness. This corridor would be identified for rehabilitation by one level. The corridor along State Highway 87 (about 900 acres) currently exceeds the proposed low SIO.

Alternative D proposes the least area for recommended wilderness, resulting in the most potential negative indirect effects associated with wildfire suppression as discussed in the environmental consequences common to all alternatives section. Any other differences between Alternative B and D are not expected to affect scenic resources. Other than the differences discussed in this section, the environmental consequences for Alternative D would be the same as Alternative B.

Cumulative Effects for all Alternatives

The cumulative effects analysis area for scenic resources is the Coconino NF and the lands adjacent to and within the Coconino NF under other ownership. Cumulative consequences are those consequences of past, present, and foreseeable activities on non-federal lands that, in conjunction with management activities likely to occur on the Forest, may intensify, negate, improve or otherwise affect scenic resources. Below are considerations of consequences of activities that will likely occur on adjacent or nearby ownerships to the Forest. The Forest shares borders with the Apache-Sitgreaves, Kaibab, Prescott, and Tonto National Forests, private land, and lands administered by the State of Arizona and the National Park Service. It is within a couple miles of the Navajo Nation.

Any guiding documents or plans for lands in and around the Forest were reviewed to determine if they would contribute to cumulative consequences. If lands have some management direction (goals, objectives, guiding principles, etc.) for scenic resources or natural character, it is assumed that scenic resources would be considered in any future project planning.

The Apache-Sitgreaves, Kaibab, and Prescott National Forests are in the process of revising their forest plans. The plan revisions of these forests would implement the scenery management system. The Tonto National Forest manages scenic resources using VQOs. Consistent management of scenic resources would be beneficial to scenery in the long-term, especially when scenery objectives (SIOs or VQOs) are edge-matched across forest boundaries.

The Apache-Sitgreaves National Forest is evaluating Leonard Canyon on the Coconino and Sitgreaves National Forests as a potential wilderness area. The area was not burned in the recent Wallow Fire, and it is therefore assumed that this area may be part of an alternative in their Draft

EIS. If the Apache-Sitgreaves National Forest chooses to recommend the Leonard Canyon Potential Wilderness Area for Congressional Designation, the Coconino would need to manage the area to preserve its wilderness character. In order to preserve the wilderness character, the area would most likely be managed with a Very High SIO. This would be more restrictive than any of the alternatives considered by the Coconino National Forest in terms of managing for natural landscape character.

A comprehensive river management plan (CRMP) is currently being developed for the Fossil Creek Wild and Scenic River that would protect and enhance if possible, the free-flow condition, the water quality, and the outstandingly remarkable values, and allow other uses that do not substantially interfere with public use and enjoyment of the river's values. The proposed action for the CRMP includes desired conditions for natural-appearing scenery and promoting a unique sense of place and rustic appearance. Another desired condition is that communication sites and utilities are not visible from concentrated recreation areas and trails within the corridor. The CRMP would amend the forest plan under any alternative with the management direction. This direction would be consistent with managing for high quality scenery in any alternative.

The Federal Highways Administration and Arizona Department of Transportation do not specifically manage for scenic resources. The travel routes they main manage provide major access for recreation activities and opportunities for viewing scenery. When Federal Highways Administration or Arizona Department of Transportation projects, within or adjacent to the Coconino NF, are coordinated with Forest staff, mitigation for scenery may be incorporated to reduce effects to scenic resources from activities such as road construction or reconstruction.

Arizona State Land Department manages State Trust Lands to optimize economic benefit for the Trust beneficiaries (including K-12 schools, universities, and public institutions). While these lands permit public access, they are not managed like other public lands such as national forests or parks. As these lands are managed, leased, or auctioned, scenic resources may or may not be considered in that action.

Walnut Canyon, Sunset Crater, and Wupatki National Monuments include outstanding scenic resources within and adjacent to the Coconino NF. Management Plans include management direction to preserve, protect, and maintain geological formations, ancient or historic features, and cultural and natural resources for scientific interests and research, and for public interest, including scenic, recreational, educational, social, and historic pursuits. The Navajo Nation Parks and Recreation has a vision including "Lands characterized by vast open spaces will preserve sacred areas, natural landscapes and abundant scenery." (Navajo Nation Parks and Recreation 2011). With emphasis on preserving, protecting, and maintaining natural resources, including scenic pursuits, it is anticipated that any cumulative consequences which promote natural or natural-appearing scenery.

The designation of the Rogers Lake County Natural Area in Coconino County includes management and protection efforts to ensure conservation of striking scenic vistas. Coconino Parks and Open Space Program is anticipated to benefit scenery in the cumulative consequences analysis area in the long-term.

The Flagstaff Regional Plan is a development and preservation guide for the City and its surrounding region. The regional plan is anticipated to be formally adopted by the Coconino County Board of Supervisors and Flagstaff City Council before being ratified by the voters in

2012. Although the regional plan may not specifically mention scenic resources, it includes guiding principles to preserve unique sense of place and concepts to ensure that growth occurs in harmony with its natural environment. Yavapai County Comprehensive Plan and Verde Valley Regional Land Use Plan both include objectives to practice scenic conservation and protect scenic views. The Beaver Creek Community plan includes goals and objectives to monitor the protection of scenic views and explore the possibilities of designating scenic roads. Such goals, objectives, or concepts would have beneficial cumulative consequences which promote natural-appearing scenery with fewer noticeable differences across boundaries.

Since most private lands do not have regulations for scenic resource management, the effects of ongoing private developments next to National Forest System lands can sometimes have negative effects on scenic resources when viewing the continuous landscape. Forest visitors often view scenery as a continuous landscape with little discernment regarding the land ownership being viewed. Sometimes management activities occurring on ownership boundaries can be quite noticeable if the change in form, line, color, or texture of the activity follows ownership boundaries rather than a natural landscape feature. If activities on private lands are designed to lessen impacts to scenic resources, the difference between private lands and Forest lands are less apparent. The regional, county, and community plans inclusion of scenic or aesthetic resources or open space character helps promote the management and value of scenic resources across ownership boundaries in the cumulative consequences analysis area.

Other actions considered for cumulative effects are travel management planning and the Four Forest Restoration Initiative. Prohibiting cross-country motorized travel and designating motorized routes in travel management results in more natural-appearing landscapes in the long term, since unauthorized cross-country routes no longer develop and unauthorized routes, when not designated, are rehabilitated either naturally for through decommissioning activities. The Four Forest Restoration Initiative (4-FRI) is a collaborative, landscape-scale initiative designed to restore fire-adapted ecosystems in the Southwestern Region. Treatments to restore fire-adapted ecosystems vary and include increased use of prescribed fire and vegetation management treatments.

Cumulative Effects – Alternative A

In Alternative A, the visual quality objectives of the 1987 plan would not manage scenic resources consistently with the Apache-Sitgreaves, Kaibab, and Prescott National Forests once their plans are adopted, but would be consistent with the Tonto National Forest visual resource management as that forest has not yet begun its plan revision process, and as a consequence is still using VMS as prescribed in its existing forest plan.

While the 4-FRI project is currently being proposed under the current plan, it is expected to include amendments to the Forest Plan that would result in differences if the project were implemented under Alternative A (w/o further amendments). The visual management system does not manage scenic resources in the context of ecosystem management. Concepts of the scenery management system would likely need to be used in project planning and may involve amendments to the Forest Plan for scenery. Less evidence of fire would be evident on the landscape when implementing 4-FRI under Alternative A.

Under Alternative A, the visual quality objectives of the 1987 plan may not manage scenic resources consistently with other land managers or owners. Certain parts of the 1987 plan, such

as Amendments 12 and 17, encourage cooperation among community, landowners, other land management agencies, and local governments to maintain natural and natural-appearing scenery, scenic conditions which may not always be in agreement with those VQOs delineated in Alternative A. Overall, cumulative consequences of Alternative A result in the potential for discrepancies across ownership boundaries in how scenic resources are managed for natural-appearing scenery. These discrepancies are anticipated since Alternative A manages scenery with VQOs, while the adjacent forests mentioned above would manage scenery under the scenery management system.

Cumulative Effects – Alternatives B, C, and D

Alternatives B, C, and D would manage scenic resources more consistently across national forest boundaries since the scenery management system would be implemented. Adjacent forest proposed SIOs were reviewed to ensure as much consistency as possible in allocating Coconino NF proposed SIOs. Some inconsistencies across the Coconino and Tonto NF boundaries may occur under Alternatives B, C, and D. This would most affect joint management of the Fossil Creek Wild and Scenic River corridor until the Fossil Creek CRMP amends both forest plans.

For Alternatives B, C, and D, 4-FRI would contribute to meeting proposed plan objectives. The implementation of 4-FRI projects under Alternatives B, C, and D would result in the evidence of fire being more evident across the landscape in ponderosa pine vegetation types. It is anticipated the implementation of 4-FRI would move the landscape toward the desired landscape character for the ponderosa pine types.

Management Approaches in Alternatives B, C, and D provide for cooperation with other landowners or land managers to manage scenic resources. It is anticipated that Alternatives B, C, and D would more consistently manage scenic resources with other land managers or owners since the scenery management system would be implemented. The cumulative consequences of Alternatives B, C, and D with the known management plans, land use plans, or guiding principles discussed above, result in more consistency across ownership boundaries in how scenic resources are considered and managed for natural and natural-appearing scenery. More consistency is anticipated through the management approaches in Alternatives B, C, and D and the implementation of the scenery management system along with the adjacent forests mentioned above.

Comparison of Alternatives

All alternatives provide goals and guidelines to manage scenic resources. The main difference between alternatives is the management system used (visual management system vs. scenery management system) and whether that system manages scenic resources in the context of ecosystem management. Alternative A manages scenic resources using visual quality objectives, developed from the 1987 visual management system inventories. Visual quality objectives range from preservation to maximum modification. Alternatives B, C, and D use best available science, the scenery management system, to manage scenic resources in the context of ecosystem management. Scenic integrity objectives proposed for every acre of National Forest System lands vary from very high to low. The proposed scenic integrity objectives focus on movement toward the desired landscape character and provide more emphasis on providing for natural-appearing scenery than the visual quality objectives established in the 1987 plan. See Table 10 for a comparison of scenic integrity objectives and visual quality objectives across alternatives.

Table 10. Comparison of Alternatives: scenic integrity objectives and visual quality objectives.

Scenic Integrity Objective	Visual Quality Objective	Alt A	Alt B	Alt C	Alt D
Very High	Preservation	156,491	222,256		222,256
High	Retention	246,285	872,615		872,252
Moderate	Partial Retention	453,914	733,059		731,081
Low	Modification	930,661	9,567		11,916
Very Low	Maximum Modification	65,735	0		0

Other differences among alternatives are the establishment of landscape character goals (desired landscape character) and objectives and guidelines for managing scenic resources. Alternative A does not have landscape character goals or objectives for scenery. Alternatives B, C, and D establish desired landscape character for most management areas and an objective to rehabilitate scenery in guiding the management of scenic resources. Alternative A provides some forestwide standards and guidelines for scenic resources in regards to some management activities. Alternative A also provides detailed standards and guidelines for some management areas, particularly those management areas associated with Amendments 12 and 17. Alternatives B, C, and D have more extensive and detailed forestwide guidelines for scenery than Alternative A and also incorporate the key direction from Amendments 12 and 17.

Alternative A manages about 46 percent of the forest for natural-appearing scenery, while Alternatives B, C, and D manage most of the forest (about 99 percent) for natural-appearing scenery. Alternative D manages for less natural-appearing scenery (about 2,348 acres) than Alternatives B and C, but the overall percentage of the Forest managed for natural-appearing scenery for the action alternatives is the same (see Table 11). As stated earlier, it is important for National Forests to manage scenery at this level. “Research has shown that high-quality scenery, especially that related to natural-appearing forests, enhances people's lives and benefits society” (USDA FS 1995, 17). It should also be noted that according to “Floyd Newby’s findings that “people expect to see natural or natural-appearing scenery,”” (quoted in USDA FS 1995, 2-3). Furthermore, “research shows that there is a high degree of public agreement regarding scenic preferences. This research indicates that people value most highly the more visually attractive and natural-appearing landscapes” (USDA FS 1995, 30). Table 11 compares the indicators identified for scenery across alternatives and discussed above.

Table 11. Comparison of Alternatives, indicators for scenery

Indicator	Alt A	Alt B	Alt C	Alt D
Applies best available science to manage scenery	No	Yes		Yes
Establishes desired landscape character (landscape character goals)	No	Yes		Yes
Identifies areas for scenery rehabilitation	No	Yes		Yes
Acres managed for natural-appearing scenery	856,690 (46% of Forest)	1,827,930 (99% of Forest)		1,825,589 (99% of Forest)

Relationship of Short-Term Uses and Long-Term Productivity:

Any activities occurring under an alternative, although they may have some short-term negative impacts on scenery, also may begin to move the landscape toward the desired landscape character. Effects that would move the vegetation toward the desired landscape character are usually beneficial to scenic resources in the long term. These beneficial effects are often realized over a long period of time but lead to the lasting sustainability of valued scenery attributes. For example, tree thinning may have short-term effects of ground disturbance, stumps, and slash, but in the long term, if properly mitigated for scenery, may provide visual access into the forest and promote large tree growth and a smooth herbaceous ground cover. In the long-term, the removal of some trees, dependent on scale and intensity of treatment, may be a beneficial effect for scenery when the resulting landscape are part of the desired landscape character. Additionally, those activities which restore fire adapted ecosystems, when properly mitigated for scenery, move the landscape toward the desired landscape character and lead to the long-term stability of valued scenery attributes by reducing the risk of losing the valued landscape attributes to a wildfire burning outside the historic disturbance regime.

Unavoidable Adverse Impacts

The land management plan provides a programmatic framework that guides site-specific actions but does not authorize, fund, or carryout any project or activity. Before any ground-disturbing actions take place, they must be authorized in a subsequent environmental analysis. Therefore, none of the alternatives cause unavoidable adverse impacts. Mechanisms are in place to monitor and use adaptive management principles in order to help alleviate any unanticipated impacts that need to be addressed singularly or cumulatively.

Irreversible and Irretrievable Commitment of Resources

The land management plan provides a programmatic framework that guides site-specific actions but does not authorize, fund, or carryout any project or activity. Because the land management plan does not authorize or mandate any ground disturbing actions, none of the alternatives cause an irreversible or irretrievable commitment of resources.

Adaptive Management

All alternatives assume the use of adaptive management principles. Forest Service decisions are made as part of an ongoing process. The land management plan identifies a monitoring program. Monitoring the results of actions will provide a flow of information that may indicate the needs to change a course of action or the land management plan. Scientific findings and the needs of society may also indicate the need to adapt resource management to new information.

Glossary

Cultural Landscape – Human-altered landscapes, especially those slowly evolving landscapes with scenic vegetation patterns or scenic structures. Addition of these elements creates a visually pleasing complement to the natural character of a landscape. (USDA FS 1995, Glossary)

Desired landscape character – "The most complete, attractive and sustainable expression of the valued landscape character which is compatible with that landscape's fully integrated set of Desired Conditions." (SMS Handbook definition page 5-5 expanded). Desired Landscape Character represents the most "ideal" and attractive scenic identity that is possible, given the limitations of the ecosystem and achievement of other resource objectives as defined in the desired conditions.

Deviation – Departure from existing landscape character or from landscape character goals. Deviation from existing landscape character can be positive, negative or have no effect.

Distance Zones – Landscape areas denoted by specified distances from the observer. Used as a frame of reference in which to discuss landscape attributes or the scenic effect of human activities in a landscape.

- Immediate Foreground – The detailed feature landscape found within the first few hundred feet of the observer, generally, from the observer to 300 feet away. This distance zone is normally used in project level planning, not broad scale planning.)
- Foreground – Detailed landscape generally found from the observer to 1/2 mile away. See also immediate foreground.
- Middleground - The zone between the foreground and the background in a landscape. The area located from 1/2 mile to 4 miles from the observer.
- Background - The distant part of a landscape. The landscape area located from 4 miles to infinity from the viewer.

Landscape Character Goal – A management prescription designed to maintain or modify the existing landscape character to a desired future state. See desired landscape character (USDA FS 1995, Glossary).

Landscape Visibility – Accessibility of the landscape to viewers, referring to one's ability to see and perceive landscapes. (USDA FS 1995, Glossary)

Positive Cultural Landscape – A landscape having human alterations that are positive cultural elements, complementing and improving a particular landscape by adding variety, unity, vividness, intactness, coherence, mystery, balance, uniqueness, harmony, or pattern (USDA FS 1995, Glossary).

Rehabilitation – A short-term management goal used to return a landscape with existing visual impacts and deviations to a desire level of scenic quality formerly found in the natural landscape. (USDA FS 1995, Glossary)

Scenery - General appearance of a place, landscape and/or its visible features (USDA Handbook Number 701 Landscape Aesthetics: A Handbook for Scenery Management: slightly revised for clarity).

Scenic Attractiveness - The scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, rockform, waterform, and vegetation pattern. Reflects varying visual perception attributes of variety, unity, vividness, intactness, coherence, mystery, uniqueness, harmony, balance, and pattern. It is classified as:

- A-Distinctive. Refers to extraordinary and special landscapes. These landscapes are attractive, and they stand out from common landscapes. (USDA FS 1995, Glossary) Distinctive landscapes are areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance (USDA FS 1995, 1-16).
- B-Typical or Common. Refers to prevalent, usual, or widespread landscapes within a landscape province. It also refers to landscapes with ordinary and routine scenic attractiveness. (USDA FS 1995, Glossary) Typical landscapes are areas where landform, vegetation patterns, water characteristics and cultural features combine to provide ordinary or common scenic quality. These landscapes have generally positive, yet common attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance (USDA FS 1995, 1-16).
- C-Indistinctive or Undistinguished. Areas where landform, vegetation patterns, water characteristics, and cultural land use have low scenic quality. Often water and rockform of any consequence are missing in class C landscapes. (USDA FS 1995, Glossary) These landscapes have weak or missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance (USDA FS 1995, 1-16).

Scenic Integrity (Very High, High, Medium and Low) – a measure of the degree to which a landscape is visually perceived to be “complete,” and are determined by three factors: dominance, degree of deviation and intactness of the desired landscape character, and are established based on the existing condition. Scenic Integrity disturbances most typically result from human activities, but can also result from natural events which exceed the landscape’s historic range of variability (HRV) in terms of magnitude, duration or intensity. An exception to this is direct human alterations that have become accepted over time as positive landscape character attributes; e.g., historic cabins, farms and ranches. State of naturalness or, conversely, the state of disturbance created by human activities or alterations. Integrity is stated in degrees of deviation from the existing landscape character in a national forest (USDA FS 1995). The following definitions refer to both Existing Scenic Integrity and Scenic Integrity Objectives.

- Very High Integrity – The valued landscape character appears natural and unaltered with only minute if any deviations. These areas generally provide for ecological change only. The existing landscape character and sense of place is expressed at the highest possible level.

- High Integrity - The valued landscape character “appears natural or appears unaltered.” Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident.
- Moderate Integrity – The valued landscape character “appears slightly altered.” Noticeable disturbances are minor and must remain visually subordinate to the valued scenery being viewed.
- Low Integrity - The valued landscape character “appears moderately altered.” Deviations begin to dominate the valued landscape character being viewed but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles outside the landscape being viewed.
- Very Low Integrity – The valued landscape character “appears heavily altered.” Deviations may strongly dominate the valued landscape character and may not borrow from valued attributes such size, shape edge effect and pattern of natural openings. However, deviations must be shaped and blended with the natural terrain (landforms) so that elements such as unnatural edges, roads, landings, and structures do not dominate the composition. (USDA FS 1995, 2-4).

Scenic Integrity Objectives (SIO) – The state of naturalness or conversely, the state of disturbance created by human activities or alteration. Integrity is stated in degrees of deviation from the existing landscape character in a national forest.

Scenic Quality - Degree to which the appearance of a place, landscape or feature can elicit psychological and physiological benefits to individuals and, therefore, to society in general (definition per SMS Handbook Glossary, revised). Scenic Quality is described and measured through the Landscape Character Inventory information and the cumulative conditions of the two primary SMS indicators described in this Appendix, Scenic Integrity and Scenic Stability.

Subordinate – Landscape features that are inferior to, or placed below, another in size, importance, brightness, and so on. Features that are secondary in visual impact or importance. (USDA FS 1995)

Variety Class – Term from the Visual Management System. See scenic attractiveness.

References

Cordell, H. Ken. 2008. The latest on trends in nature-based outdoor recreation. *Forest History Today*, Spring 2008, 4-10.

Dechter, Sara and Minor, Charlotte. 2011. Personal communication, 10 June.

Gobster, Paul H. 1994. "The aesthetic experience of sustainable forest ecosystems." In: Covington, W. Wallace, and Leonard F. Debano, tech. coord., *Sustainable Ecological Systems: Implementing an Ecological Approach to Land Management*, 1993 July 12−15; Flagstaff, AZ. Gen. Tech. Rep. RM-247, pp. 246−255. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

McNab, W. Henry and Avers, Peter E. 1994a. *Ecological Subregions of the United States*. Chapter 36, Colorado Plateau Semi-Desert. U.S. Department of Agriculture, Forest Service. WO-WSA-5. (1996, October 30—last update). [Online]. http://www.fs.fed.us/land/pubs/ecoregions/ch36.html [2010, November 1].

McNab, W. Henry and Avers, Peter E. 1994b. *Ecological Subregions of the United States*. Chapter 38, Arizona-New Mexico Mountains Semi-Desert - Open Woodland - Coniferous Forest - Alpine Meadow. U.S. Department of Agriculture, Forest Service. WO-WSA-5. (1996, October 30—last update). [Online]. http://www.fs.fed.us/land/pubs/ecoregions/ch38.html [2010, November 1].

Navajo Nation Parks and Recreation. 2011. Retrieved June 21, 2011 from http://www.navajonationparks.org/

Ribe, Robert G. 1989. "The Aesthetic of Forestry: What Has Empirical Preference Research Taught Us?" *Environmental Management*, Volume 13, Number 1. Available on-line at: <http://www.springerlink.com/content/v4x5132735646770/fulltext.pdf>.

Ryan, Robert L. 2005. *Social Science to improve fuels management: a synthesis of research on aesthetics and fuels management*. Gen. Tech. Rep. NC-261. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 58 p.

President's Commission on Americans Outdoors. 1987. *Americans Outdoors: the Legacy, the Challenge, With Case Studies: the Report of the President's Commission.* (U.S.). Washington, DC: Island Press.

U.S. Department of Agriculture, Forest Service.1974. *The visual management system*. Agricultural Handbook. National forest landscape management, Volume 2. Washington, DC: U.S. Government Printing Office: 462.

U.S. Department of Agriculture, Forest Service. 1987. *Coconino National Forest Land and Resource Management Plan*. Coconino National Forest. Southwestern Region.

U.S. Department of Agriculture, Forest Service. 1995. *Landscape Aesthetics: A Handbook for Scenery Management*. Agriculture Handbook 701.

U.S .Department of Agriculture, Forest Service. 2010a. *Analysis of the Management Situation*. Flagstaff, AZ: Coconino National Forest.

U.S .Department of Agriculture, Forest Service. 2010b. *Southwestern Region Climate Change Trends and Forest Planning*. Albuquerque, NM: Southwestern Region. Southwestern Region Climate Change and Forest Planning Work Group

U.S. Department of Agriculture, Forest Service. 2011a. 2005 National Visitor Use Monitoring (NVUM) Report (Revised).

U.S. Department of Agriculture, Forest Service. 2011c. Landscape Character Descriptions: Coconino National Forest. Nicole Hill and Matt Boisseau unpublished.

U.S. Department of Agriculture, Forest Service. 2011d. Scenery Management System Inventory Report: Coconino National Forest Land and Resource Management Plan Revision. Nicole Hill unpublished.

Specialist Information

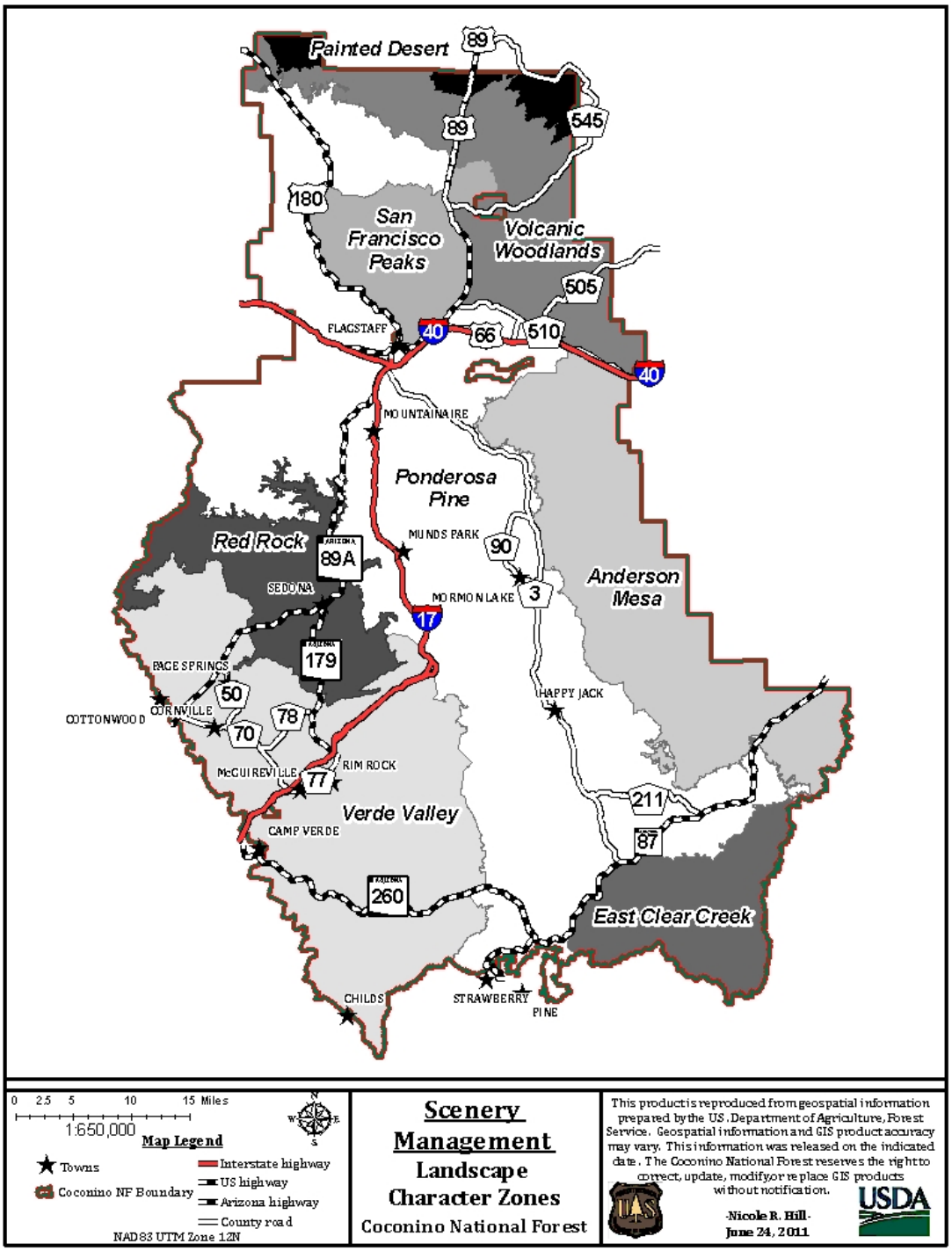
Nicole R. Hill
Landscape Architect
USDA Forest Service, TEAMS Enterprise Unit

Education: Bachelor of Science, Landscape Design and Bachelor of Science, Environmental Management

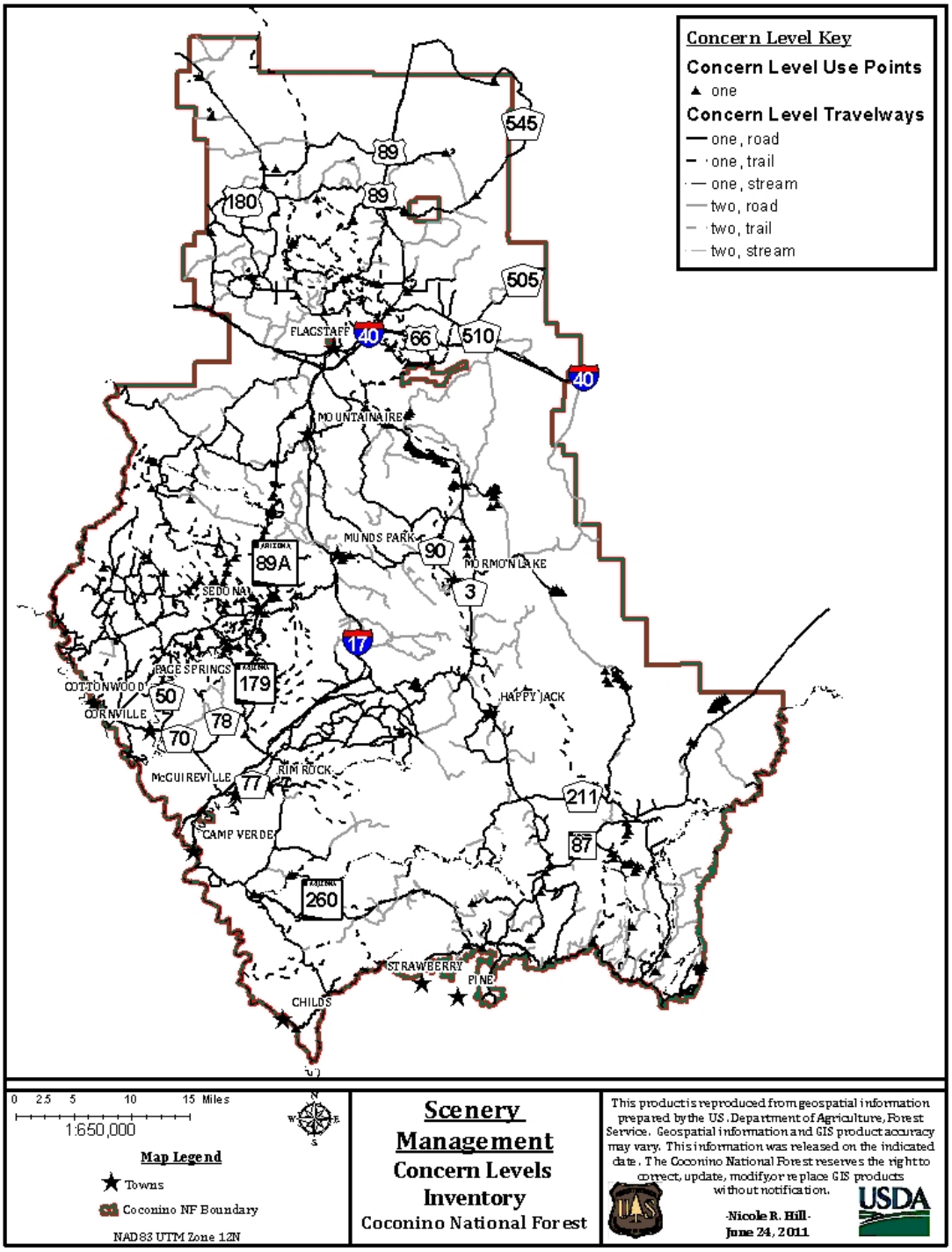
Years of Experience: 8 years as a Forest Service Landscape Architect

Appendix A. Maps

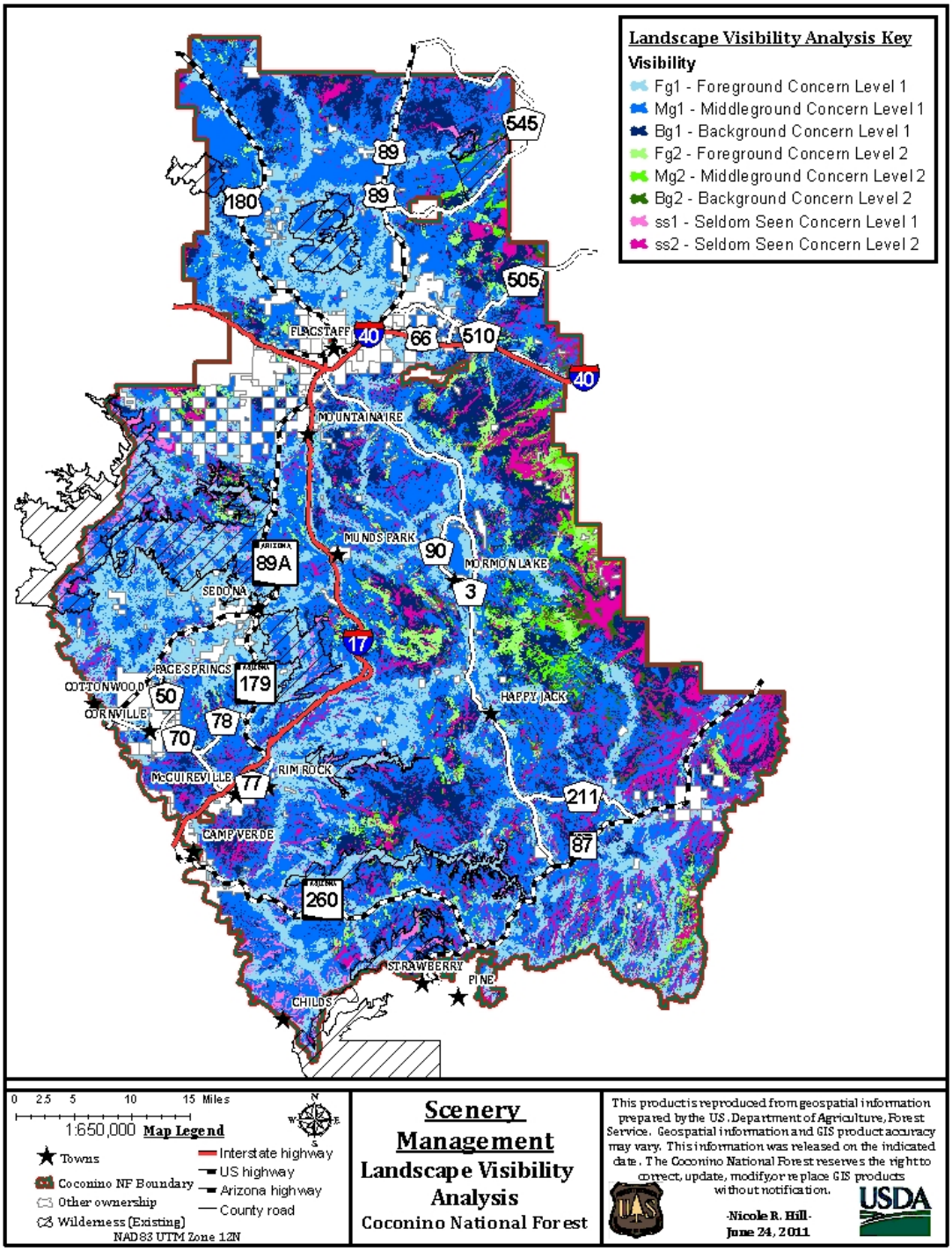
Landscape Character Zones Map



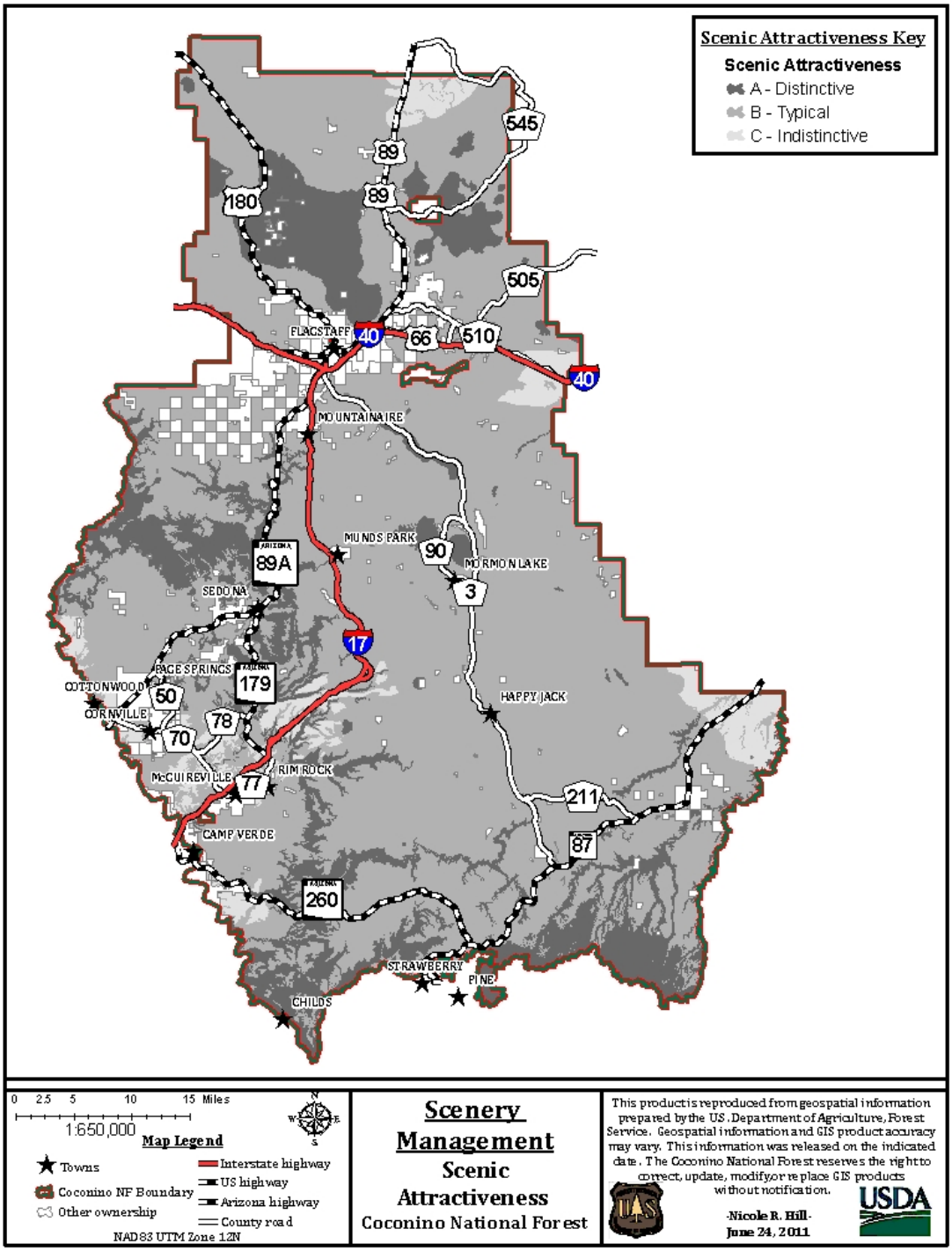
Concern Level Travelways and Use Points Map, showing concern levels 1 and 2 only



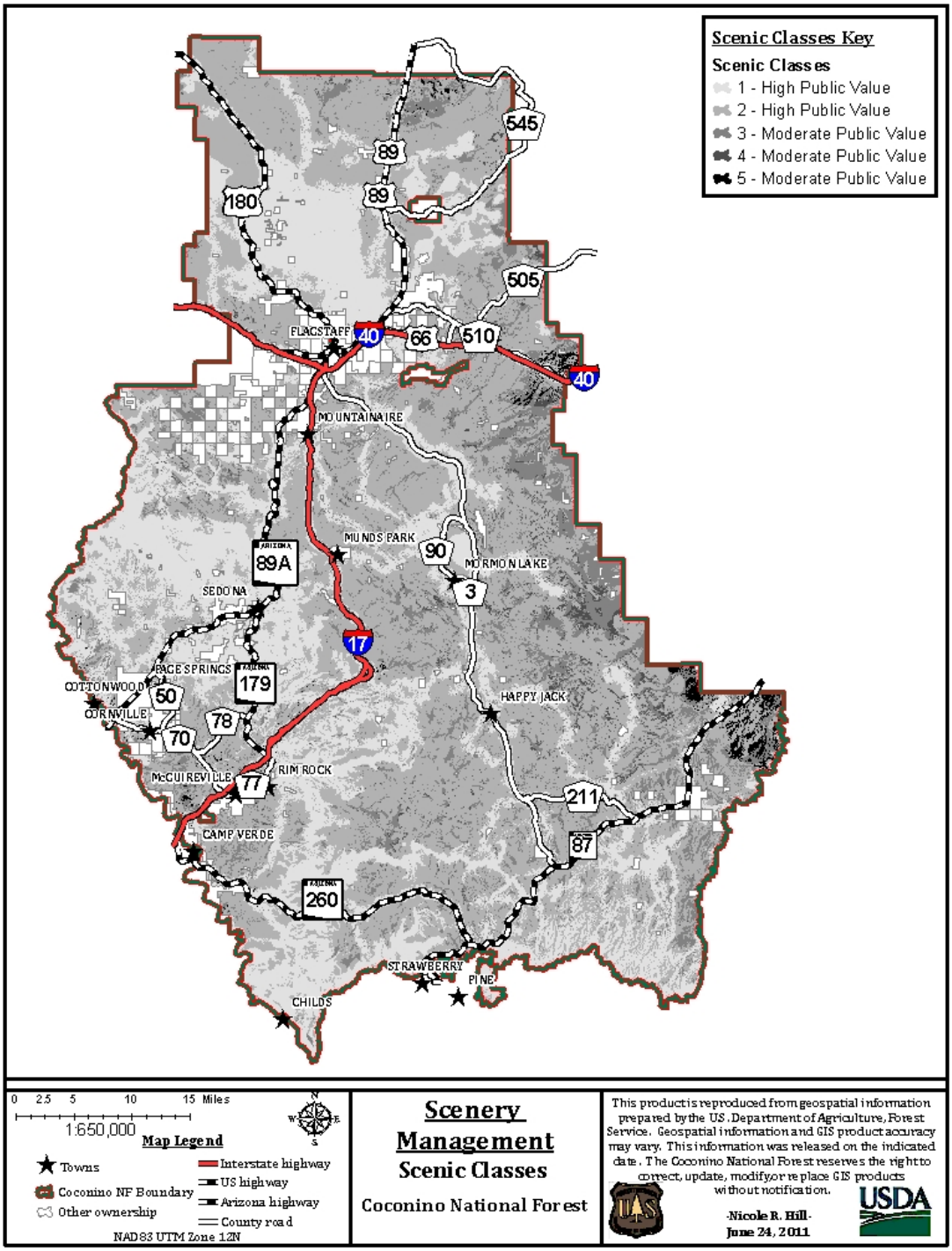
Visibility, Distance Zones, and Concern Levels Map



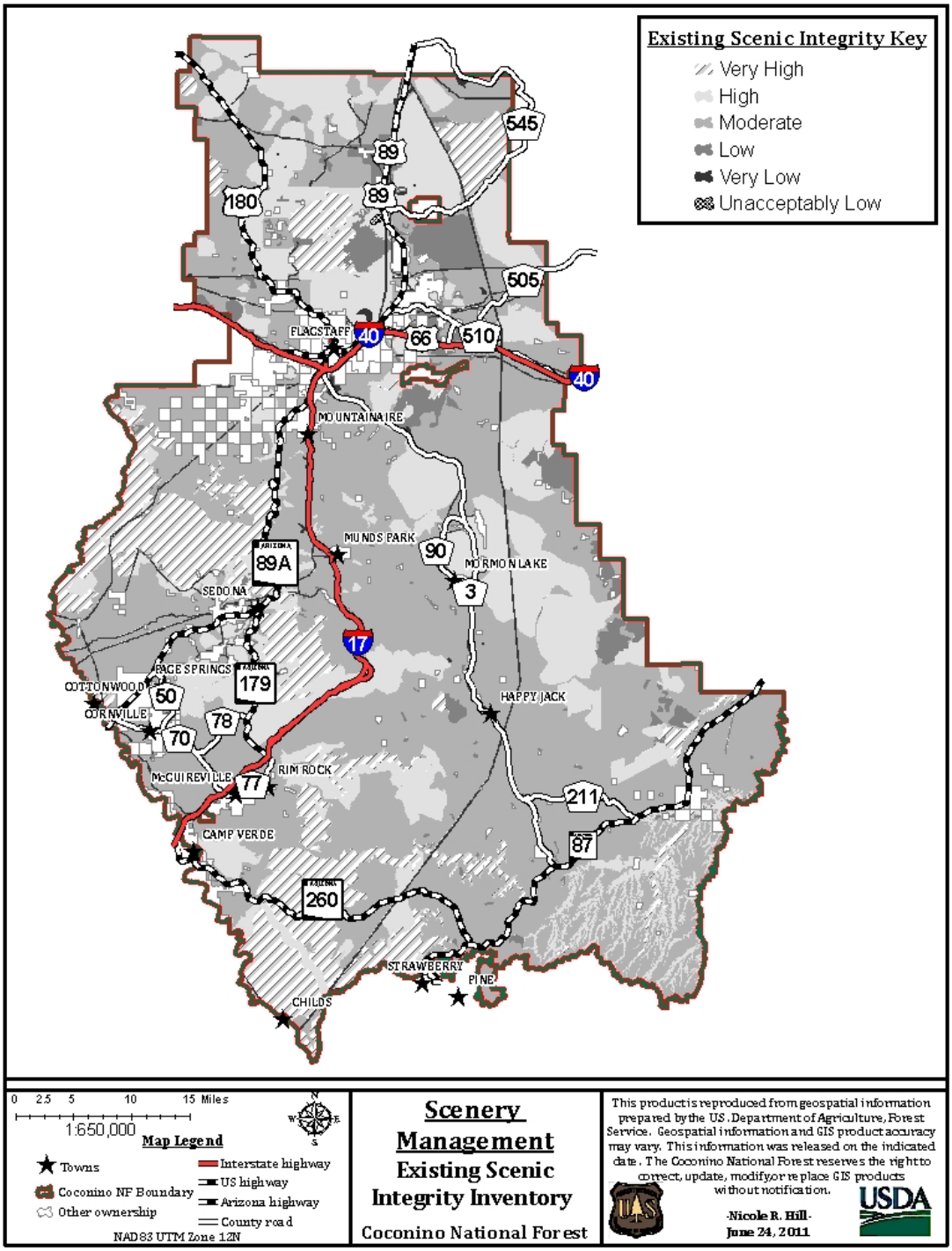
Scenic Attractiveness Map



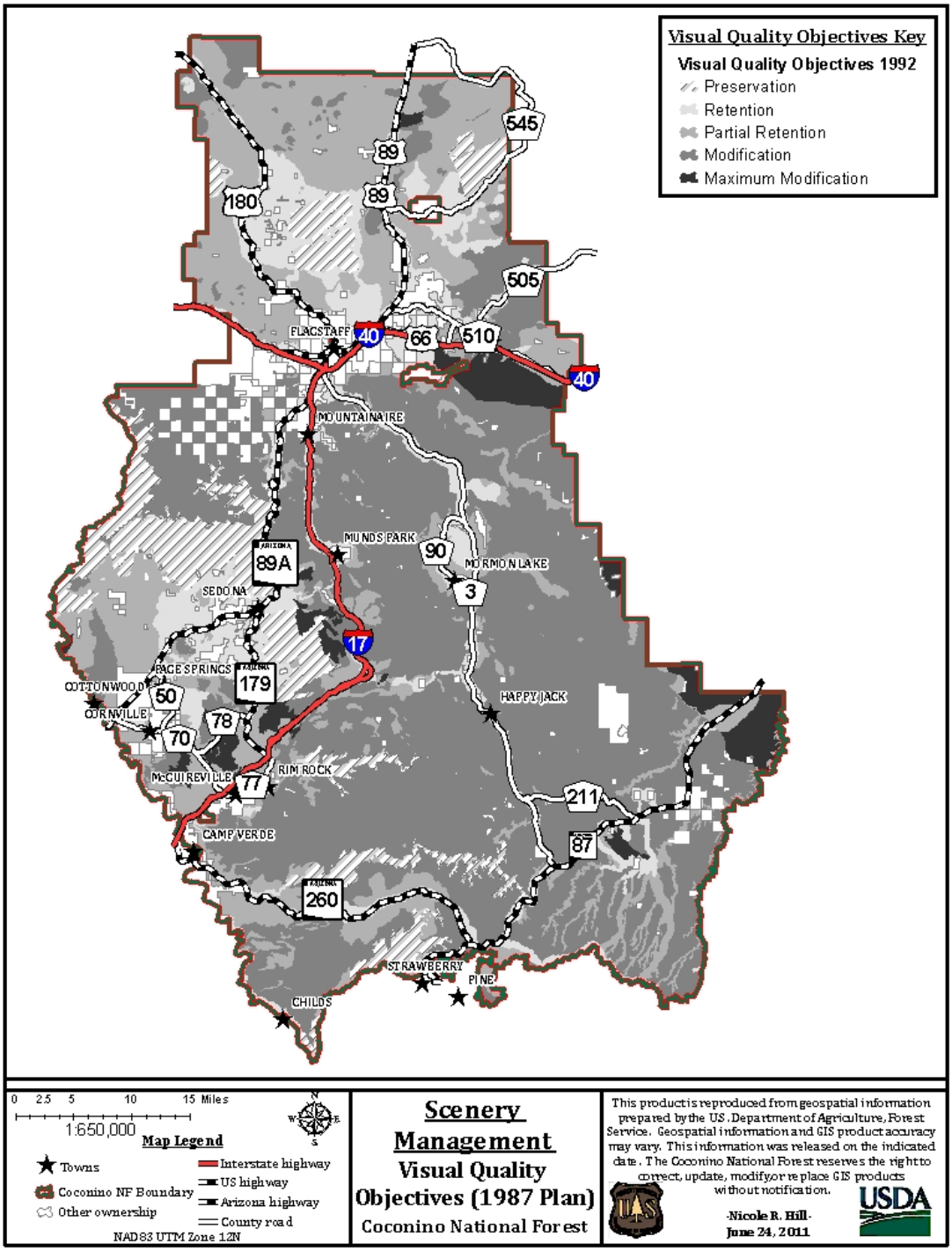
Scenic Class Map



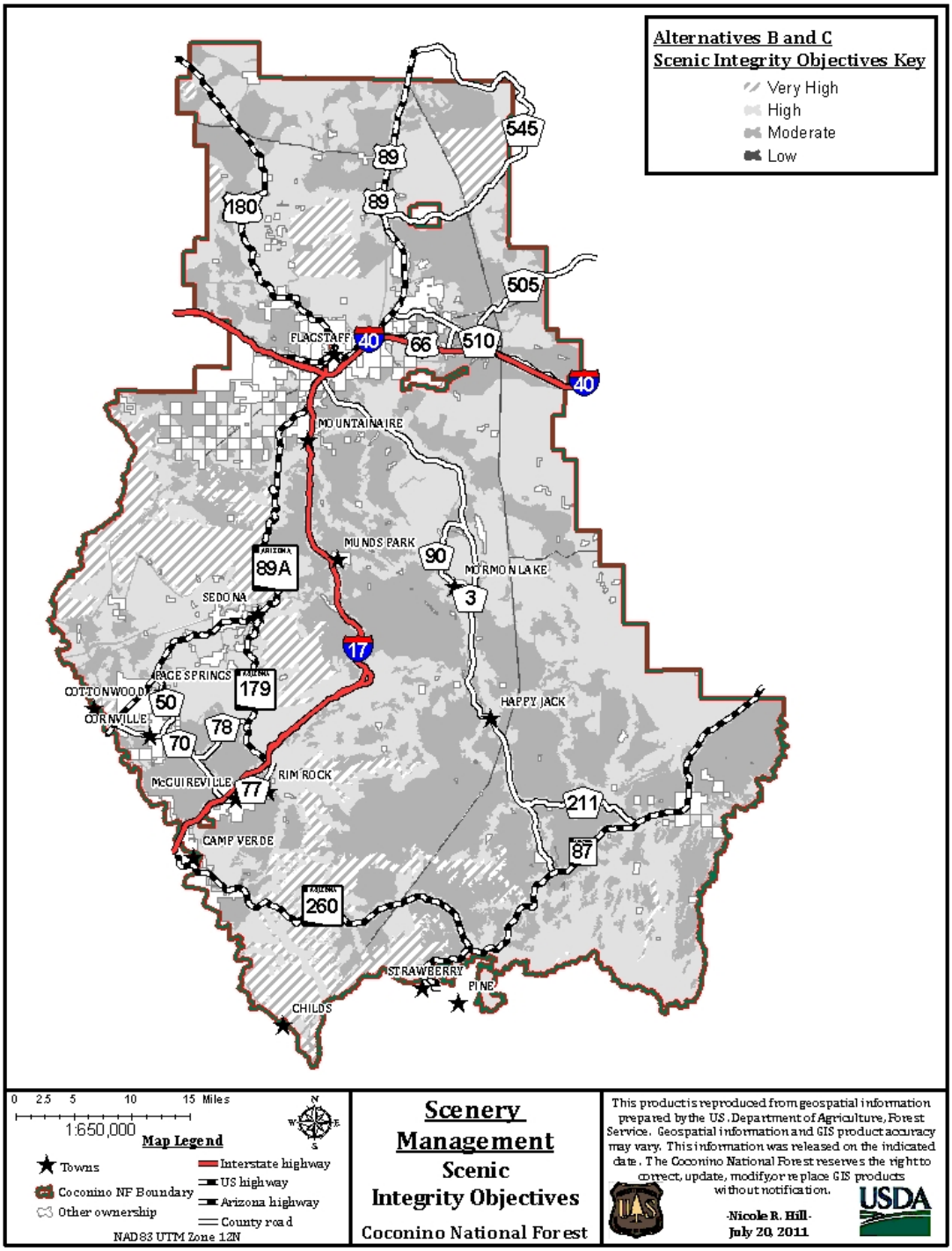
Existing Scenic Integrity Levels Map



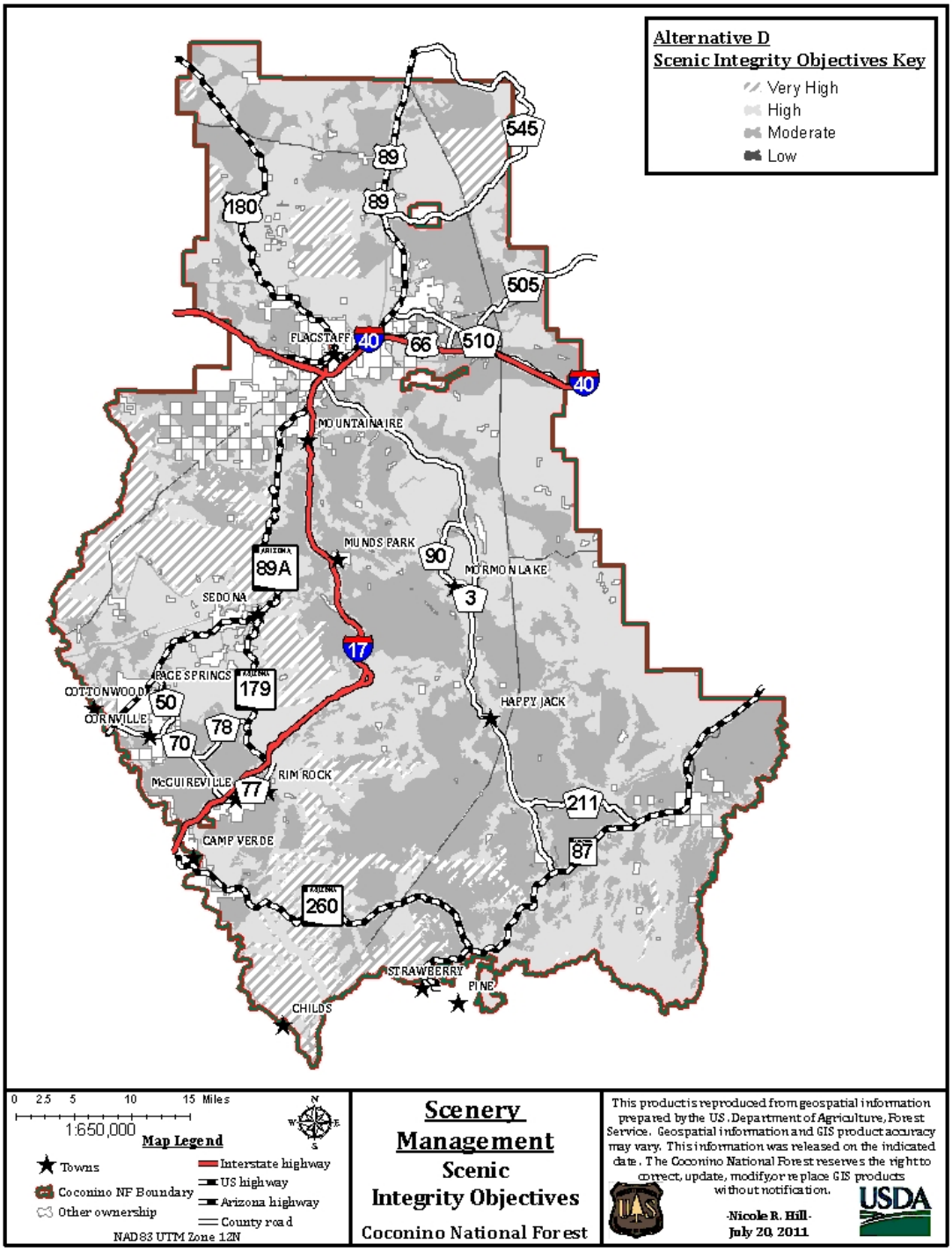
Alternative A. Visual Quality Objectives Map (1987 Plan)



Alternatives B and C. Proposed Scenic Integrity Objectives Map



Alternative D. Proposed Scenic Integrity Objectives Map



Alternatives B and C. Scenery Rehabilitation Map