

# Environmental Assessment

## Management Indicator Species:

## A Forest Plan Amendment

To the Revised Land and Resource  
Management Plan for the  
Rio Grande National Forest

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Lead Agency:	USDA Forest Service
Responsible Official:	Peter L. Clark, Forest Supervisor Rio Grande National Forest 1803 West Highway 160 Monte Vista, CO 81144
For Further Information:	Bob Dalrymple, Forest Planner Rio Grande National Forest 1803 W. Hwy. 160 Monte Vista, CO 81144 (719) 852-6269 email: <a href="mailto:rdalrymple@fs.fed.us">rdalrymple@fs.fed.us</a>

*This document is available on the Internet:*

<http://www.fs.fed.us/r2/riogrande/planning.htm>

### **Abstract**

This environmental assessment (EA) evaluates the potential effects of amending the 1996 Revised Rio Grande National Forest Land and Resource Management Plan (Forest Plan) by incorporating management indicator species (MIS). Two alternatives are described. Alternative 1 (no-action) represents the existing Forest Plan management situation and would not amend the Forest Plan. Alternative 2 proposes nine MIS, along with updates to the Forest Plan standards and guidelines relating to MIS, and the addition of MIS to the Monitoring and Evaluation Strategy.



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# Chapter 1

## Purpose of and Need for Action

### Introduction

#### Overview

The U. S. Department of Agriculture (USDA), Forest Service, has prepared this environmental assessment (EA) of the potential effects of amending the 1996 Revised Rio Grande National Forest Land and Resource Management Plan (Forest Plan) by incorporating management indicator species (MIS).

National Forest System lands are managed to provide habitat to maintain species viability and perpetuate biological diversity within the multiple-use objectives of a forest plan. The use of MIS is a planning and monitoring tool that can be used to assess the effects of management activities and evaluate species viability.

This EA discloses the environmental impacts of the alternatives and provides the responsible official with the information necessary to make an informed decision. The decision will be documented in a decision notice accompanying the final EA after receiving public comment.

This chapter describes the background, the proposed action, the purpose of and need for the action, the decision to be made, the public involvement process, and the issues to be considered in the analysis.

#### Background

Regional Forester Elizabeth Estill signed the Record of Decision for the Revised Rio Grande National Forest Land and Resource Management Plan on November 7, 1996. The Rio Grande National Forest (RGNF) received several appeals of the Forest Plan and its accompanying Final Environmental Impact Statement (FEIS), one of which was from Colorado Environmental Coalition (CEC) et al. On January 19, 2001, the Chief of the Forest Service rendered a decision on CEC's appeal. On March 29, 2001, the Deputy Under Secretary for Natural Resources and Environment, Department of Agriculture, completed a discretionary review of the Chief's decision on the appeal. The Deputy Under Secretary affirmed in part and reversed in part the Chief's decision and provided a new set of instructions to complete for the Forest Plan. These included instructions to select appropriate MIS per 36 CFR 219.19; to add direction to the monitoring plan if MIS are selected that the Forest Plan does not already require to be monitored; and to add scientific literature cites used to determine habitat needs, distribution, and trends of sensitive species and MIS.

This EA addresses the instructions to select and incorporate appropriate MIS into the Forest Plan and adds citations to the Forest Plan record. The remaining instructions

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are addressed in separate analyses. The Deputy Under Secretary's complete discretionary review decision may be viewed at the following website: <http://www.fs.fed.us/forum/nepa/riogrande.htm>.

## Proposed Action

The proposed action is to amend the 1996 Revised Rio Grande National Forest Land and Resource Management Plan by incorporating MIS. Nine MIS are proposed because their population changes are believed to indicate the effects of management activities (36 CFR 219.19(a)(1)). The use of MIS serves as a planning and monitoring tool to assure that viable populations of existing native and desired non-native vertebrate species are maintained on the national forest (36 CFR 219.19). The amendment also updates the Forest Plan standards and guidelines relating to MIS and adds MIS to the Monitoring and Evaluation Strategy. This action would apply to all future projects planned or implemented on the Rio Grande National Forest.

## Purpose of and Need for Action

The purpose of this action is to amend the Forest Plan so that it meets legal requirements and is consistent with the Deputy Under Secretary's appeal review direction for MIS. To meet these conditions, the Rio Grande National Forest will select appropriate MIS per 36 CFR 219.19. The Monitoring and Evaluation Strategy will be updated to address the selected MIS species.

The need for action is to provide a management planning tool in the Forest Plan which meets legal requirements and assists the Rio Grande National Forest in evaluating and monitoring species viability. Taking this action will also comply with the Deputy Under Secretary's direction and allow the Forest Plan to move forward toward implementation.

## Decision Framework

The decision to be made by the responsible official is whether or not to amend the Forest Plan. This is a programmatic decision that would be implemented through project-level decisions. The decision, which will be documented in a decision notice after public comment, will:

- Identify management indicator species (MIS) to assist the Rio Grande National Forest in analyzing and evaluating species viability;
- Incorporate the management indicator species into the Forest Plan and amend standards and guidelines related to the MIS;
- Identify additional monitoring and evaluation requirements related to the MIS that will be used to evaluate species viability.

The decision will also establish findings on whether this action is a significant change to the Revised Rio Grande National Forest Land and Resource Management Plan and on the significance of this action on the human environment.

## Area and Scope

This proposed amendment applies to the Rio Grande National Forest. The amendment would include future MIS monitoring, evaluation, and analyses on management activities under the direction of the Forest Plan.

## Public Involvement

The Rio Grande National Forest invited public comment and participation regarding the proposed amendment through the Schedule of Proposed Actions (SOPA), public notice in the local papers, a scoping letter, posting on the Rio Grande National Forest website, and a public meeting. The public notification process began when this project was included on the October 15, 2001 SOPA.

A scoping letter was sent November 15, 2001, to approximately 563 individuals, agencies, and organizations on the Rio Grande National Forest SOPA mailing list inviting comments on the proposed amendment to add MIS to the Forest Plan. The scoping letter discussed the background, purpose of and need for action, and the proposed action. It also included a summary paper on the evaluation process for management indicators and on an initial MIS selection process and preliminary MIS list. Sixteen letters were received in response to the scoping letter.

The Rio Grande National Forest hosted an information open house meeting on November 28, 2001, in Monte Vista. The open house included a display and handouts on background information for the amendment including the Deputy Under Secretary's instructions, the proposed amendment to add MIS species to the Forest Plan, and an explanation of the forest plan amendment process. Forest Service employees were available to answer questions. Approximately 15 people attended the meeting.

The proposed action was listed in the February 2002 Tribal Consultation Bulletin mailed on February 28, 2002. A radio interview was broadcast by KSLV radio.

In addition to the scoping described above, the Rio Grande National Forest website contains the Deputy Under Secretary's decision, copies of the Forest Plan and FEIS, the EA For Comment and other planning information available for public review.

## Issues

The Forest Service identified the following key issues from comments received during scoping. The key issues were used to develop alternatives. Alternatives were then evaluated for their effects on the key issues.

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## Key Issues Associated with the Proposed Action

### Issue 1

The Rio Grande National Forest needs to address the Deputy Under Secretary's direction to include MIS in the Forest Plan.

### Issue 2

MIS selection, monitoring, and assessment need to meet the intent of monitoring and evaluating MIS as described in the 1982 planning regulations (36 CFR219.19). Included in this issue are the following elements:

Select species because their population changes are believed to indicate the effects of management activities.

Select species that represent the ecosystems affected by expected management activities and serve as indicators of change to those systems.

Select species that can provide indications of effects of management activities during monitoring.

### Issue 3

Monitoring and assessment of the selected MIS need to be implementable and feasible. Included in this issue are the following elements:

Species selected should be feasible and cost-effective to monitor.

MIS monitoring should provide information that is useful for the forest plan evaluation process.

MIS monitoring and evaluation efforts should be commensurate with the viability risks associated with land management activities.

Other comments and concerns regarding which and how many MIS species to select, habitat types, management activities affecting habitats, and how to monitor MIS were considered and included in the MIS selection analysis process documented in Appendix B.

The comments also included the following concerns that were outside of the scope of this analysis:

**Include the other components of the Deputy Under Secretary's appeal review decision instructions as part of the Forest Plan amendment.**

The other instructions do not require a forest plan amendment and are being resolved with additional analyses or errata sheets, as appropriate.

**Timber suitability and other land classifications should be included in the analysis.**

This analysis is limited to incorporating MIS into the Forest Plan. There are no changes to timber suitability or other land classifications in this proposed amendment. The proposed action does not include new Forest Plan alternatives or changes in the Forest-wide Desired Conditions or Forest-wide Objectives. Any changes in land classification or suitability would be addressed in a separate analysis.

## Concerns Outside the Scope of This Analysis

## **Address road access problems and concerns.**

This analysis is limited to incorporating MIS into the Forest Plan. The proposed amendment does not include any road management changes to the Forest Plan. Any changes in road management would be addressed in a separate analysis. Road management would be conducted through a Roads Analysis Process (RAP) and project analysis.

## **Changes from the EA for Comment**

Changes from the EA for Comment include the following. Chapter 5 contains the public comments received on the EA for Comment and responses to those comments. The BE/BA section wording has been revised to reflect the final determinations. Minor typographical corrections and wording clarifications were made as needed.

# 1 Purpose and Need



# Chapter 2

## Alternatives

This chapter describes the alternatives, including the proposed action, developed to address the key issues identified in Chapter 1. It also provides a summary of the environmental consequences of the alternatives. Two alternatives were developed: the no-action alternative and the proposed action.

### Alternative 1 (No Action)

A “no-action” alternative is required to be part of the analysis. Alternative 1 represents the existing Forest Plan management situation for the Rio Grande National Forest. This alternative would not amend the Forest Plan. It would not add an MIS list or update the Monitoring and Evaluation Strategy in the Forest Plan.

### Alternative 2 (Proposed Action)

Alternative 2 would amend the 1996 Revised Rio Grande Land and Resource Management Plan by incorporating management indicator species to be used as a planning tool for monitoring and evaluation and project analysis to assure that viable populations of existing native and desired non-native vertebrate species are maintained on the national forest. It proposes nine management indicator species (MIS) whose population changes are believed to indicate the effects of key management activities.

The alternative also amends MIS-related Forest Plan standards and guidelines and the Monitoring and Evaluation Strategy. There would be no change to the Forest-wide Desired Conditions and Forest-wide Objectives. This action would apply to all future projects planned or implemented on the Rio Grande National Forest under the Forest Plan.

This alternative proposes to amend the Forest Plan by identifying the following nine species as MIS: brown creeper, hermit thrush, pygmy nuthatch, vesper sparrow, Lincoln’s sparrow, Wilson’s warbler, mule deer, Rocky Mountain elk, and Rio Grande cutthroat trout (or brown trout, brook trout, or rainbow trout to serve as proxies if Rio Grande cutthroat trout is not present). The proposed MIS amendments to the Forest Plan are presented in detail in Appendix A. The MIS, their representative habitats, and associated key management activities are presented in Chapter 3, Table 3-1.

#### MIS List

## 2 Alternatives

### MIS Amendment to the Forest Plan

The primary purpose of the MIS amendment is to assure that species viability is measured and monitored as directed in 36 CFR 219.19. This amendment will clarify and strengthen the Forest Plan, where needed, through the addition of MIS. Potential MIS were analyzed and selected based on the Forest Service Rocky Mountain Region (R2) MIS direction, the Forest Service Manual direction, and Code of Federal Regulations (CFR) implementing regulations. This analysis involved an extensive review, compilation, and analysis of current information concerning MIS species life history needs, occurrence and trend data, responses to management, risks to viability, and monitoring options in relation to the Forest Plan. The MIS analysis strengthened the ties between the planned management actions and the Forest Plan Monitoring and Evaluation Strategy by ensuring that those elements of biological diversity that fully represent potential changes to MIS species habitats and populations are measured and tracked in relation to Forest Plan desired conditions, objectives, and standards and guidelines within those associated biological communities.

The proposed MIS amendment to the Forest Plan would include adding or amending MIS-related standards and guidelines and adding or amending MIS to the Chapter V Monitoring and Evaluation Strategy. These are presented in Appendix A.

MIS Standards and Guidelines Current Forest Plan standards and guidelines were reviewed to determine if changes were necessary to better address the proposed MIS list. Some changes or additions to Forest-wide Standards and Guidelines are proposed to clarify or better address current information or direction concerning species life history needs or concerning viability risks associated with the expected management actions. The proposed edits and additions to the standards and guidelines incorporate the MIS list into the planning process and clarify or add protection measures to ensure species viability and perpetuate biological diversity. They allow for the incorporation of laws and conservation agreements and provide additional tools and guidance for analysis. They also provide improved guidance and focus to management activities.

The specific Forest-wide Standards and Guidelines are discussed below. The full wording for the proposed amendments to the standards and guidelines are presented in Appendix A.

- Wording in Riparian Areas Guideline 9 was modified to provide better clarity in the guideline and incorporate the latest regional direction.
- The coarse woody debris requirements in Biodiversity Standard 1 were changed to require an increased retention density from 2 to 3 snags per acre for ponderosa pine to incorporate the latest scientific information and regional direction in providing adequate snag habitat.
- Legal citations in Silviculture Standard 1 were corrected to reflect the proper citations for maximum size openings when modifying habitat.
- Silviculture Guideline 13 was added to clarify and better define management of the firewood program in relation to other resource objectives.
- Wildlife Standard 19 was added to identify and establish the use of MIS to be used for monitoring and evaluation purposes.
- Wildlife Standard 20 was added to provide emphasis on maintaining population viability during management activities.
- Wildlife Standard 21 was added to emphasize the protection of resident and migratory birds during management activities.

- Wildlife Standard 22 was added to emphasize and strengthen protection measures for the southwestern willow flycatcher and to incorporate the latest regional direction and mitigation measures suggested by the U.S. Department of the Interior (USDI) Fish and Wildlife Service (U. S. Fish and Wildlife Service).
- Dispersed Recreation Standard 6 is added to correct and clarify that the standard applies to general dispersed recreation rather than to only the Wilderness Resources Standard 8 as is currently in the Forest Plan.
- Dispersed Recreation Standard 7 is added to clarify and emphasize riparian habitat and water quality protection.

## MIS Monitoring and Evaluation Strategy

The current Forest Plan Monitoring and Evaluation Strategy was also reviewed to determine if changes were necessary to incorporate MIS and strengthen species viability monitoring. The proposed changes to the Monitoring and Evaluation Strategy would add monitoring for MIS population and habitat trends, as well as monitoring for threatened, endangered, proposed and sensitive (TEPS) species. The proposed wording changes to add MIS to the Monitoring and Evaluation Strategy and the specific monitoring items that would be changed or added to the monitoring table are shown in Appendix A.

The addition of MIS to the Forest Plan would provide an additional monitoring tool to evaluate the effectiveness of the Rio Grande National Forest's management direction in achieving desired conditions and in maintaining species viability.

## Identification of the Preferred Alternative

Alternative 2 is identified as the preferred alternative at this time to assist the public in their review of this document.

## Comparison of Alternatives Summary

This section provides a summary of the differences between the alternatives and how they respond to the key issues. More detailed comparison of the effects of the alternatives is presented in Chapter 3. Table 2-1 provides a summary display of the effects of the alternatives on elements of the Forest Plan.

### **The Rio Grande National Forest needs to address the Deputy Under Secretary's direction to include MIS in the Forest Plan.**

Alternative 1 does not comply with the Deputy Under Secretary's appeal decision direction to include MIS in the Forest Plan, does not resolve the appeal, and does not fully allow Forest Plan implementation in the immediate future. The Forest-wide Desired Conditions and Objectives of the Forest Plan may not be achieved, and anticipated outputs may not occur in the short term. Future management on the Rio Grande National Forest would be uncertain.

Alternative 2 does comply with the Deputy Under Secretary's appeal decision direction and would allow the Rio Grande National Forest to move forward toward implementing the Forest Plan.

## Issue 1

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## Issue 2

**MIS selection, monitoring, and assessment needs to meet the intent of monitoring and evaluating MIS as described in the 1982 planning regulations (36 CFR219.19).**

Alternative 1 does not identify MIS and does not meet the requirements of 36 CFR219.19. Alternative 2 meets the intent of 36 CFR219.19 for the selection, monitoring, and evaluation of MIS. The selected MIS species represent habitats affected by key management activities projected in the Forest Plan and are expected to serve as indicators of change due to those management activities.

## Issue 3

**MIS selection, monitoring, and assessment needs to be implementable and feasible.**

Alternative 1 does not identify MIS in the Forest Plan. MIS identified in Alternative 2 represent habitats associated with key management activities. These MIS are expected to provide information that is valuable in the Forest Plan monitoring and evaluation process while being feasible and cost-effective to monitor. A detailed rationale for MIS selection is presented in Appendix B.

**Table 2-1. Effects of Alternatives 1 and 2 on Elements of the Forest Plan.**

Elements	Alternative 1	Alternative 2
<b>Incorporate MIS into the Forest Plan</b>	No	Yes
<b>Key Issues</b>		
Addresses Deputy Under Secretary's appeal decision direction.	No	Yes
Complies with 36 CFR219.19.	No	Yes
MIS selection is implementable and feasible.	NA	Yes
MIS provides indications of effects of key management activities.	NA	Yes
MIS represent ecosystems affected by key management activities.	NA	Yes
MIS selection follows Region 2 MIS direction.	NA	Yes
MIS are feasible and cost effective to monitor.	NA	Yes
MIS monitoring and evaluation will provide information useful to the Forest Plan evaluation process.	NA	Yes
MIS evaluations are commensurate with the viability risks associated with projected land management activities.	NA	Yes
<b>Physical Resources</b>		
Air resources	No change.	No change.
Minerals	No change.	No change.
Watershed hydrologic function, sediment control, water purity	No change.	No change.
Riparian areas	No change.	Increase in riparian protection.
Soil productivity	No change.	No change.
<b>Biological Resources</b>		
Biodiversity	No change.	Provides additional methods for monitoring and assessing species viability. Provides increased protection for MIS and TEPS habitats. Increases snag habitat.
Range	No change.	No change.
Silviculture	No change.	Legal citations clarified. Increases ponderosa pine snag retention requirements from 2 to 3 per acre.

# 2 Alternatives

<b>Elements</b>	<b>Alternative 1</b>	<b>Alternative 2</b>
Wildlife	No change.	Provides additional methods for monitoring and assessing species viability. Provides increased protection for MIS and TEPS habitats.
<b>Disturbance Processes</b>		
Undesirable species	No change.	No change.
Fire	No change.	No change.
Insect and disease	No change.	No change.
<b>Social Resources</b>		
Heritage resources	No change.	No change.
Recreation—general	No change.	No change.
Recreation—developed	No change.	No change.
Recreation—dispersed	No change.	Some potential for inconvenience, displacement, or reduction in opportunities due to restrictions on tethering recreation stock in riparian areas on a case-by-case basis.
Wilderness resources	No change.	No change.
Scenic resources	No change.	No change.
Travelways	No change.	No change.
Forest products	No change.	Some potential for inconvenience or reduction in opportunities to gather firewood due to restrictions on gathering in riparian areas and the increase in snag retention requirements.
<b>Land Ownership and Special Uses</b>		
Rights-of-way, land adjustments, special uses, utility corridors, facilities	No change.	No change.
<b>Financial/Economic</b>		
Timber utilization	No change.	No change.
Annual monitoring costs	No change.	Estimated increase of \$37,300 (+10%).

## Alternatives Considered but Dropped from Detailed Consideration

An alternative to include other species as MIS was considered but eliminated from further detailed analysis. Instead, these other species were considered during the process of developing the MIS list. Many species were evaluated, including those proposed during scoping. Management indicator species represent a group of species with similar habitat needs and responses to management activities. Species not selected as MIS may be represented by one or more of the selected MIS. The rationale for identifying some species and not others as MIS is presented in Appendix B.

Both MIS and other species not listed as MIS are protected by Forest Plan standards and guidelines and various laws including the general viability requirements of the National Forest Management Act (NFMA) implementing regulations, the Endangered Species Act (ESA), and the Migratory Bird Treaty Act (MBTA).

# 2 Alternatives



# Chapter 3

## Affected Environment and Environmental Consequences

### Introduction

This chapter describes the affected environment and the effects of implementing the alternatives described in Chapter 2. The scope of this proposed amendment is limited to identifying the list of MIS, incorporating MIS into the standards and guidelines, and revising the Monitoring and Evaluation Strategy as necessary to provide for adequate monitoring and evaluation of MIS population trends in relation to habitat changes. The Forest-wide Desired Conditions, Forest-wide Objectives, and long-term level of goods and services projected in the Forest Plan are not expected to change. The proposed action is administrative and programmatic in nature and does not involve any resource or ground-disturbing activities. Consequently, the proposed amendment to add MIS to the Forest Plan would not alter the direct, indirect, and cumulative effects of the alternatives disclosed in the 1996 FEIS for the Forest Plan. The entire Forest Plan and Record of Decision are incorporated here by reference.

### Affected Environment

The Forest Service is charged with maintaining viable populations of existing native and desired non-native vertebrate species through NFMA implementing regulations. The agency is charged with preserving and enhancing the diversity of plants and animals consistent with overall multiple-use objectives stated in the Forest Plan (36 CFR 219.27). The agency is also required to provide habitat to maintain viable populations of species, and it is directed to select MIS as a tool to help evaluate species viability (36 CFR 219.19).

Although the Forest Plan did not specifically identify MIS, a primary consideration during the revision of the Forest Plan was preserving and enhancing the diversity of plants and animals, consistent with overall multiple-use objectives. Each alternative in the revision process, including the alternative selected for the Forest Plan, was designed to provide for sustainable ecosystems. Key components of sustainability were summarized in the FEIS on pages 2-18 to 2-20 and are as follows:

### Viability Analysis in the Forest Plan

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- Net productive capacity of the land does not decrease;
- Native species currently present on the Rio Grande National Forest are perpetuated, and;
- Natural ecosystem processes are maintained.

All of these components are intertwined and are important for maintaining viable populations of existing native and desired non-native species.

The Forest Plan identified Forest-wide Desired Conditions for biological diversity that emphasized perpetuating habitat and species within a multiple-use framework (Forest Plan, page I-1, under Biological Diversity). Forest-wide Objectives include those that “provide for a variety of life through management of biologically diverse ecosystems” (Forest Plan, pages II-2 to II-3). The Forest Plan contains an extensive set of Forest-wide Standard and Guidelines to mitigate potential impacts to habitat and species (Forest Plan, Chapter III).

Additionally, for each management-area prescription there are standard and guidelines that provide additional habitat and species mitigation (Forest Plan, Chapter IV) intended to ensure viability. Management indicators were identified and analyzed in the FEIS (page 3-122). Finally, a Monitoring and Evaluation Strategy was presented in the Forest Plan to provide a feedback mechanism to annually determine if the Forest Plan is sufficient to guide management of the national forest (Forest Plan, Chapter V).

In his discretionary review decision, the Deputy Under Secretary found the coarse filter/fine filter approach to biological diversity and viability analysis used in the Forest Plan FEIS, in conjunction with the application of standards and guidelines at the project level, to be reasonable. The Deputy Under Secretary stated the following in his discretionary review decision regarding the approach taken by the Rio Grande National Forest:

The RGNF, in part, followed the coarse filter/fine filter approach... [and] started with an analysis of habitat based on available information. . . . (page 8)

The Forest also displayed the limited population data available from three large scale assessments (FEIS, pp F 18-19), and analyzed information such as existing fragmentation and the projected level of road construction and timber harvest under each alternative. Based on this information, the RGNF determined that the Revised Forest Plan would have little effect on the habitat on the Forest. . . . (page 8)

With little effect on condition and pattern of habitat, road density and percent of land in an undeveloped condition, the Forest also concluded that there would be little risk to wildlife viability. . . . (page 9)

The Revised Forest Plan contains general standards and guidelines, which require appropriate site-specific mitigation measures to be identified during project planning. Implementation of the standards and guidelines will be monitored, and necessary changes identified and made. I find that approach reasonable. (pages 10 and 11)

The Deputy Under Secretary provided general guidance for a viability analysis and compared the Forest Plan to that guidance. He stated, “. . . the amount and quality of scientific information should be commensurate with the land management activities projected in the [F]orest [P]lan and the viability risks associated with those activities.” Where a forest plan allows little additional habitat disturbance, “a much less rigorous analysis is warranted” (Deputy Under Secretary Discretionary Review Decision for the

RGNF, page 6). The Deputy Under Secretary cited numerous passages from the Forest Plan FEIS emphasizing the small amount of habitat alteration proposed over the life of the Forest Plan (Deputy Under Secretary Discretionary Review Decision for the RGNF, pages 8 to 11). “Fundamentally, the majority of the forested landscapes on the RGNF would continue a natural course of growing, dying, and regenerating (FEIS page 3-139). The majority of the Forest’s rangelands would continue to improve in condition” (FEIS page 3-197).

While the Deputy Under Secretary found the Forest Plan viability and diversity approach to be reasonable, he identified weaknesses in the analysis and reversed the Regional Forester. He instructed the Forest Service to modify the existing viability analysis to correct the deficiencies.

One of these instructions was to identify MIS to meet the plain language requirements of 36 CFR 219.19. The Deputy Under Secretary felt that the Rio Grande National Forest’s approach was unclear. He stated, “While this analysis approaches de facto compliance with the MIS requirements of NFMA regulations, more needs to be done to formally select species as MIS, according to the procedure identified in 36 CFR 219.19.” (Deputy Under Secretary Discretionary Review Decision for the RGNF, page 11). This amendment examines the selection of appropriate MIS in the Forest Plan to comply with that requirement. It also proposes standards and guidelines related to MIS and TEPS habitat protection.

His instructions to correct the other weaknesses in the viability analysis are being addressed by adding scientific literature citations to the planning record, and through separate errata sheets and analyses.

The Forest Plan Biological Evaluation (BE) / Biological Assessment (BA) assessed viability in the 1996 Forest Plan FEIS. The Forest Plan BE/BA is being updated to incorporate new information and direction on TEPS species.

Conceptually, management indicator species (MIS) serve as a barometer for species viability at the national forest level, by establishing objectives that maintain and improve habitat for MIS, to the degree consistent with overall multiple use objectives of the forest plan (36 CFR 219.19 (a)). MIS serve to provide a way to analyze the effects of management activities on biological diversity, and they function as a feedback mechanism during forest plan implementation. The latter is accomplished by monitoring population trends in relation to habitat changes (36 CFR 219.19 (a)(6)).

MIS are defined as “plant and animal species, communities, or special habitats selected for emphasis in planning, and which are monitored during Forest Plan implementation in order to assess the effects of management activities on their populations and the populations of other species with similar habitat needs which they may represent” (FSM 2620.5). The role of MIS and the criteria to select MIS are described in 36 CFR 219.19 (a)(1) as follows:

In order to estimate the effects of each [Forest Plan] alternative on fish and wildlife populations, certain vertebrate and/or invertebrate species present in the area shall be identified and selected as management indicator species and the reasons for their selection will be stated. These species shall be selected because their population changes are believed to indicate the effects of management activities. In the selection of management indicator species, the following categories shall be represented where appropriate: Endangered and threatened plant and animal species identified on State and Federal lists for the planning area;

## **Management Indicator Species (MIS)**

# 3 Environment and Consequences

species with special habitat needs that may be influenced significantly by planned management programs; species commonly hunted, fished or trapped; non-game species of special interest; and additional plant or animal species selected because their population changes are believed to indicate the effects of management activities on other species of selected major biological communities or on water quality.

The Deputy Under Secretary's discretionary review decision and Forest Service Washington Office direction provided general guidance for MIS and the viability standard in the 1982 planning regulations, as follows:

Because there is no precise standard, this decision presents an opportunity to offer general guidance to the Forest Service regarding the basic principles on viability that have emerged over the years and should be incorporated in future revision efforts. I intend this discretionary review decision, together with those regarding revised forest plans for the Rio Grande, Route and Arapaho and Roosevelt National Forests, to supply such guidance.

Forest Service decision makers have considerable discretion regarding how to provide for viability, so long as relevant factors are not overlooked, no clear errors of judgment are made, a rationale is provided for using the approach taken, and the plain language requirements of the regulation are met. Among the relevant factors to be considered are the overall multiple use objectives for the planning area, mitigation measures that can reasonably be expected to be developed at the project level, and the available scientific information on:

- Trends in quantity, quality and distribution of habitat for fish and wildlife species for which the Forest Service has determined that viability concerns exist;
- Trends in abundance and distribution of such species, to the extent such data are available;
- The habitat needs of such species and how they are affected by management activities; and
- Habitat and population trends of management indicator species, to the extent such data are available.

In considering these factors, Forest Service decision makers must determine how much additional scientific data should be gathered, and how rigorously the data should be analyzed to develop information useful for making management decisions. In keeping with the statutory requirement to provide for diversity "within the multiple-use objectives of a land management plan," (16 USC 1604 (g)(3)(B)) the amount and quality of scientific information should be commensurate with the land management activities projected in the forest plan and the viability risks associated with those activities. In cases where population and habitat trends are believed to be in significant decline throughout the planning area, and substantial habitat disruption is allowed by the forest plan, a more rigorous approach to maintaining viability is indicated. In cases where habitat and population trends are believed to be within the range of historic variation, and the forest plan allows little additional habitat disturbance, a much less rigorous analysis is warranted. In such cases, a more qualitative approach to factors such as trend analysis may suffice, as long as the approach considers the relevant factors and demonstrates sound judgment, including a rational explanation for the level of analysis conducted.

This guidance gives responsible officials broad discretion regarding the selection of MIS. Species are to be selected from various categories as the Forest Service deems appropriate. Not all categories of species or habitats are required to be represented. The responsible official, using available information, determines whether the population changes of certain species are believed to indicate the effects of management activities, and whether a species would make a suitable MIS.

The *Region 2 Management Indicator Species Selection Process and Criteria, June 2001*, was used to select the MIS. The process and rationale for the selection and non-selection of MIS by species is documented in Appendix B.

Knowledge and understanding of the relationships among species, their habitats, and management activities are continually evolving because of increased scientific knowledge, and as a result of implementation and monitoring of forest plans. Concepts and methods to assess species viability are also developing and are a subject of current debate in the literature. Proposed planning regulations for the National Forest Management Act may drop the use of MIS entirely because of input from the scientific community. However, until they are changed, the 1982 regulations requiring forest plans to include appropriate MIS remain in effect.

An extensive reference list documenting literature used in determining habitat needs, distribution, and trends of MIS and sensitive species in the compilation of the MIS list is included in the planning record.

## Environmental Consequences

### Alternative 1 (No Action)

#### Direct and Indirect Effects

##### MIS Amendment

Under Alternative 1, the Rio Grande National Forest would not identify MIS and the Forest Plan would not be amended. Alternative 1 does not change any of the Forest-wide Desired Conditions or Forest-wide Objectives, Forest-wide Standards and Guidelines, management-area prescriptions, or anticipated goods and services or commodity outputs of the existing Forest Plan. There would be no change to any of the Forest Plan elements or resource management direction. See Chapter 2, Table 2-1, for a summary of the effects of this alternative on the issues and Forest Plan elements.

The Forest Plan appeal decision direction would not be completed and the appeal would not be resolved. This would not fully allow Forest Plan implementation in the immediate future. The Forest-wide Desired Conditions and Objectives of the Forest Plan may not be achieved, and anticipated outputs may not occur in the short term. Future management on the Rio Grande National Forest would be uncertain.

##### Issues

Issue 1. The Rio Grande National Forest needs to address the Deputy Under Secretary's direction to include MIS in the Forest Plan.

This alternative would not follow the Deputy Under Secretary's direction to include MIS in the Forest Plan.

Issue 2. MIS selection, monitoring, and assessment need to meet the intent of monitoring and evaluating MIS as described in the 1982 planning regulations (36 CFR219.19). Included in this issue are the following elements:

# 3 Environment and Consequences

- Select species because their population changes are believed to indicate the effects of management activities.
- Select species that represent the ecosystems affected by expected management activities and serve as indicators of change to them.
- Select species that can provide indications of effects of management activities during monitoring.

This alternative would not bring the Forest Plan in compliance with the planning regulations 36 CFR219.19 for MIS.

Issue 3. Monitoring and assessment of the selected MIS need to be implementable and feasible. Included in this issue are the following elements:

- Species selected should be feasible and cost-effective to monitor.
- MIS monitoring should provide information that is useful for the Forest Plan evaluation process.
- MIS monitoring and evaluation efforts should be commensurate with the viability risks associated with land management activities.

Alternative 1 would not identify MIS in the Monitoring and Evaluation Strategy.

## Effects on Forest Resources and Elements

There would be no effect on any forest resources or elements due to Alternative 1 beyond those already anticipated and disclosed in the Forest Plan and FEIS.

Alternative 1 would not provide the incidental beneficial effects to TEPS species by providing additional habitat protection for both MIS and TEPS species.

The biological evaluation (BE) for the Forest Plan made a determination of “may adversely impact individuals, but are not likely to result in a loss of viability in the Planning Area, nor cause a trend to federal listing or a loss of species viability rangewide” for sensitive species. The biological assessment (BA) for the Forest Plan made a determination of “may affect, but not likely to adversely affect” the threatened and endangered species listed at the time of the ROD in 1996.

Threatened, endangered, proposed, and sensitive (TEPS) species would continue to be monitored and evaluated according to the current Monitoring and Evaluation Strategy in the Forest Plan, consistent with the NFMA, ESA, and regional direction. Other species will also continue to be protected by the Forest Plan standards and guidelines, and by the general viability requirements of the National Forest Management Act (NFMA) implementing regulations and various laws including the Endangered Species Act (ESA) and the Migratory Bird Treaty Act (MBTA).

Consultations with the U. S. Fish and Wildlife Service on TEP species would continue, as needed, at the project level to meet the requirements of Section 7 of the Endangered Species Act. Viability analysis of all sensitive species would also continue during individual project analysis through preparation of biological evaluations, as prescribed by law, regulation, and agency policy. Population monitoring for important game species would continue through the Colorado Division of Wildlife (CDOW). The Forest Service would continue to collaborate with the state regarding habitat management for these species.

## Cumulative Effects

Cumulative effects result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. In this analysis, the cumulative effects were estimated for the next five years and primarily at the national forest and regional levels, although some national-level effects were considered. The following are the past, present, and reasonably foreseeable forest planning actions affecting the Rio Grande National Forest related to MIS and the measurement of viability and biological diversity.

Past actions include the revised Forest Plan and FEIS, in which viability and biological diversity were a key management focus, and the 1997, 1998, 1999, 2000, and 2001 Monitoring and Evaluation Reports, which evaluated viability and biodiversity on the Rio Grande National Forest.

A current action is the fifth-year review and evaluation of the Forest Plan monitoring results, including biological diversity and species viability, compiled in *The Forest Plan Implementation A Five Year Review 1997–2001* report.

These reports have monitored viability concerns on the Rio Grande National Forest. The evaluations in these reports have not identified a need for a Forest Plan revision beyond the changes proposed in this amendment.

Reasonably foreseeable future actions that may affect management direction of the Forest Plan include the following:

- The pending revision of the Regional Forester's sensitive species list;
- The pending regional lynx amendment to some forest plans (including the Rio Grande National Forest);
- Regional guidance on implementing Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, and the Memorandum of Understanding for the Conservation of Migratory Birds;
- Regional guidance on implementing the Memorandum of Agreement on Section 7 Programmatic Consultation and Coordination;
- Pending U. S. Fish and Wildlife Service approval of the Recovery Plan for the Southwestern Willow Flycatcher; and
- The pending Roadless Area Conservation Rule.
- The pending NFMA planning regulations may also address MIS and species viability evaluations.

The above reasonably foreseeable future actions are not anticipated to affect Alternative 1, although they may require additional analysis and consultations in the future.

The cumulative effects of Alternative 1 are similar to the direct effects in that Alternative 1 would not fully allow implementation of the Forest Plan and management on the Rio Grande National Forest would be uncertain over an extended period of time into the future. Some goals and objectives of the Forest Plan would likely not be achieved, and anticipated outputs would not occur. The Rio Grande National Forest would continue to monitor and evaluate Forest Plan implementation

# 3 Environment and Consequences

through the current monitoring strategy and annual monitoring and evaluation reports. Response to new information would be addressed in separate amendments, updated biological assessments and evaluations, and additional analysis, as needed. Species viability monitoring and evaluation would continue forest-wide and on specific projects without the addition of MIS analytical and evaluation methods.

## Direct and Indirect Effects

### MIS Amendment

## Alternative 2 (Proposed Action)

Alternative 2 proposes to amend the Forest Plan by identifying nine species as MIS: brown creeper, hermit thrush, pygmy nuthatch, vesper sparrow, Lincoln's sparrow, Wilson's warbler, mule deer, Rocky Mountain elk, and Rio Grande cutthroat trout (or brown trout, brook trout, or rainbow trout to serve as proxies if Rio Grande cutthroat trout is not present).

Alternative 2 would include changes to the Forest Plan Forest-wide Standards and Guidelines and the Monitoring and Evaluation Strategy related to MIS. The proposed MIS amendments to the Forest Plan are presented in detail in Appendix A. See Chapter 2, Table 2-1, for a summary of the effects of this alternative on the issues and Forest Plan elements.

Alternative 2 provides the Forest Service with an evaluation tool to help achieve the Forest Plan goal for a desired condition to maintain habitats to provide viable populations of species. It also helps to achieve the objectives for biologically diverse ecosystems. Habitat objectives and predicted trends in habitat change would remain the same as those levels anticipated in the current Forest Plan.

Comprehensive species assessments were conducted as part of the selection of the MIS and are compiled in the *Species Assessments* document. These assessments involved extensive reviews of the current scientific literature and provided a foundation for the final MIS selection process through the identification of important life history attributes and habitat needs, monitoring methods, species distributions, and population trends at several different spatial scales. Information compiled through the species assessments also helped to compare the proposed MIS with the Forest Service Rocky Mountain Region (R2) MIS direction to determine whether they would function appropriately and feasibly on the Rio Grande National Forest in relation to several local factors including local occurrence data, habitat distribution, monitoring difficulties, proposed management activities and affected habitats.

Species assessments information, in conjunction with the associated management issues and affected habitats, served as the basis for the *MIS Analysis and Monitoring* document completed for the proposed MIS. This document synthesized all of the pertinent information from the species assessments in relation to management activities and landtype associations (LTAs) identified in the Forest Plan. *MIS Analysis and Monitoring* includes information regarding how the proposed species function as MIS on the national forest and how they represent other local species within the biological community. The document also displays the management context for each MIS, such as the associated major management activities and affected LTAs. Key attributes regarding viability, risk factors, and the management context were used to develop monitoring questions and the monitoring and evaluation strategy. *MIS Analysis and Monitoring* provides the rationale for maintaining or strengthening the current protection measures described in the Forest Plan and displays the environmental effects of the Forest Plan on each MIS.

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Another document created in the evaluation and selection of MIS is the *Evaluation of the Effects of the Forest Plan Alternatives on Proposed MIS* which was prepared in compliance with 36 CFR 219.19 and the Deputy Under Secretary's instructions. This documents the anticipated effects of the Forest Plan alternatives on the proposed MIS.

The *Species Assessments*, *MIS Analysis and Monitoring*, and *Evaluation of the Effects of the Forest Plan Alternatives on Proposed MIS* are key supporting documents to this analysis and are located in the planning record located at the Forest Supervisor's Office.

## Issues

Issue 1. The Rio Grande National Forest needs to address the Deputy Under Secretary's direction to include MIS in the Forest Plan.

Alternative 2 would implement the Deputy Under Secretary's instructions to include MIS in the Forest Plan. The MIS amendment, along with the other analyses and errata sheets prepared in response to the Deputy Under Secretary's other instructions would allow the Rio Grande National Forest to move toward full implementation of the Forest Plan.

Issue 2. MIS selection, monitoring, and assessment need to meet the intent of monitoring and evaluating MIS as described in the 1982 planning regulations (36 CFR219.19). Included in this issue are the following elements:

- Select species because their population changes are believed to indicate the effects of management activities.
- Select species that represent the ecosystems affected by expected management activities and serve as indicators of change to them.
- Select species that can provide indications of effects of management activities on the representative biological communities during monitoring.

Alternative 2 would meet the intent of monitoring and evaluating MIS as described in 36 CFR219.19. These MIS would serve as an additional planning, analysis, and evaluation tool in conjunction with other monitoring and analyses to help assess species viability because they provide suitable indicators of change in their ecosystems within the confines of the MIS concept as described in Appendix B.

The nine proposed MIS species respond to and provide indications of effects of major or key forest management activities on the Rio Grande National Forest. These key activities include timber harvest, prescribed fire, livestock grazing, and travel and related use disturbance within the RGNF. These MIS represent the ecosystems, specifically those landtype associations (LTAs) where most of these activities occur, and serve as indicators of change within them (Table 3-1).

The process and rationale for selecting these species are displayed in Appendix B, which documents the scientific basis for choosing each species, including its associated habitats and the management activities that are likely to affect it. Appendix B also presents the other species that were considered, and the rationale for not including them as MIS.

Issue 3. Monitoring, and assessment of the selected MIS need to be implementable and feasible. Included in this issue are the following elements:

- Species selected should be feasible and cost-effective to monitor.
- MIS monitoring should provide information that is useful for the Forest

# 3 Environment and Consequences

## Plan evaluation process.

- MIS monitoring and evaluation efforts should be commensurate with the viability risks associated with land management activities.

Under Alternative 2, MIS would be monitored and evaluated according to the amended Monitoring and Evaluation Strategy in Appendix A. The proposed MIS are feasible and cost-effective to monitor and will provide information that is useful for the Forest Plan evaluation process. Proposed MIS monitoring is expected to provide important scientific information regarding land management activities planned for the Rio Grande National Forest and the viability risks associated with those activities. Increased monitoring costs to include MIS have been minimized by using ongoing monitoring efforts to the extent practicable, coordinating with the Colorado Division of Wildlife and other federal agencies, and cooperating in other national forest and regional monitoring efforts. Under Alternative 2, MIS monitoring will increase the annual costs of Forest Plan monitoring by an estimated \$37,300 (approximately 10 % increase).

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**Table 3-1. Proposed Management Indicator Species, Representative Habitats, and Associated Management Activities.**

Species	Representative Habitat Landtype Associations (LTAs)	Key Associated Management Activities
Brown creeper <i>Certhia familiaris</i>	Mature to late successional spruce/fir and mixed conifer (LTAs 1, 3, 13; Structure Class 5)	Timber harvest; prescribed fire
Hermit thrush <i>Catharus guttatus</i>	Mature to late successional spruce/fir and mixed conifer (LTAs 1, 3, 13; Structure Class 5)	Timber harvest; prescribed fire
Pygmy nuthatch <i>Sitta pygmaea</i>	Mature to late successional ponderosa pine (LTA 5; Structure Class 5)	Timber harvest; prescribed fire
Lincoln’s sparrow <i>Melospiza lincolni</i>	Riparian (LTA 10 - willow)	Livestock grazing; travel and related use disturbance within the RGNF
Wilson’s warbler <i>Wilsonia pusilla</i>	Riparian (LTA 10 - willow)	Livestock grazing; travel and related use disturbance within the RGNF
Vesper sparrow <i>Pooecetes gramineus</i>	Grasslands (LTAs 8, 9 and 12)	Livestock grazing
Mule deer <i>Odocoileus hemionus</i>	Forest-wide (All LTAs)	Timber harvest; prescribed fire; livestock grazing; travel and related use disturbance within the RGNF
Rocky Mountain elk <i>Cervus elaphus nelsoni</i>	Forest-wide (All LTAs)	Timber harvest; prescribed fire; livestock grazing; travel and related use disturbance within RGNF
Rio Grande cutthroat trout <i>Oncorhynchus clarki virginalis</i> (use rainbow [ <i>O. mykiss</i> ], brook [ <i>Salvelinus fontinalis</i> ], or brown [ <i>O. trutta</i> ] trout in absence of Rio Grande cutthroat trout)	Riparian, forest-wide aquatic, (LTA 10 - willow)	Timber harvest; prescribed fire; livestock grazing; travel and related use disturbance within the RGNF

LTA = Landtype association, defined in the Forest Plan FEIS, page 3-41.

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## Effects on Forest Resources and Elements

The proposed amendment in Alternative 2 is limited to incorporating MIS into the Forest Plan to provide MIS analytical and evaluation methodology, adding or amending MIS related standards and guidelines, and adding and clarifying MIS monitoring and evaluation requirements. It does not change any of the Forest-wide Desired Conditions, Forest-wide Objectives, management-area prescriptions, or commodity outputs of the Forest Plan. There are no changes to timber suitability or other land classifications in this proposed amendment. There would be no changes in the anticipated goods and services resulting from implementation of the Forest Plan with this amendment.

This proposed amendment is programmatic and administrative in nature and provides an analytical tool to help evaluate species viability. Alternative 2 would not cause any resource or ground disturbance and would not result in any direct environmental effects. The proposed amendment could result in some effects on some of the Forest Plan elements as noted in Chapter 2, Table 2-1. These are discussed below.

Riparian. Direction regarding maintenance and protection of watersheds and riparian areas would be strengthened beyond the current protection measures in the Forest Plan because of the clarifying language in Riparian Guideline 9 and in the additional Wildlife Standard 22 and Dispersed Recreation Standards 6 and 7. Riparian protection is emphasized and clarified with these new standards and guidelines. Recreational livestock tethering would be restricted within riparian areas, reducing potential effects on the riparian habitats and watersheds. Fuel-wood gathering would be permitted only if it would be compatible with riparian management objectives. Fish and wildlife species using riparian habitats would also benefit from these changes.

Biodiversity – Plants, Fish and Wildlife. Aspects of the Forest Plan that address biological diversity would be strengthened by the amendment because it provides additional monitoring and assessment for species viability in the Monitoring and Evaluation Strategy. It also provides some increased protection measures beyond those already in the Forest Plan for riparian and other habitats related to MIS and other species from the amended standards and guidelines. Snag retention requirements are increased and maximum size openings are clarified. The riparian measures previously discussed would also benefit fish and wildlife species using riparian habitats.

MIS would serve as representatives for other species associated with similar ecological communities during project-level effects analysis. Both MIS and other species would continue to be protected by the Forest Plan standards and guidelines and various laws including the general viability requirements of the National Forest Management Act (NFMA) implementing regulations, the Endangered Species Act (ESA), and the Migratory Bird Treaty Act (MBTA).

Species with viability concerns are identified as TEPS species. Biological evaluations and assessments were done for this proposed amendment and to update the Forest Plan BA. A formal consultation with the U. S Fish and Wildlife Service was conducted. The proposed amendment is administrative and programmatic in nature and would not cause any ground or resource disturbance; therefore, there would be no direct effect on any federally listed threatened, endangered or proposed species and there would be no direct impact on any Forest Service Region 2 sensitive species from this proposed action. The amendment would not alter the direct, indirect, or cumulative effects of the Forest Plan FEIS alternatives. There would be no expected changes to any habitat trends disclosed in the Forest Plan FEIS. The MIS amendment provides incidental beneficial effects to TEPS species by providing additional habitat protection for both

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MIS and TEPS species, but it does not change the effects or impacts disclosed in the Forest Plan FEIS.

Species listed as threatened, endangered, or proposed under the Endangered Species Act were considered as potential MIS but were not selected because these species have limited, if any, breeding populations occurring on the Rio Grande National Forest. These species would be of limited value as MIS. Sensitive species were also considered, and two are proposed as MIS. See Appendix B, Management Indicators Evaluation and Selection Process, for more detailed information.

Alternative 2 is expected to provide beneficial effects for TEPS and other species because it provides an increase in the level of protection for species viability due to the additions and clarifications of standards and guidelines that provide a slightly higher level of protection for habitat than those already provided by the Forest Plan. In addition, the scientific literature cited to determine habitat needs, distribution and trends of sensitive species have been added to the planning record.

Threatened, endangered, proposed, and sensitive (TEPS) species would be monitored and evaluated according to the amended Monitoring and Evaluation Strategy. Consultations with the U. S. Fish and Wildlife Service on TEP species would continue, as needed, at the project level to meet the requirements of Section 7 of the Endangered Species Act. Viability analysis of all Forest Service sensitive species would also continue during individual project analysis through preparation of biological evaluations, as prescribed by law, regulation, and agency policy. Population monitoring for important game species would continue through the Colorado Division of Wildlife (CDOW). The Forest Service would continue to collaborate with the state regarding habitat management for these species.

Dispersed Recreation. The proposed restrictions on tethering recreational livestock along streams, lakes, and other riparian areas could result in some inconvenience for dispersed recreationists, with a minor potential for displacement or reduction in opportunities for dispersed recreation on a case-by-case basis. This effect is estimated to be slight because of the extensive acreage available for recreation livestock tethering outside riparian areas. There may be a few specific sites on the Rio Grande National Forest where steep topography adjacent to a riparian area would not allow livestock related dispersed recreational opportunities at these sites; designated tethering sites or closure orders may be necessary.

Forest Products. The proposed amendment could potentially result in fewer opportunities for fuel-wood gathering in riparian areas and reduced convenience and opportunities to gather firewood because of the increase in snag retention requirements. This effect is estimated to be slight because of the extensive amounts of fuel-wood available and large areas open for fuel-wood gathering across the forest.

Monitoring. The amended Monitoring and Evaluation Strategy (Appendix A) identifies forest-level monitoring for MIS and other TEPS species with viability concerns. Population monitoring for important game species would continue through the Colorado Division of Wildlife (CDOW). The Rio Grande National Forest would continue to collaborate with the state regarding habitat management for these species.

The monitoring strategy for each MIS is described in the MIS Analysis and Monitoring document. These strategies are defined in relation to the key management question(s) regarding the viability of each MIS on the Rio Grande National Forest. The intent of the monitoring strategy is to assure that habitat quality and quantity are maintained in a manner that provides for interactive, well-distributed populations of

# 3 Environment and Consequences

MIS and other associated species across the national forest. Population trends for each MIS are also tracked in relation to the expected use and occupancy of the habitat. These efforts occur in collaboration with other agencies and organizations that, together, provide reliable population trend information at the appropriate spatial scales.

Alternative 2 would meet the requirements in the MIS regulations. Adding MIS to the Forest Plan would also provide an additional monitoring tool to evaluate the effectiveness of the Forest Plan management direction. Monitoring MIS population trends and relationships to habitat changes would provide an additional way to monitor the effectiveness of Forest Plan management direction in achieving desired conditions and habitat objectives while assuring that species populations remain viable and well-distributed across the forest.

## Cumulative Effects

The following are the past, present, and reasonably foreseeable forest planning actions affecting the Rio Grande National Forest related to MIS and the measurement of viability and biological diversity.

Past actions include the revised Forest Plan and FEIS, in which viability and biological diversity were a key management focus, and the 1997, 1998, 1999, 2000, and 2001 Monitoring and Evaluation Reports, which evaluated viability and biodiversity on the Rio Grande National Forest.

A current action is the fifth-year review and evaluation of the Forest Plan monitoring results, including biological diversity and species viability, compiled in *The Forest Plan Implementation A Five Year Review 1997–2001* report.

These reports have monitored viability concerns on the Rio Grande National Forest. The evaluations in these reports have not identified a need for a Forest Plan revision beyond the changes proposed in this amendment.

Reasonably foreseeable future actions that may affect management direction of the Forest Plan include the following:

- Revision of the Regional Forester's Sensitive Species list;
- The pending regional lynx amendment to some forest plans (including the Rio Grande National Forest);
- Regional guidance on implementing Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, and the Memorandum of Understanding for the Conservation of Migratory Birds;
- Regional guidance on implementing the Memorandum of Agreement on Section 7 Programmatic Consultation and Coordination;
- Pending U. S. Fish and Wildlife Service approval of the Recovery Plan for the Southwestern Willow Flycatcher; and
- The pending Roadless Area Conservation Rule.
- The pending NFMA planning regulations may also address MIS and species viability evaluations.

The reasonably foreseeable future actions are not anticipated to change the effects of this analysis to amend the Forest Plan, although they may require additional analyses and consultations in the future.

The cumulative effects of Alternative 2 are similar to the direct effects. The Forest Plan could move forward toward full implementation over the life of the plan. The

Rio Grande National Forest would continue to monitor and evaluate Forest Plan implementation through the monitoring strategy and annual monitoring and evaluation reports but would benefit from additional MIS analysis methods to evaluate habitat changes and species viability beyond those already in the Forest Plan. Implementing Alternative 2 may also add to the knowledge and understanding about MIS concepts and species viability over the longer term.

## Other Consequences or Effects Considered

### **Preliminary Finding of a Non-significant Change to the Revised Rio Grande Land and Resource Management Plan — NFMA**

An assessment of a proposed amendment's significance in the context of the larger forest plan is a crucial part of this analysis. Significance in this case is defined by the National Forest Management Act (NFMA). The proposed amendment was evaluated to determine whether it constitutes a significant change in the long-term goods, outputs, and services projected by the Forest Plan. Factors considered included: timing; scope; changes in goals, objectives, outputs and services; and management area prescriptions.

The timing of this amendment is appropriate. It is necessary to meet the Deputy Under Secretary of Agriculture's requirements and bring closure to the appeal process for the Forest Plan. The amendment needs to be addressed now rather than waiting for the next plan revision. It would become effective upon issuance of the decision notice and would apply until changed by subsequent amendment or revision.

The proposed amendment, while applying to the entire forest, is administrative and programmatic in nature and provides an analytical method to help evaluate species viability. It would have no effect on the long-term relationships among goals and objectives or the levels of goods and services projected by the Forest Plan. There would be no changes in the anticipated goods and services resulting from implementation of the Forest Plan with this amendment. None of the alternatives would change management area prescriptions or alter management area boundaries. There would be no changes to timber suitability or other land classifications.

Chapter 3 of the Forest Plan FEIS provides the outputs and services that were projected during the planning horizon for the Forest Plan. No changes would occur to these projected outputs as a result of implementation of the proposed amendment.

There would be no changes to the Forest-wide Desired Conditions, Forest-wide Objectives, management-area direction, or resulting changes to the multiple-use goals and objectives for long-term land and resource management. The proposed MIS related changes to the Forest-wide Standards and Guidelines would not change the goals, objectives, or outputs of the Forest Plan.

This amendment would provide a useful evaluation tool that would contribute to the achievement of the Forest-wide Desired Condition for biological diversity to maintain habitats that provide viable populations of native and desired non-native plant and animal species. It would also contribute to the Forest-wide Objective to ensure the sustainability of viable populations of all native fish, wildlife and plant species through the maintenance or improvement of habitat conditions.

### **Preliminary Finding and Conclusion**

The analysis considered the significance of the proposed Forest Plan MIS amendment,

# 3 Environment and Consequences

based on considerations of timing; scope; goals, objectives, and outputs; management prescriptions; and other provisions of the National Forest Management Act of 1976 (36 CFR 219.10(e) and (f)). The amendment would not change desired conditions and long-term levels of goods and services projected in the Forest Plan. The amendment would not alter current planning direction on “why” management is needed (e.g., to provide habitat to support viable populations) or “what” management actions can be taken (e.g., vegetative treatments to manage habitat). Rather, the amendment provides an evaluation tool (MIS) to monitor the effectiveness of planning direction in moving toward desired conditions and in managing fish and wildlife habitat to maintain viable populations of existing native and desired non-native vertebrate species in the planning area (36 CFR 219.19). Therefore, the preliminary finding is that if Alternative 2 were selected, these changes would not constitute a significant amendment to the Revised Rio Grande Land and Resource Management Plan.

**Preliminary Finding of a Non-significant Impact – NEPA** The proposed amendment was also evaluated to determine whether it constitutes a significant impact on the quality of the human environment or whether the environmental impacts would be significant based on their context and intensity as defined by the National Environmental Policy Act (NEPA).

The administrative nature of the amendment to add MIS to the Forest Plan would not result in any anticipated effects that will exceed the level at which a significant effect on the human environment in terms of context or intensity would occur.

There are no proposed resource disturbances. The effects from the proposed amendment are expected to be minor and beneficial. The effects are not highly uncertain and do not involve unique and unknown risks. The action would not, in relation with other actions, cause cumulatively significant impacts. There would be no effects on public health and safety. There would be no effects on historic or cultural resources, parklands, prime farmland, wetlands, wild and scenic rivers, or ecologically critical areas. There would be no effects on listings or listing eligibility in the National Register of Historic places, and there would not be a loss of significant scientific, cultural, or historical resources. None of the alternatives would affect either the short-term or long-term productivity of the Rio Grande National Forest, in terms of sustainability of the resources or outputs associated with them, from the current management direction. There would be no adverse effects on TEPS species or habitats. The action is in compliance with all federal, state, and local environmental protection laws. While most aspects of forest management tend to be somewhat controversial, the proposed amendment to add MIS is unlikely to be highly controversial. The action would not establish a precedent for future actions with significant effects or represent a decision in principle about future considerations. This decision would cause no irreversible or irretrievable commitment of resources. There are no civil rights issues, and none of the alternatives would have any civil-rights-related effects because consideration of management indicator species has no effect on rights protected under civil rights law.

## **Preliminary Finding and Conclusion**

Based on the above considerations, the preliminary finding is that these changes to the Forest Plan would not constitute a significant effect on the human environment if Alternative 2 were adopted.

# Chapter 4

## List of Preparers

### Interdisciplinary Core Team

Bob Dalrymple	Forest Planner
Dean Erhard	Forest Ecologist
John Murphy	Timber
Gary Snell	Range Conservationist
Greg Thompson	Recreation and Wilderness
Laurel Kagan Wiley	Forest Wildlife Biologist

### Interdisciplinary Team

Mary Carr	Writer-Editor, CAT Publishing Arts
Kelly Clum	Forest Landscape Architect
Les Dobson	Forest Hydrologist
Lary Floyd	Fire Management
Randy Ghormley	R2 Enterprise Wildlife Biologist
Dale Gomez	Wildlife Biologist
Dwight Irwin	Fish and Wildlife Biologist
Jim Jaminet	Range Conservationist
Mary Nelson	Forester
Gerald Poe	Fire Ecologist
John Rawinski	Soil Scientist/Minerals
Vince Spero	Forest Archeologist
Sue Swift-Miller	Fish and Wildlife Biologist
Barry Wiley	Forest Fisheries Biologist

# 4 List of Preparers



# Chapter 5

## Response to Comments

### Response to Public Comment

We received eight letters in response to the EA For Comment during the 30-day comment period; these letters are included at the end of this chapter. To facilitate the response to these comments, each comment letter was assigned a number (labeled in the upper right-hand corner of the letter), and each comment was numbered (in the right-hand margin of the letter). The numbering system used the following format: 1-1 means letter number 1, comment number 1; 1-2 means letter number 1, comment number 2; and so forth. A response using the comment number was prepared for each comment, as shown below.

**Table 5-1. Comments and Responses.**

Comment Number	Response
1-1	Your comment is noted. Activities on the RGNF will comply with the Watershed Conservation Practices Handbook.
2-1	Livestock grazing was identified as one of the key management activities on the RGNF used in identifying MIS. Its relationship to MIS is displayed in Tables 2-1, 3-1, B-1, B-2, and B-6 in this EA and discussed in the <i>Species Assessments</i> and <i>MIS and Analysis Monitoring</i> reports. MIS for livestock grazing activities include Lincoln's sparrow, Wilson's warbler, vesper sparrow, mule deer, Rocky Mountain elk, and Rio Grande cutthroat trout. The many habitat types affected by livestock grazing, including riparian, are displayed in Tables B-1 and B-2. The effects of livestock grazing on the RGNF are displayed in the Forest Plan FEIS Chapter 3 and are beyond the scope of this analysis.
2-2	Your comment is noted. Canada lynx was not selected as a MIS for several reasons including those presented in Appendix B, pages B-6 to B-8, and B-24. Lynx are already monitored and evaluated through the TEPS program and biological assessments. Currently, lynx are very rare on the RGNF and the population is thought to be too small to be self sustaining or capable of naturally rebounding to self-sustaining levels. The few individuals on the RGNF have been transplanted and are not known to be breeding.

# 5 Response to Comments

Comment Number	Response
2-3	Your comment is noted. See Appendix B, Table B-4, page B-24 for the reason American marten was not chosen as a MIS. Also see the footnote for Table B-5, Appendix B, page B-32, which explains why neighboring national forest MIS may not necessarily be appropriate on the RGNF. Monitoring is an adaptive process. As Forests review their MIS under the R2 MIS Direction, the MIS may change.
2-4	Your comment is noted. Boreal toad was not selected as a MIS for several reasons, including those presented in Appendix B, page B-26. As you noted, the boreal toad may be susceptible to factors beyond forest management activities, reducing its effectiveness as a Forest Service MIS.
2-5	Your comment is noted. The majority of timber harvest is projected to occur in the spruce/fir LTAs. Four MIS were selected to be responsive to timber management in these ecosystems. American marten and boreal toad were considered, but brown creeper, hermit thrush, elk and mule deer were selected as the most appropriate MIS for LTAs 1 and 13. See Appendix B.
3-1	Your comment is noted.
3-2	The selection of MIS was based on a thorough evaluation documented in Appendix B. Invertebrates, fungi, lichen, angiosperms, and bacteria were not selected as MIS because other species better met the five guiding principles in the R2 MIS Direction for the RGNF. Many of these groups are difficult to use as MIS because of identification issues, lack of standardized sampling procedures, inconspicuousness of some organisms, spatial patchiness in time and space, and whether or not their population changes are believed to clearly indicate the effects of management activities.
3-3	See Response 8-4. Ecological baseline and habitat monitoring already occur in the Forest Plan Monitoring and Evaluation Strategy (Chapter V) or are added or clarified in this Forest Plan amendment (see Appendix A, pages A-5 through A-9). MIS does not stand alone as a single monitoring tool; it is only one of many evaluation tools designed to assess numerous key attributes of the RGNF's resources and ecosystems.
3-4	Your comment is noted. The paragraph is a portion of the Deputy Under Secretary's appeal review decision. It must be taken with in the context of the entire appeal Decision. The Forest Plan proposes a limited amount of management actions relative to the size of the Forest so that there are few expected negative effects on overall habitat conditions.

# Response to Comments 5

Comment Number	Response
3-5	<p>Because of the complexities and uncertainties involved, monitoring and adaptive management are crucial in forest management. Any type of monitoring has some degree of delay between monitoring an action and detecting a significant trend. Monitoring also occurs at different scales that may involve different time periods. MIS monitoring is only one type of monitoring used on the RGNF. Monitoring of the Forest Plan involves the use of MIS along with an extensive, complementary suite of other monitoring tools identified in the Monitoring and Evaluation Strategy (Forest Plan, Chapter V). It is important to note that over half the RGNF is allocated to management-area prescriptions that greatly limit ground-disturbing activities (i.e., wilderness, research natural areas, special interest areas, and backcountry prescriptions). Management activity levels proposed over the life of the Forest Plan are relatively modest (see Appendix B, Table B-1, pages B-14 to B-17). Thus, the chance of creating degraded areas to the point of adversely affecting MIS or other species is very low. Annual monitoring provides the feedback mechanism to ensure that management objectives, including viability, are being met over time.</p>
3-6	<p>Your comment is noted. Your reference to and comment on the CFR language is outside the scope of this analysis. The rigor of analysis used should be commensurate with the level of risk of a project. The best available information was used in the analysis.</p>
3-7	<p>See Response 3-6. Management of national forests involves both resource and social considerations. When making any decision, the responsible official must carefully balance ecological needs with social desires given the multiple-use context of Forest Service management.</p>
3-8	<p>Alternative 1 is the no-action alternative, which does not amend the Forest Plan. There are effects on forest resources from the Forest Plan and these are displayed in the Forest Plan and FEIS. These would continue to be monitored as described in the Forest Plan Monitoring and Evaluation Strategy.</p>
3-9	<p>See Response 3-8. The Forest Plan Chapter V Monitoring and Evaluation Strategy evaluates whether the Forest Plan is sufficient to guide management on the RGNF and serves as the key to adaptive management. The Strategy monitors a broad variety of issues including biodiversity. Biodiversity is currently monitored through many methods (Forest Plan pages V-18 to V-19). MIS will add an additional monitoring tool to the Strategy.</p>
3-10	<p>Cost effectiveness was only one of many factors (Appendix B) used in the selection of MIS. It was not the prime factor. Cost effectiveness should be a consideration in the expenditure of any public funds.</p>
4-1	<p>This letter contains many comments regarding other issues, projects, and agencies that are beyond the scope of this EA and are not addressed here. Viability is a key management objective in the Forest Plan and is not being ignored. MIS will provide an additional monitoring and evaluation tool to assess viability. Cumulative impacts are discussed in Chapter 3.</p>

# 5 Response to Comments

Comment Number	Response
4-2	MIS were selected to meet 36 CFR 219.19, “[T]hese species shall be selected because their population changes are believed to indicate the effects of management activities.” This is an important consideration. There are literally an infinite number of ecosystems and species that could be monitored at a variety of scales. Selected MIS are designed to meet relevant CFR direction and guidance provided in the R2 MIS Direction. Appendix B discusses at length the rationale for the limited number of species chosen.
4-3	The MIS you mention are not proposed in this EA. MIS for the RGNF are presented in Table 3-1.
4-4	MIS selection considered a variety of factors. The effectiveness and efficiency of monitoring MIS, rather than monitoring ease, was one of many considerations. Threatened and endangered, species (TES) were considered but they were not selected for the reasons presented in Appendix B, pages B-7 to B-8. TES are already monitored in addition to the MIS.
4-5	This set of comments addresses a different project outside the scope of this EA. See Chapter 1 for a description of the Proposed Action for this project. Migratory birds were considered and some were selected as MIS. See Appendix B, <i>Species Effects</i> , and <i>MIS Analysis and Monitoring</i> . See Response 4-1.
4-6	Weed/exotic plant species are of concern on the RGNF and are monitored in the Forest Plan (page V-22) and as part of the noxious weed program. They were not selected as MIS because they are already being monitored and for the reasons presented in Appendix B, page B-10. The presence or absence of noxious weeds is not necessarily a reliable indicator of management activities. The ecological aspects of weeds are not completely understood. One theory is that exotic plant species invade areas of low plant species richness more readily (for example in disturbed areas with more bare ground) than areas of high plant species richness, which may suggest the utility of noxious weeds as an indicator of management activity disturbance. However, another more recent theory is that the invasive potential of a site for exotic plant species may actually be more tied to high soil fertility and that exotic species richness appears to increase with native-plant species richness and foliar cover (Stohlgren <i>et al.</i> 1999).
4-7	We agree that many plants can be good indicators of the environment. The Forest Plan (Chapter V) contains a monitoring strategy, and selected plant species are monitored in a fine- and coarse-filter approach to assess the conservation of biological diversity (see Forest Plan, pages V-18 to V-19). In addition, landtype associations (LTAs) are monitored to evaluate changes in composition, structure, and pattern over the life of the forest plan (see Forest Plan page V-19). Since key plants, plant communities, and LTAs are already monitored, designating a plant species as a MIS, or a plant community or an ecological type as a MI, would be redundant and would not add considerable value to the existing monitoring plan.

# Response to Comments 5

Comment Number	Response
4-8	This comment appears to address another project. Monitoring of all land birds on the RGNF is not feasible; however, many land birds were considered for MIS and six of the nine MIS selected are land birds. MIS land birds will be monitored in conjunction with the Monitoring Colorado Birds Program and through working with the Rocky Mountain Bird Observatory and in the Partners In Flight Regional Bird Conservation Plan. The land birds were selected as MIS to represent specific habitat types affected by key forest management activities.
4-9	This comment addresses a different project outside the scope of this EA. See Response 4-1.
4-10	It is not possible to select MIS for every habitat on the RGNF. See Response 4-2. MIS were selected to represent habitat types affected by key forest management activities including timber harvest. See Tables 3-1, B-1, and B-2 in this EA. Timber harvest was identified as a key management activity on the RGNF and was used to identify MIS. Its relationship to MIS is displayed in Tables 2-1, 3-1, B-1, B-2, and B-6 and discussed in the <i>Species Assessments</i> and <i>MIS and Analysis Monitoring</i> reports. MIS for timber harvest include brown creeper, hermit thrush, pygmy nuthatch, mule deer, Rocky Mountain elk, and Rio Grande cutthroat trout. The many habitat types affected by timber harvest are displayed in Tables B-1 and B-2. MIS were not selected for habitats that were not affected by key management activities.
4-11	MIS monitoring will occur annually. MIS were selected based on 36 CFR 219.19: “[T]hese species [MIS] shall be selected because their population changes are believed to indicate the effects of management activities.” MIS monitoring is intended to facilitate the evaluation of the effectiveness of the Forest Plan in monitoring species viability. The forest ecosystem and its components are influenced by many factors including those outside the control of forest management. MIS are not intended to monitor outside influences; those are outside the scope of this proposed action.
4-12	This comment addresses issues beyond the scope of this EA.
4-13	This comment includes issues beyond the scope of this EA. See Forest Plan FEIS, Aquatic Resources section, for an explanation of how the Forest was divided into distinct physiographic settings and how reference streams are used to evaluate stream health in compliance with the Watershed Conservation Practices Handbook. Rio Grande cutthroat trout is only one of a suite of proposed management indicator species and MIS is only one of many monitoring and evaluation tools available to assess the effects of management activities on the RGNF. The Forest Service is also charged with maintaining viable populations of desired non-native species through NFMA implementing regulations; since most salmonids share similar life history habitat aspects, non-native salmonids can serve as surrogates in the absence of native cutthroat trout.

# 5 Response to Comments

Comment Number	Response
4-14	This comment includes issues beyond the scope of this EA. Rio Grande cutthroat trout was selected as a MIS to monitor and evaluate the effect of management activities on the aquatic environment. Brook trout will be used only in the absence of Rio Grande cutthroat trout. All trout species, including brook trout, can be affected by excessive sedimentation which can lead to loss of entire age classes, reduce population recruitment, and influence the indices used to calculate body condition and various population attributes.
4-15	See Responses 4-3, 4-13, and 4-14
4-16	See Response 4-9.
4-17	See Responses 3-3, 3-9, and 4-2. MIS is only one of many monitoring tools.
4-18	See Response 4-2.
4-19	See Response 4-17. This comment primarily addresses issues beyond the scope of this EA. See the “Purpose of and Need for Action” (EA page 1-2).
4-20	This comment appears to address another project. TEPS were identified in the Forest Plan Biological Evaluation and Biological Assessment and discussed in Chapter 3. This MIS amendment is an administrative and programmatic document that will have no direct effect on TEPS habitats or populations.
4-21	See comment 4-20. Listed species were included as TEPS in the analysis and were considered in the MIS selection process but none were selected since they are already monitored and evaluated through the TES program and through biological assessments and evaluations. Other non-listed species were thought to better serve as MIS. See Appendix B, pages B-6 to B-8.
4-22	See Appendix B, pages B-6 to B-8 and Table B-4. Endangered and threatened species are only one of five categories suggested to be considered by 36 CFR 219.19(a)(1) in selection of MIS. They are not required to be selected. Endangered and threatened species were considered for MIS but were not selected since other species were thought to better serve as MIS.
4-23	See Response 4-9. Appendix B lists and evaluates every species that was recommended within the agency and through scoping.
4-24	This comment appears to address another project.

# Response to Comments 5

Comment Number	Response
4-25	Threatened and endangered species are addressed in the biological assessment. They were considered for MIS but were not selected, as presented in Appendix B pages B-6 to B-8 and Table B-4. See Responses 4-22, 7-2., 7-3, and 7-7.
4-26	This comment addresses issues beyond the scope of this EA.
4-27	This comment addresses issues beyond the scope of this EA.
4-28	The selected MIS will best meet the needs of the RGNF. The MIS were selected because they best respond to and provide indications of effects of the key forest management activities of concern. Northern goshawk and Canada lynx were considered for MIS but were not selected for the reasons given in Table B-4.
4-29	This comment addresses a different project and issues outside the scope of this EA. See Response 4-1. In general, however, viability is provided through the Forest Plan, the updated biological assessment, and ongoing management of TES species. Additionally, when projects are proposed to implement the amended Forest Plan, site-specific effects on TES species will be considered in accordance with laws, regulations and policy.
4-30	This comment addresses a different project and issues outside the scope of this EA. See Response 4-1. The lynx was addressed in the updated Forest Plan biological assessment in consultation with the U.S. Fish and Wildlife Service. This amendment to add MIS to the Forest Plan is an administrative monitoring tool that will cause no ground or resource disturbance and by itself will not have an effect on Canada lynx.
4-31	This comment addresses a different project and agency outside the scope of this EA. The significance of the action under NEPA is discussed in the EA on page 3-16. Significance is also addressed in the Finding of No Significant Impact in the Decision Notice.
5-1	Your comment is noted. The RGNF is committed to working closely with the Northern Ute Indian Tribe.
6-1	Your comment is noted.
6-2	Your comment is noted.
6-3	Two species, Lincoln's sparrow and Wilson's warbler, were selected as MIS to represent riparian habitat in order to cover the moisture and elevational gradients within willow riparian habitat on the RGNF.

# 5 Response to Comments

Comment Number	Response
6-4	Your comment is noted. Deer and elk were selected primarily for management concern for their recreational and economic value locally and also because these species are thought to be responsive to the key management activity of travel management and related disturbance (See Table B-3).
6-5	Your comment is noted.
7-1	We agree that monitoring and adaptive management are crucial elements of national forest management. However, MIS is only one of many monitoring tools used by the RGNF. We feel that the Forest Plan Monitoring and Evaluation Strategy (Forest Plan Chapter V), as a whole, will allow the Forest Service to fulfill its duties to evaluate and ensure diversity, maintain viability, and conserve forest resources within the multiple-use objectives of the Forest Plan. It is not practical to identify a MIS for every ecosystem on the RGNF. Appendix B lists the principles guiding the MIS selection process (B-2 to B-4). These provide the foundation for the selection of MIS. It is difficult, if not impossible, to establish whether one ecosystem is more important than another. Instead, the MIS selection process identified key management activities and the appropriate scale of affected ecosystem which was defined as the landtype association (LTA). MIS were selected to represent those LTAs. See Appendix B, Tables B-1 and B-2. Aspen, pinyon-juniper, gambel oak, and wetland ecosystems were considered in the analysis, but the extent of projected RGNF management activities on these ecosystems was projected to be minor and did not warrant selection of a MIS. Also see Responses 3-3, 3-5, and 4-2.
7-2	It is not possible to effectively use every species on the RGNF as a MIS; therefore, species were screened to select the most appropriate MIS considering the Guiding Principles and MIS Selection Process Steps described in Appendix B. The objective was to select the most appropriate MIS where their population changes are believed to indicate the effects of management activities. We selected species that represent ecosystems affected by the major management activities and serve as indicators of change to those systems. We selected species that provide indicators of effects from management activities that can be effectively monitored. We selected species that will be feasible and cost-effective to monitor. The rationale for selecting or not selecting each species considered is presented in Tables B-3 and B-4. The non-selection of a species was often based on more than one reason. Also see Response 4-2.  The availability of baseline data and existing monitoring programs was considered important in selecting the MIS because such data improve the effectiveness of monitoring by enabling us to build upon existing monitoring information.

# Response to Comments 5

Comment Number	Response
7-3	<p>Rare species and specialized habitat were two of the many categories considered during the MIS selection process. Rare species are not necessarily effected by or responsive to management activities, and are not necessarily good indicators of habitat conditions for other species. Specialized habitats for rare species generally are not expected to be affected by major management activities on the RGNF. TEPS species are already monitored in as part of the Forest Plan Monitoring and Evaluation Strategy and specific viability concerns are evaluated in biological evaluations and assessments. Sensitive species that were thought to be responsive to key management activities, to serve as indicators for other species, and to be feasible and practical to monitor were selected as MIS (Rio Grande cutthroat trout and pygmy nuthatch). Special habitats were considered in the selection process but not selected (Table B-4) because they were already protected by standards and guidelines or were not responsive to management activities. Other species were considered to be more effective MIS for the RGNF. See Response 7-2.</p>
7-4	<p>See Response 7-2 and 7-3. Several selected MIS represent habitats across the RGNF. The process and rationale for selection or non-selection of MIS presented in Appendix B should be considered in its full context.</p>
7-5	<p>Appendix B defines the role of management activities in the selection of MIS. Table B-4 provides the rationale for why the chorus frog was not selected as a MIS and lists the other species selected to represent aquatic habitat.</p>
7-6	<p>See Responses 7-5, 7-2, 7-4, 3-3, and 3-5.</p>
7-7	<p>See Response 7-2. The Forest Service conducts biological assessments on threatened and endangered species (TES) to evaluate viability in a process separate from the use of MIS. These assessments rely on existing monitoring data and relevant scientific information including population estimates and habitat trends in order to make effects determinations. Monitoring for TES species is established in the Forest Plan Monitoring and Evaluation Strategy. Threatened and endangered species were considered for MIS designation but none were selected for the reasons included in Appendix B. Instead, other more effective species were selected to serve as MIS. Threatened and endangered species often do not serve as good indicators for other species. Also see Response 7-3.</p>
7-8	<p>This was only one of many factors considered in the MIS selection process. MIS monitoring is also only one type of monitoring used on the RGNF. Monitoring of the Forest Plan involves the use of MIS along with an extensive, complementary suite of other monitoring tools identified in the Monitoring and Evaluation Strategy (Forest Plan, Chapter V). Also see Responses 3-3, 3-5, 7-2, and 7-4.</p>

# 5 Response to Comments

Comment Number	Response
7-9	The practicality and effectiveness of monitoring a species was one of many factors considered in the selection process. American marten was not selected for MIS for several reasons, including monitoring difficulties (Table B-4). Other species were selected that were thought to be more practical and effective MIS for the RGNF.
7-10	Prey species occurrences and densities can fluctuate widely across the RGNF on an episodic basis, dependent on cyclic conditions (climate, food availability, density-dependency, etc.), affecting closely dependent predator species distribution and annual productivity. Difficulties in monitoring prey species themselves precluded their selection as MIS (see Table B-4). Species with habitat specific needs that were responsive to management activities and not closely dependent on specific prey species were determined to be more effective MIS.
7-11	Other influences beyond forest management was one of many factors considered during the MIS selection process. Most if not all species are influenced by factors beyond forest management. However, we were specifically looking for species whose population changes are believed to be closely linked to management activities and can effectively be monitored. A species that is affected more by factors outside of forest management activities is a less effective MIS.
7-12	Many species could be MIS; however the selected MIS are thought to be the most effective indicators of key management activities in their representative habitats. See Response 4-2 and 7-2.
7-13	The existence or non-existence of breeding populations was one of many factors considered in the selection process. Breeding populations are considered more important because they generally represent a less transitory population than a species that may be just passing through the forest. The selected MIS all breed on the RGNF. Selection and monitoring MIS is intended to improve the ability to evaluate the effects of management activities on habitats and populations. Species were selected because their population changes were believed to indicate the effects of management activities. Population changes or trends are difficult to monitor at the Forest level if the species does not breed on the Forest. Also see Responses 4-2 and 7-2.
7-14	MIS is one of many important tools for assessing the effects of forest management, and MIS monitoring results must be evaluated in the larger context of other information. The MIS were selected with a focus on effectiveness. The selected MIS, along with other forest monitoring tools, are expected to assist in evaluating the effectiveness of the Forest Plan in providing for species viability and diversity.

# Response to Comments 5

Comment Number	Response
7-15	<p>Species recommended for MIS during public scoping were considered in the selection process. See the Public Comment column of Tables B-3 and B-4. MacGillivray's warbler was considered but was not selected as MIS. Wilson's warbler and Lincoln's sparrow were selected as MIS to represent mid-elevation riparian areas because of their close habitat relationships with riparian willow communities and responsiveness to management activities. MacGillivray's warbler is not considered as closely tied to riparian habitats as the selected MIS. Also see Response 6-3.</p>
7-16	<p>Yellow warbler was considered but was not selected as MIS. Riparian habitat is thought to be better represented by the selected MIS, Lincoln's sparrow and Wilson's warbler, which are more common. Also see Response 7-2.</p>
7-17	<p>Chorus frog and tiger salamander were considered but not selected as MIS for the reasons presented in Table B-4. These species were not found to be as effective riparian MIS as the selected Lincoln's sparrow and Wilson's warbler, because they are not as responsive to management activities. They are monitored as part of the TES program and Watershed Conservation Practices Handbook. The selected MIS are thought to be better indicators in riparian habitat. Wetlands were included in the riparian habitat type. The Watershed Conservation Practices Handbook provides protection to all wetlands and requires monitoring to ensure that wetlands sustain their ecological function.</p>
7-18	<p>Beaver was considered but was not selected as MIS for the reasons presented in Table B-4. Other MIS were selected that are thought to better represent aquatic and riparian habitat.</p>
7-19	<p>Species recommended for MIS during public scoping were considered in the selection process. See the "Public Comment" column of Tables B-3 and B-4. Also see Response 7-2. While forest types on the RGNF are not considered boreal, high-elevation forest are included in the spruce/fir and mixed conifer LTAs. Brown creeper and hermit thrush were selected as MIS to represent these ecosystems. Plant species were considered but were not selected as MIS for the reasons presented in Table B-4. Also see Response 4-7.</p>
7-20	<p>We feel the EA provides a reasonable range of alternatives. The no-action alternative is required by regulation and serves as a baseline for comparison to the existing condition. We considered the species proposed during public scoping and selected the appropriate species as MIS. Other proposed species were not selected for the reasons provided in Appendix B.</p>
7-21	<p>The amendment both clarifies existing and adds new Standards and Guidelines (Appendix A). This will provide increased protection to forest resources (EA pages 3-12 to 3-13).</p>

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Comment Number	Response
7-22	All scoping comments were considered in the analysis. Riparian ecosystems are important and are protected in the Forest Plan by a comprehensive set of riparian Standards and Guidelines that mitigate impacts to riparian areas (pages III-5 thru III-8). Riparian health is specifically addressed in the existing monitoring section in the Forest Plan (pages V-22 to V-23) and provides adequate monitoring for riparian areas. Selecting willow as a MIS was considered redundant with the existing riparian monitoring already in place. The Forest Plan already monitors areas of high ecological concern, such as species occurrences within Potential Conservation Areas identified by the Colorado Natural Heritage Program (page V-18, second objective under viability, part a). The full extent of forest plan monitoring can be found in Chapter V of the Forest Plan. Additional explanation of monitoring can be found in relevant sections of the FEIS. Also see Response 1-1.
7-23	Significance of the action under both NFMA and NEPA is discussed in the EA, pages 3-15 and 3-16. Significance is also addressed in the Finding of No Significant Impact in the Decision Notice. This action has been determined to be non-significant under both NEPA and NFMA.
7-24	It is not practical to identify MIS for every management activity occurring on the RGNF. Instead, the major or key management activities of concern were identified in the MIS selection process. Oil and gas development, developed recreation, and mining activities were considered but were not projected to occur at levels to cause sufficient management concern that would warrant designating MIS. See Appendix B for selection of the major management issues and challenges and establishing MIS monitoring priorities. See Tables B-1 and B-2 for the management activities expected on the Forest over the current planning horizon. Also see Responses 3-5 and 7-1.
7-25	Designation of areas as suitable or unsuitable for timber is outside the scope of this analysis. The amendment will not affect resource suitability determinations and it will not change the current anticipated level of outputs.
7-26	Livestock grazing suitability determinations and the other comments to the Forest Plan are outside the scope of this analysis.
8-1	Your comment is noted.
8-2	MIS designated on neighboring national forests were considered in the MIS selection process. MIS may vary on different national forests because of different ecological conditions and different management activities and concerns. Both Abert squirrel and pine marten (American marten) were considered. See Table B-4 and Response 2-3.
8-3	Your comment is noted. There are multiple sources of avian species lists noting various levels of concern in addition to the Audubon Watchlist for Colorado Birds. Bird species of concern were considered during the MIS selection process. Avian species from the Regional Forester's Sensitive Species list were considered. Most of these species are also included in the

# Response to Comments 5

Comment Number	Response
	<p>Monitoring Colorado Bird Program and monitored through the RMBO. Information from these programs was considered in the MIS analysis and is also considered in project analysis to assess viability. The flammulated owl is already monitored and evaluated as a sensitive species, however, it is difficult to monitor, and the pygmy nuthatch is thought to be a better MIS. The brown-capped rosy finch was not selected as a MIS because the key management activities do not occur in its alpine habitat. The rufous hummingbird was not selected as MIS because it is not a good indicator of any specific habitat, it is not thought to respond to forest management activities, and it is predominately a migratory species in Colorado. Also see Response 7-2.</p>
8-4	<p>MIS monitoring is only one of many evaluation tools used to assess key attributes of the RGNF's resources and ecosystems (Forest Plan Monitoring and Evaluation Strategy Chapter V). Sensitive species are monitored as part of the Monitoring and Evaluation Strategy in addition to MIS. Sensitive species are also evaluated at the individual project level through the biological evaluation process (FSM 2670). As monitoring information is collected over time, it becomes available to add to resource knowledge and baseline conditions. These can be used to better assess the effects of forest management activities and lead to management changes, if necessary, or they can add to the information of effects beyond the scope of forest management.</p>
8-5	<p>Your comment is noted. Funding levels are always a concern and cost effectiveness was one of many factors (Appendix B) used in the selection of MIS. Also see Response 3-10. Ongoing monitoring programs from within and outside the agency were an important consideration in the selection of MIS for both scientific effectiveness and cost effectiveness. The RGNF will continue to engage in partnerships which help us to better manage the forest resources.</p>
8-6	<p>Your comment is noted. Amphibians as a taxonomic group were considered but not selected as MIS for the reasons presented in Table B-4. Other MIS were selected that are thought to better represent these habitats affected by key management activities.</p>
8-7	<p>Your comment is noted. While predators are an important part of the forest ecosystem, they were not selected as MIS because they generally are difficult to monitor and are influenced by factors beyond forest management, such as hunting and trapping. Other MIS were selected because they are thought to be better MIS for habitats affected by key management activities. Predators such as mountain lions are monitored and regulated by CDOW. The Forest Service works closely with CDOW on habitat and wildlife issues. Also see Response 7-10.</p>

Acronyms used in this table: CDOW=Colorado Dept. of Wildlife; EA=environmental assessment; LTA=landtype association; MI=management indicator; MIS=management indicator species; RGNF=Rio Grande National Forest; RMBO=Rocky Mtn. Bird Observatory; TES=threatened and endangered species.

# 5 Response to Comments

## Public Comment Letters

We received the following eight letters in response to the EA For Comment during the 30-day comment period. To facilitate the response to these comments, each comment letter was assigned a number (labeled in the upper right-hand corner of the letter), and each comment was numbered (in the right-hand margin of the letter). The numbering system used the following format: 1-1 means letter number 1, comment number 1; 1-2 means letter number 1, comment number 2; and so forth.

[Please click here to go to the Comment Letters](#)