MIS Report For

Canon Cattle and Horse Allotment

Rio Grande National Forest

I. Project Proposal

The proposed action is to implement a grazing strategy for the Canon Cattle and Horse Allotment. The current AMP (1996) is outdated and the current grazing system implemented on the allotment is in need of refinement. The AMP will integrate the actions needed to manage rangeland resources for grazing, soil and watershed protections, maintenance or improvement of vegetative conditions, wildlife and other resources within the area. Management activities included as part of the proposed action include:

i. Establish estimated grazing capacity.
ii. Specify permitted livestock use.
iii. Implement an appropriate grazing system to maintain or improve ecological status of plant communities with no downward trend.
iv. Monitor for compliance with Forest Plan Standards and Guidelines.
v. Add range improvements to control livestock distribution

Three alternatives were developed in detail for this analysis and include:

A. Alternative 1 – Proposed Action Alternative which would involve a one herd seven pasture deferred grazing system. The West Lost Trail and Lost Trail pastures would be combined into one pasture.

B. Alternative 2 – Four pasture alternative which would close the Bear Creek, Rio Grande and Pole Creek pastures to grazing. The remaining portion of the allotment would be open to grazing. The reduced capable acres would require a reduction in animal months of grazing.

C. Alternative 3 – No Grazing Alternative.

II. Project Habitat Overview

The Canon C&H Allotment is approximately 21,000 acres in size and is located approximately 30 miles west of Creede. The allotment occurs at elevations between 9,500 and 10,500 feet and lies within the upper Rio Grande watershed and includes its tributaries of Bear Creek, Pole Creek and Lost Trail Creek. Vegetation consists of Arizona fescue and Thurber fescue meadows, riparian areas, above timberline grasslands, spruce-fir forest and aspen. The riparian bottoms are relatively narrow with steep slopes that are a mixture of rock outcrops and spruce-fir forest.

III. Project Impacts (for alternatives)

Alternatives 1 and 2.

Impacts of cattle grazing on the allotment are similar to the potential impacts discussed within the Biological Assessment and Evaluation. In short, direct effects from the action alternatives (Alternatives 1 and 2) may include cattle displacing Management Indicator Species from the various pastures while they are present and possible direct mortality to individuals as the result of trampling or nest destruction. Direct effects may also include increased human disturbance by herd management activities (herding, salting, fencing…) within the various pastures.

Indirect potential effects are mainly due to cattle grazing in riparian areas and upland vegetation habitat types. Riparian areas are often disproportionately preferred by cattle over surrounding uplands because of access to water, abundant and palatable forage, a cooler and shadier microclimate, and moderate slopes allowing easy access. Grazing affects riparian vegetation through removal and trampling. Removal by browsing affects the structure, spacing and density of vegetation. Grazing can alter the age structure and species composition of riparian areas. Cattle readily eat shoots of cottonwoods and willow, and heavy grazing can completely eliminate regeneration of these species. This produces even-aged, non-reproducing communities of mature cottonwoods and decadent willows, with little understory. These effects to the riparian areas can impact stream habitat by creating channels that are generally wider and shallower than normal, can destabilize streambanks, promote bank sloughing which reduces undercut bank habitat, and increase fine sedimentation and water temperatures.

Alternative 3.

With no grazing, there would no impacts to MIS species due to cattle. Some impacts from elk use and recreational use would still occur but would be relatively insignificant.

IV. MIS Species Selection

The Rio Grande National Forest has 9 Management Indicator Species. Four species were selected as Management Indicator Species due to habitat and management associations within the Canon Allotment. The remaining species were not selected due grazing activities not being expected to significantly impact the quality and quantity of habitats, nor their spatial distribution over the Forest and population trends are not expected to be affected. Table 1 summarizes species' rationale for selection as an MIS for the project, followed by a detailed discussion.

Table 1: MIS Selected

SPECIES SELECTED	RATIONALE
Rio Grande Cutthroat Trout (or proxies, ie. brook, rainbow and brown trout)	Indicator of the health of montane aquatic ecosystems. Sensitive to management activities that increase sediment, reduce stream cover, create barriers to movement, or impact stream flows or water quality.
Wilson's Warbler	Indicator of the health of willows and riparian communities. Riparian species tied to different structural elements susceptible to grazing and other activities within riparian areas.
Lincoln's Sparrow	Indicator of the health of willows and riparian communities. Riparian species tied to different structural elements susceptible to grazing and other activities within riparian areas.
Vesper Sparrow	Indicator of the health of upland bunchgrass/shrub communities. Utilizes a narrow set of habitat conditions for nesting such as sparsely or patchily distributed shrubs with abundant grass cover; may be affected by grazing. .

Rationale for species selected:

Rio Grande Cutthroat Trout (or proxies) – The Rio Grande cutthroat trout (and proxies) was selected as a project MIS to answer the monitoring question as to whether livestock grazing is being managed in a manner that provides for viable, well-distributed populations of aquatic species across the Forest. All perennial waters within the Canon Allotment are considered potential trout waters. RGCT and other desirable nonnative trout species are known to occur

in Pole Creek, Lost Trail Creek, West Lost Trail Creek, and in the Upper Rio Grande. RGCT in these streams are classified by DOW as recreation populations which serve the dual purpose of maintaining genetic refugia for pure historic populations and provide sportfish recreation.

Trout species can serve as an indicator of the health of montane aquatic ecosystems. Use of trout will assist in monitoring whether Forest Plan standards and guidelines are being met for riparian areas, and the associated aquatic habitat, with an emphasis on grazing within the water influence zone (WIZ). Since grazing can impact the riparian environment resulting in loss of instream habitat and increase fine sediment deposition, trout populations could be directly influenced by improper grazing practices and/or failure to fully implement Forest standards and guidelines. Population size, density (fish/mile), biomass (pounds/acre), and age structures could be directly influenced by degraded stream health. Therefore, trout were selected as an MIS for the Canon Allotment.

RGCT are present in every major drainage within the Rio Grande Basin in Colorado. There are 161 known existing populations in Colorado, of which 77 are core (> 99% genetically pure) or conservation populations (≥ 90% pure), 81 are recreation populations which are maintained as sport fisheries, and 3 populations with undetermined genetic purity. According to Alves et al. (2002), 21% of the known core or conservation populations are secure and stable; 8% secure and expanding; 23% at risk and stable; 24% at risk and declining; and 25% with an unknown status.

On the RGNF, approximately 1,050 miles of streams and over 1200 lake surface acres provide trout habitat. Most of this available habitat is currently occupied by either RGCT or desirable nonnative trout species. Most waters that support wild self-sustaining populations of nonnative trout are considered suitable and potential RGCT waters. Stream habitat condition on the Forest generally does not pose a serious threat to the existence of RGCT or desirable nonnative trout, although some streams may not be at maximum potential due to isolated habitat problems. Currently, there are 35 core and conservation populations of RGCT occupying approximately 200 stream miles on the Forest. An additional 22 streams, approximately 150 miles, and 59 high mountain lakes, totaling approximately 1000 surface acres, are being managed as RGCT recreation waters.

Lincoln's Sparrow – This species is an indicator of the health of willows and riparian communities. The Colorado Breeding Bird Atlas documented Lincoln's sparrow as breeders in a high percentage of the survey blocks in the mountainous areas of the state. The Natural Heritage ranking for this species is demonstrably secure globally. The population trend information from the Breeding Bird Survey shows a slight increase for this species in Colorado.

Primary habitat for Lincoln's sparrow on the Rio Grande National Forest occurs in Land Type Association (LTA) 10 – Willows and sedges on floodplains. This LTA occurs primarily on gentle slopes at elevations of 8,600 to 11,600 feet and comprises about 54,000 acres (3%) on the Forest. The Lincoln sparrow forages on the ground in wet areas close to their nest location, which is often in dense foliage. Their slow feeding style tends to include

slower and more hidden arthropods, which is a feeding strategy which tends to separate them from direct competition from Wilson's warblers, which are often found in the same habitat but consume different types of insects. Accordingly, Lincoln's sparrow was selected as an MIS for the Canon Allotment.

Wilson's Warbler – This species is an indicator of the health of willows and riparian communities. The Colorado Breeding Bird Atlas documented Wilson's warblers as breeders in a high percentage of the survey blocks in the mountainous areas of the state that contained willow communities above 9,000 feet elevation. The Partners in Flight Total Score indicates a significant decrease in population trend for this species.

Population trend information from the Breeding Bird Surveys also shows a significant decrease for this species in Colorado.

Similarly to the Lincoln's sparrow, primary habitat for Wilson's warbler on the Rio Grande NF occurs in LTA 10-willows and sedges on Floodplains. This LTA is used to a great extent for livestock grazing as well as for recreational activities due to the proximity of water and shade. This species along with other species which nest and/or forage in heavy shrubs or herbaceous ground cover are the most likely to be negatively impacted by livestock grazing. Generally, a riparian ecosystem is more susceptible to livestock damage when it is surrounded by land that is steep, rocky and contains less palatable forage. Accordingly, Wilson's warbler was selected as an MIS for the Canon Allotment.

Vesper Sparrow – This species is an indicator of the health of upland bunchgrass/shrub communities. The Colorado Breeding Bird Atlas lists the vesper sparrow as the most abundant species in mountain grasslands. Population trend information from the Breeding Bird Survey shows an increasing trend for vesper sparrow in Colorado.

Primary habitat for vesper sparrows on the Rio Grande NF occurs in montane and lower elevation grasslands that occupy about 12% of the Forest landbase (LTAs 8, 9 and 12). The primary management influences on these systems and their associated wildlife species are related to ungulate grazing. Current livestock grazing activities on the Forest occur on approximately 87% of the potential vesper sparrow habitat. Accordingly, the vesper sparrow was selected as an MIS for the Canon Allotment.

Table 2: MIS Selection Summary

SPECIES NOT SELECTED	RATIONALE
Hermit Thrush	Lack of habitat influenced by grazing within the allotment boundary. The Forest's MIS analysis document did not select this species as an indicator of range activities nor these habitats.
Pygmy Nuthatch	Lack of habitat influenced by grazing within the allotment boundary. The Forest's MIS analysis document did

SPECIES NOT SELECTED	RATIONALE
	not select this species as an indicator of range activities nor these habitats.
Brown Creeper	Lack of habitat influenced by grazing within the allotment boundary. The Forest's MIS analysis document did not select this species as an indicator of range activities nor these habitats.
Mule Deer	Grazing activities are not expected to significantly impact the quality and quantity of habitats, nor their spatial distribution over the Forest. Population trends are not expected to be affected. The allotment is not within big game winter range.
Elk	Grazing activities are not expected to significantly impact the quality and quantity of habitats, nor their spatial distribution over the Forest. Population trends are not expected to be affected. The allotment is not within big game winter range.

Rationale for species not selected:

Hermit Thrush – This species is an indicator of mature and old growth forests on the RGNF. On a national scale and at the scale of the local Southern Rockies-Colorado Plateau Bird Conservation Region, the hermit thrush shows an increasing trend. At the scale of the local Southern Rocky Mountains province, however, the hermit thrush shows a slightly decreasing trend; reasons for this are as yet unknown. Population estimates obtained from the Colorado Breeding Bird Atlas estimate a relative abundance of between 1,460-17,060 pairs of hermit thrush in suitable habitat on the Forest.

Grazing and grazing activities associated with the Canon Allotment are not expected to significantly impact the quality and quantity of habitats, nor their spatial distribution over the Forest, and population trends are not expected to be affected. Accordingly, the hermit thrush was not selected as an MIS for the Canon Allotment.

Pygmy Nuthatch – This species is an indicator of mature and old growth forests, particularly ponderosa pine and represents cavity nesters. The Natural Heritage Ranking for this species is demonstrably secure globally. Population estimates from the Colorado Breeding Bird Atlas indicate that there are currently between 199-1,850 pairs of pygmy nuthatch on the Forest. Additional analysis based on the potential habitat and average territory size (4-

10 acres/pair) indicates that the Forest may be capable of supporting a maximum average density of 2,850-8,075 pairs.

Grazing and grazing activities associated with the Canon Allotment are not expected to significantly impact the quality and quantity of habitats, nor their spatial distribution over the Forest, and population trends are not expected to be affected. Accordingly, the pygmy nuthatch was not selected as an MIS for the Canon Allotment.

Brown Creeper – This species is an indicator of mature and old growth forests on the RGNF. Population trend ratings for brown creepers in the southern Rocky Mountains province indicate a stable or undetectable trend, while those at the Bird Conservation Region level indicate a slightly increasing trend. Population estimates obtained from the Colorado Breeding Bird Atlas estimate a relative abundance of between 142 – 1,250 pairs of brown creeper in suitable habitat on the Forest.

Grazing and grazing activities associated with the Canon Allotment are not expected to significantly impact the quality and quantity of habitats, nor their spatial distribution over the Forest, and population trends are not expected to be affected. Accordingly, the brown creeper was not selected as an MIS for the Canon Allotment.

Mule Deer – This species is an indicator of road density, early successional vegetative conditions and other related forest disturbances. Population estimates from the Colorado Division of Wildlife indicate that there are currently 19,700 mule deer within the four Data Analysis Units on the Forest. Herd population estimates have not been met in most DAUs since the late 1980's. Specific harvest regulations are promulgated by the Colorado Division of Wildlife to improve herd numbers and achieve population objectives. The Rio Grande National Forest manages habitat and uses on the Forest to promote winter range and reduce harassment during critical periods, such as fawning and over wintering.

Grazing and grazing activities associated with the Canon Allotment are not expected to significantly impact the quality and quantity of habitats, nor their spatial distribution over the Forest, and population trends are not expected to be affected. Accordingly, mule deer were not selected as an MIS for the Canon Allotment.

Elk - This species is an indicator of road density and other related forest disturbances Population estimates from the Colorado Division of Wildlife indicate that there are currently 17,000 elk within the four Data Analysis Units on the Forest. Herd population estimates have been over objective since the late 1980's. Specific harvest regulations are promulgated by the Colorado Division of Wildlife to reduce herd numbers and achieve population objectives. The Rio Grande National Forest manages habitat and uses on the Forest to promote winter range and reduce harassment during critical periods, such as calving and over wintering.

Grazing and grazing activities associated with the Canon Allotment are not expected to significantly impact the quality and quantity of habitats, nor their spatial distribution over the Forest, and population trends are not expected to be affected. Accordingly, elk were not selected as an MIS for the Canon Allotment.

V. Information Sources

Various sources were utilized in completion of this analysis. The Rio Grande National Forest's species assessments for the selected species were utilized (Wilson's Warbler, Lincoln's Sparrow, Vesper Sparrow and Rio Grande Cutthroat Trout) along with the Forest's Draft Monitoring Plan for Wilson's Warbler, Lincoln's Sparrow and Vesper Sparrow. Additionally, the Wilson's Warbler and Lincoln's Sparrow Technical Conservation Assessments prepared by the Rocky Mountain Region were also utilized. All of these documents are cited in the Literature Cited section of this document.

VI. Habitat Analysis for selected MIS

Forest level monitoring of population trends is more appropriate at the Forest level than at the scale and extent of the Canon Allotment. The potential effects from grazing upon the four selected MIS are judged to be minimal in their impacts to the populations as a whole.

Forest protocols have been developed to build upon existing Forest-level trend data. However, monitoring items have been identified on the allotment to provide managers with information to verify assumptions of habitat being well distributed and occupied, rather than to acquire trend data.

Within the Forest Plan are Standards and Guidelines designed to provide and protect certain resource features. These S&Gs should be used as tools in conjunction with MIS and monitoring included in the AOP to examine and monitor key habitat characteristics on the allotment. Standards and Guidelines which pertain to the four MIS species are identified below and are used to help determine a monitoring process as described.

A) Rio Grande Cutthroat Trout – Indicator of the health of montane aquatic ecosystems.

The Analysis and Monitoring Document (2002) prepared for the Management Indicator Species Forest Plan Amendment provides a summary evaluation of the Forest Plan direction for proposed Management Indicator Species, including RGCT. Specific Forest Plan Range standards and guidelines in place which help to provide and protect key aquatic habitat characteristics include:

Guidelines

1. Keep stock tanks, salt supplements, and similar features out of the Water Influence Zone if feasible and out of riparian areas always. Keep stock driveways out the WIZ except at designated points. Harden water gaps and designated stock crossings where needed and feasible.

2. Maintain the extent of stable banks in each stream reach at 80% of more of reference condition. Limit cumulative stream bank alteration (soil trampled or exposed) at any time to 20-25% of any stream reach.

3. Avoid season-long grazing in riparian areas. Apply short duration spring grazing, as feasible, to help regrowth and reduce utilization of willows. Control grazing-period length in spring-use riparian pastures to minimize utilization of willows; this is normally 20-30 days.

4. Livestock use of water-influence zones will be allowed as long as use is in compliance with residual stubble heights identified by the Intermountain Research Station General Technical Report INT-263, Managing Grazing of Riparian Areas in the Intermountain Region, 1996, by Warren Clary and Bert Webster, or more recent research.

Site Specific Habitat Monitoring for Rio Grande Cutthroat Trout

The range resource monitoring requirements are outlined in the Forest Revised Land and Resource Management Plan. Both the Forest Service and permittee are responsible for determining riparian plant utilization. However, most annual monitoring will be conducted and documented by the permittee. Forage utilization conducted by the permittee will be measured in key riparian areas in the allotment. The key riparian areas are listed by unit and shown on the Vicinity/Allotment Map in the Canon Grazing Allotment EA. The permittee provides utilization data to the District range conservationist.

The Forest Service will monitor permanent riparian transects at least once in 10 years, or when the grazing strategy changes, whichever occurs first. This monitoring helps ensure stable to upward ecological trends in the key riparian areas. The FS will also monitor use on established willow transects at periodic intervals. Photos taken every 3-5 years will determine this use.

Poor riparian conditions can lead to loss of instream fish habitat due to unstable stream banks, stream widening, and a decrease in stream depth. Increased sedimentation resulting from poor riparian conditions can lead to fine sediment deposition which affects spawning areas and reduces pool habitat.

Spawning success can be reduced due to fine sediment suffocating trout eggs and/or trapping emerging trout fry which can lead to loss of age classes and affect density, biomass and ultimately, reduce overall population numbers. Pool habitat provides thermal refuge during summer low flow and winter refuge from effects of collapsing snow, buildup of anchor ice, and low stream flow. Loss of deep, slow velocity, pool habitat can result in loss of individuals due to increased stream temperatures during the summer and effects of harsh winter conditions. Therefore, monitoring the riparian habitat gives an insight into overall stream health and corresponding fish populations.

Trout population data can be utilized to help determine if the Forest Plan Range Standards and Guidelines provide for adequate aquatic habitat across the Forest. Population data was collected in 2003 from Pole Creek, Lost Trail Creek, West Lost Trail Creek, Bear Creek, and the Rio Grande at Brewster Park. Density and biomass estimates were calculated for these streams. Young of year trout were collected in each of the streams which indicate suitable spawning habitat is available.

Stream habitat evaluations conducted in 1995 and 1996, identified unstable stream banks and/or wide, shallow stream sections in the Rio Grande (Brewster Park area), Lower Lost Trail Creek area, and Lower Bear Creek areas. Trout biomass, in 2003, within these streams was 28 pounds of trout per acre of stream habitat, 36 pounds of trout per acre, and 24 pounds of trout per acre, respectively. Some minor impacts to stream health were also observed in Pole Creek during the 1995/1996 habitat evaluations. Biomass estimates in 2003 for Pole Creek was 69 pounds of trout per acre.

In West Lost Trail Creek, a Proper Functioning Condition Assessment (1996) showed the riparian area was properly functioning. Trout biomass within this area was 277 pounds of trout per acre. This is an increase from 150 pounds of trout per acre estimated in 1994. It should be noted that the biomass estimates included all species of trout collected and only trout over 150 mm in total length. Species collected include Rio Grande cutthroat trout, brown trout, rainbow trout, and brook trout. The low biomass estimates in the Rio Grande, Lower Lost Trail Creek, Lower Bear Creek, and Pole Creek could also be influenced by a combination of factors including grazing, travel management, and angling pressure. But, grazing impacts were noted in prior habitat evaluations and it is probable that some of the impacts have influenced the trout populations.

Livestock grazing can affect the riparian environment and corresponding trout populations. The trout population data collected on this allotment illustrates that when the Forest Plan standards and guidelines are successfully implemented, such as in West Fork Lost Trail Creek, trout populations thrive. When riparian conditions decline, trout populations decline. The trout

populations in the Rio Grande, Lost Trail Creek, Bear Creek, and Pole Creek should improve as riparian conditions and stream health improves. The overall stream conditions within the allotment does not pose a serious threat to the existence of desirable trout populations, but it does show that some stream sections may not be at maximum potential due to isolated habitat problems.

It is estimated that there is approximately 1,050 miles of trout habitat on the Forest, with over 200 miles of stream occupied by core and/or conservation RGCT populations. All core and conservation RGCT populations are monitored on a five year rotation (20% of the RGCT populations are monitored annually). Additional nonnative trout populations and associated aquatic habitat, are monitored annually on the Forest during project level-analysis, during development of Project EA's or EIS's, and to determine sport fish status.

At the Forest Level, trout population and stream habitat monitoring is conducted annually to assess the effects of Forest management activities, including livestock grazing, on achievement of Desired Conditions and Objectives of the Forest Plan. With regard to livestock grazing, full compliance with Forest Plan Standards and Guidelines will help meet Forest Objectives to maintain quality fishery habitat and sustainable viable populations of native and desirable nonnative, fish species.

For the Canon Allotment, Cross-Section and Green-line Transects established in key riparian areas in 1996 will be monitored annually by the FS or the permitee. The Forest Service will monitor permanent riparian transects at least once in 10 years, or when the grazing strategy changes, whichever occurs first. The FS will also monitor use on established willow transects at periodic intervals. Photos taken every 3-5 years will determine this use. Population surveys will be conducted if a downward trend in riparian or stream condition is documented or if any of the streams within the allotment is converted to a RGCT core or conservation stream. If a core/conservation population of RGCT is reestablished in any of the streams, then the stream would be included in the annual monitoring program and be surveyed every five years.

Summary Table for Rio Grande Cutthroat Trout and proxies by alternative.

Rio Grande Cutthroat Trout (including rainbow trout, brown trout, and brook trout)	Estimated Miles of Stream Inhabited Forestwide	Expected Impacts to Population Due to Alternative.
	1050 miles	Alternative Key: 0 = alternative is not expected to impact Forest populations. - = alternative is expected to decrease Forest population numbers. + = alternative is expected to increase Forest population numbers.
Alt 1: Proposed Action	Alternative = +	As long as S&G's are being met, should improve habitat conditions, trout density/biomass, and population numbers.
Alt 2: Four Pastures	Alternative = +, -	Some trout populations would improve due to pasture closures but other populations might decrease due to longer periods of grazing within riparian areas.
Alt 3: No Grazing	Alternative = +	Should improve habitat conditions, trout density/biomass and population numbers.

B) Lincoln's sparrow and Wilson's warbler – Indicators of the health of willows and riparian communities.

Existing Forest Plan Standards and Guidelines in place which help to provide and protect key habitat characteristics include:

Standards

1. Manage livestock grazing to maintain or achieve mid-seral or later conditions in shrub-steepe habitats, riparian areas and willow carrs.

2. In areas where tall, dense cover is desired for ground-nesting birds, residual cover needs to be carried over from previous growing seasons, since some species begin nesting in April and May before spring growth.

Guidelines

1. Remove livestock from riparian areas when average stubble heights on key species reach 4 inches in early-use pastures and 6 inches or more in late-use pastures.

2. Limit utilization of riparian woody plants to 15-20% of current annual growth, and of herbaceous plants to 40-45% of annual production.

3. Avoid season-long grazing in riparian areas. Apply short-duration spring grazing, as feasible, to help regrowth and reduce utilization of willows. Control grazing-period length in spring-use riparian pastures to minimize utilization of regrowth; this is normally 20-30 days.

Site Specific Habitat Monitoring for Lincoln's sparrow and Wilson's warbler.

Select areas to monitor the maintenance and/or improvement of the health of willows and riparian communities utilizing existing Standards and Guidelines on the Canon Allotment. The range resource monitoring requirements are outlined in the Forest Revised Land and Resource Management Plan. Both the Forest Service and permittee are responsible for determining riparian plant utilization. However, most annual monitoring will be conducted and documented by the permittee. Forage utilization conducted by the permittee will be measured in key riparian areas in the allotment. The key riparian areas are listed by unit and shown on the Vicinity/Allotment Map in the Canon Grazing Allotment EA. The permittee provides utilization data to the District range conservationist.

The Forest Service will monitor permanent riparian transects at least once in 10 years, or when the grazing strategy changes, whichever occurs first. This monitoring helps ensure stable to upward ecological trends in the key riparian areas. The FS will also monitor use on established willow transects at periodic intervals. Photos taken every 3-5 years will determine this use.

Transects in place in cooperation with Rocky Mountain Bird Observatory, throughout the Forest. These transects are designed to be statistically rigorous and produce data for analysis of population trends of approximately 167 bird species that breed in Colorado. These transects will continue to be

read on a yearly basis to help determine the overall trend of birds species including Wilson's Warblers and Lincoln's Sparrow, throughout the Forest.

Summary Table for Wilson's Warbler by alternative.

Wilson's Warbler	Estimated Forest Population Size	Expected Impacts to Population Due to Alternative.
It is estimated that the RGNF is capable of supporting 1 breeding pair per acre in suitable habitat.	11,300 pairs per species assessment.	Alternative Key: 0 = alternative is not expected to impact Forest populations. - = alternative is expected to decrease Forest population numbers. + = alternative is expected to increase Forest population numbers.
Alt 1: Proposed Action	11,300 pairs Alternative = 0	As long as existing S&G's are being met, this alternative should not result in any change in habitat conditions or population trend.
Alt 2: Four Pastures	11,300 pairs Alternative = 0	Same as above.
Alt 3: No Grazing	11,300 pairs Alternative = 0	Same as above.

Summary Table for Lincoln's Sparrow by alternative.

Lincoln's Sparrow	Estimated Forest Population Size	Expected Impacts to Population Due to Alternative.
It is estimated that the RGNF is capable of supporting 2 breeding pairs per acre in suitable habitat.	22,600 pairs per species assessment.	Alternative Key: 0 = alternative is not expected to impact Forest populations. - = alternative is expected to decrease Forest population numbers. + = alternative is expected to

		increase Forest population numbers.
Alt 1: Proposed Action	22,600 pairs Alternative = 0	As long as existing S&G's are being met, this alternative should not result in any change in habitat conditions or population trend.
Alt 2: Four Pastures	22,600 pairs Alternative = 0	Same as above.
Alt 3: No Grazing	22,600 pairs Alternative = 0	Same as above.

C) Vesper sparrow – Indicator of the health of upland bunchgrass/shrub communities.

Existing Forest Plan Standards and Guidelines in place which help to provide and protect key habitat characteristics include:

Standards

1. Remove livestock from the grazing unit or allotment when further utilization on key areas will exceed allowable-use criteria in the Forest Plan or allotment management plan.

2. Phase out grazing systems that allow for livestock use in an individual unit during the entire vegetative-growth period except where determined to achieve or maintain the desired plant community.

3. Some bird species prefer to nest in undisturbed cover. In areas where these species are a primary consideration, manage livestock grazing to avoid adverse impacts on nesting habitats.

Guideline

1. Develop site-specific vegetation utilization and residue guidelines during rangeland planning, and document them in allotment management plans. In the absence of updated planning or an

approved allotment management plan, the utilization residue guidelines in Tables II and III will apply.

Table I. Forage Utilization Guidelines.

RANGELAND CONDITION

Type of Management	Satisfactory	Unsatisfactory
Season – long	35%	20%
Fall and Winter	55%	35%
Deferred Rotation	45%	25%
Rest Rotation	50%	35%

Table II. Residue Allowances.

CLARY AND WEBSTER RESIDUE ALLOWANCES

Season of Pasture Use	Satisfactory	Unsatisfactory
Spring	3 inches	4 inches
Summer and Fall	4 inches	6 inches

2. Livestock use of water-influence zones will be allowed as long as use is in compliance with residual stubble heights identified by the Intermountain Research Station Technical Report INT-263, Managing Grazing of Riparian Areas in the Intermountain Region, 1996, by Warren Clary and Bert Webster, or more recent research.

Site Specific Habitat Monitoring for Vesper Sparrow

Select areas to monitor the maintenance and/or improvement of the health of bunchgrass/shrub communities utilizing existing Standards and Guidelines on the Canon Allotment.

The range resource monitoring requirements are outlined in the Forest Revised Land and Resource Management Plan. Both the Forest Service and permittee are responsible for determining plant utilization. However, most annual monitoring will be conducted and documented by the permittee. Forage utilization conducted by the permittee will be measured in key upland areas in the allotment. The permittee provides utilization data to the District

range conservationist.

The Forest Service will monitor permanent upland transects at least once in 10 years, or when the grazing strategy changes, whichever occurs first. This monitoring helps ensure stable to upward ecological trends in the key upland areas. The FS will also monitor use on established transects at periodic intervals. Photos taken every 3-5 years will determine this use.

Transects in place in cooperation with Rocky Mountain Bird Observatory, throughout the Forest. These transects are designed to be statistically rigorous and produce data for analysis of population trends of approximately 167 bird species that breed in Colorado. These transects will continue to be read on a yearly basis to help determine the overall trend of bird species including Vesper Sparrow, throughout the Forest.

Summary Table for Vesper Sparrow by alternative.

Vesper Sparrow	**Estimated Forest Population Size**	**Expected Impacts to Population Due to Alternative.**
It is estimated that the RGNF is capable of supporting 1 breeding pair per 10 acres in suitable habitat.	29,750 pairs per species assessment.	Alternative Key: 0 = alternative is not expected to impact Forest populations. - = alternative is expected to decrease Forest population numbers. + = alternative is expected to increase Forest population numbers.
Alt 1: Proposed Action	29,750 pairs Alternative = 0	As long as existing S&G's are being met, this alternative should not result in any change in habitat conditions or population trend.
Alt 2: Four Pastures	29,750 pairs Alternative = 0	Same as above.
Alt 3: No Grazing	29,750 pairs Alternative = 0	Same as above.

VII. Cumulative Effects and Baseline Current Condition

Cumulative Effects/Baseline Conditions include a combination of the past impacts of the Canon C&H Allotment and other ongoing or planned projects within the allotment boundary. Potential sources of cumulative effects/baseline conditions are:

Past Human Actions – The effects of the proposed action when added to past development projects and human activities, may create significant effects to the environment.

- Past activities which have taken place, include timber sales, firewood cutting and various recreational activities including hiking and hunting. In comparison to other areas, the allotment is lightly roaded and receives moderate visitation as the result of its relative remoteness and lack of access.

Ongoing and Foreseeable Future Actions – Other ongoing or human activities which are scheduled or reasonably likely to occur in the foreseeable future, and which combined with the proposed action, may create significant effects to the environment.

- Several motorized trails exist in the allotment in addition to developed and dispersed camping in the Ute Creek area. Several summer homes and dude ranches also exist in the general vicinity of Ute Creek. The vast majority of recreational use comes from the motorized Lost Trail Creek system and Road 520, which is a 4WD road, which runs throughout the southern boundary of the allotment and is a common route for 4WD enthusiasts traveling across the Continental Divide.

- None of the alternatives are precedent setting. The preferred alternative, and associated grazing activities will not automatically trigger other projects, which might have similar effects on this area of the environment. Any future actions, which may be proposed by the Forest Service, will be studied and an independent evaluation will be made of the cumulative effects of those actions. There are no other known or anticipated projects in the general area, which cumulatively might impact MIS species or their habitat.

- There is very little private land within the allotment boundary and land administered by another agency. No further development within the area is expected. The only current developments include two trail heads (Ute Creek and Lost Trail Creek) and one campground (Lost Trail Campground) and one private ranch (Lost Trail Ranch) at the eastern end of the allotment.

Contacts and References:

Alves, J., T. Nesler, and D. Krieger. 2002. Rio Grande Cutthroat Trout Status Review for Colorado. Colorado Division of Wildlife. Denver, CO. 45 p.

USDA Forest Service. 2003. Wilson's Warbler Species Assessment,

Management Indicator Species. Supporting Analysis and Report to the Management Indicator Species, A Forest Plan Amendment to the Revised Land and Resource Management for the Rio Grande National Forest. Rio Grande National Forest. Monte Vista, CO.

USDA Forest Service. 2003. Lincoln's Sparrow Species Assessment, Management Indicator Species. Supporting Analysis and Report to the Management Indicator Species, A Forest Plan Amendment to the Revised Land and Resource Management for the Rio Grande National Forest. Rio Grande National Forest. Monte Vista, CO.

USDA Forest Service. 2003. Vesper Sparrow Species Assessment, Management Indicator Species. Supporting Analysis and Report to the Management Indicator Species, A Forest Plan Amendment to the Revised Land and Resource Management for the Rio Grande National Forest. Rio Grande National Forest. Monte Vista, CO.

USDA Forest Service. 2003. Rio Grande Cutthroat Trout Species Assessment, Management Indicator Species. Supporting Analysis and Report to the Management Indicator Species, A Forest Plan Amendment to the Revised Land and Resource Management for the Rio Grande National Forest. Rio Grande National Forest. Monte Vista, CO.

USDA Forest Service. 1996. Revised Land and Resource Management Plan: Rio Grande National Forest and Appendices.

USDA Forest Service. 2004. Draft MIS Monitoring Plan for Wilson's Warbler and Lincoln's Sparrow. Rio Grande National Forest.

USDA Forest Service. 2004. Draft MIS Monitoring Plan for Vesper Sparrow. Rio Grande National Forest.

USDA Forest Service. 2003. Wilson's Warbler, A Technical Conservation Assessment, Rocky Mountain Region Species Conservation Project.

USDA Forest Service. 2003. Lincoln's Sparrow, A Technical Conservation Assessment, Rocky Mountain Region Species Conservation Project.

USDA Forest Service. 2003. Management Indicator Species Analysis and Monitoring. An Evaluation of the Forest Plan on Proposed Management Indicator Species. Rio Grande National Forest.

D5 Appendix