



Ron Baird
<rebaird@indra.com>

To: rdalrymple@fs.fed.us
cc:
Subject: MIS comments

03/12/03 05:02 PM

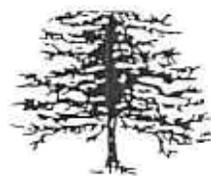
Dear Bob,

I strongly support the inclusion of cutthroat trout, as well as saurrogate species such asa rainbow, brown and cutthroat trout as MIS in the amendment. While reading the EA, it wasn't clear to me the type of habitat monitoring to be used, but I would remind you that TWALK stream health assessments are already required by the Watershed Conservation Practices Handbook 1999, and these should suffice. The only exception would be another type "just as rigorous" but my understanding is that TWALK is the most comprehensive and efficient monitoring protocol currently available.

Ron Baird
Native Trout Watch (formerly Western Native Trout Campaign)
303 413 9918

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March 18 2003



Peter Clark - Forest Supervisor
Bob Dalrymple - Planner
Rio Grande N.F.
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MAR 25 2003

RIO GRANDE N.F.

Carson Forest Watch

Box 15 Llano, NM • 87543 • 505-587-284

on behalf of Carson Forest Watch via following are
comments on the E.A. for Management - Indicator Species
(M.I.S.) Forest Plan Amendment of the Rio Grande N.F.

- 1) In our review of the E.A. we found a lack of analysis regarding grazing of livestock on the forest and definite M.I.S. that suffer grazing impacts.
- 2) Grazing of livestock has additional effects beyond riparian areas - uplands, soils, etc. - and the M.I.S. chosen should also show effects of livestock grazing beyond only riparian areas.
- 3) we disagree that because Canada lynx currently are not breeding that they do not qualify as a M.I.S. Hopefully with additional releases →

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"We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we will begin to use it with love and respect."

— Aldo Leopold

A Sand County Almanac

of lynx on the Rio Grande N.F., this species will breed & reproduce -

So we support adding lynx as a MIS even tho lynx are addressed under other guidelines, regulations, etc.

4) we still support adding pine marten to the MIS - not that 3 adjacent national forests (San Juan, G.M.U.G., & Pike San Isabel) do have pine marten as a MIS.

5) we recommend adding boreal toad - because it reflects activities and habitat changes different than cutthroat trout as it also utilizes land adjacent to riparian areas and wet meadows. also - it is a good indicator of climate change & acid rain, global warming pollutants, etc.

6) Also since, according to the E.A., (p. B-16, p. B-18) timber management ~~is~~ ~~is~~ is 94% spruce LTA and is approx. 7-8 MMBF annually - this is a significant issue - spruce habitat, for pine marten and boreal toad will be affected and diversity of species such as marten & boreal toad, than for lesser thrush and brown creeper. So - we think a mammal and amphibian species should be added to the MIS ~~list~~ list for the LTA of spruce habitat.

Thank you, Sincerely, Janice Bede for CFW
copy to - Forest Guardians
10/12/00 Wild

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"m nickle"
<fivecentpeace@hotm
ail.com>

To: rdalrymple@fs.fed.us
cc: ldrew@cnsf.com
Subject: amendments to RLRMP of RGNF to add MIS

03/19/03 04:44 PM

Fr Mick Nickel
Environmental Specialist, Pueblo of Tesuque
Santa Fe, New Mexico 505-690-1721

Following are my comments on the amendments to the FP of the RGNF to incorporate or not incorporate MIS into the plan to respond to the Undersecretary of the DOI's decision to require such an analysis.

My overall comment on this EA is that it would have been unnecessary if the RGNF had chosen to follow the 1982 regulations that required it to include MIS in the RGNFFP in the first place. With 20 years of data to evaluate based on MIS, it would certainly be easier to assist the "scientific community" referred to in paragraph 3 of section 3-5 in making a decision on whether or not to discontinue the use of MIS as a forest-wide evaluation tool. It makes me suspicious when a reference to such scientific decision-making accompanies a forced decision for the RGNF to do some work in this regard when it is alluded to that such work may not be regarded as relevant in the near future.

The use of MIS has been around since the days of coal mine canaries. Yet I note in section 2-1 that not one invertebrate, one fungi, one lichen, one angiosperm has been selected for inclusion in a forest plan influencing more than one million acres. No bacteria are considered.

In section 2-4, issue 2, selected MIS represent habitats impacted by the FP. But there are no provisions for analysis of the food, forage and critical habitat that support such MIS, so we end up monitoring MIS and overlooking changes in the baseline conditions that support them in the first place. In my mind, any MIS research must link species, food/forage, habitat and species cultural practices (i.e., migrating routes or territories) AS AN ECOLOGICAL UNIT. It is silly to say we note a decrease in brown creeper as a result of large-diameter clear cuts without having a pre- and post-logging data set that delineates the other ecological parameters. I know this means spending a lot more money, but what kind of research do we really want to do to generate defensible data?

Section 3-2, paragraph 4.2, doesn't make any sense to me. If it is determined through MIS monitoring that "x" FP practice results in a decrease in an indicator population or overall health, then mitigation to reverse this process WILL have GREAT effects on the overall FP. This is the entire function of MIS, isn't it? The static nature of any plan will lead to its demise, according to the laws of chaos. Plans are meant to change, that's why they are called plans, not paradigms.

Section 3-3, MIS. IF MIS monitoring in real time helps analyse FP activities and impacts on biodiversity, as well as feedback mechanisms during practice, where is the mechanism for pausing, halting or altering the FP activity until such time as the raw data from the MIS are processed and interpolated. Do we create miniature "sacrifice areas" where MIS are adversely affected so we can study them "after-the-fact" and only then prevent a future blowout? Is the forest just another "rat lab? If MIS at the NF level are there to "establish objectives that maintain and improve habitat for MIS", where are the pilot study templates or test scenarios of FP activities that may give some indication of adverse impacts to habitat, etc. so that alterations to the FP may occur in real time to protect MIS and

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their habitats? The logic of your approach seems flawed.

3-4, last paragraph "provide for diversity "within the multiple use objectives of a land management plan," In relationship to the value-added results of MIS monitoring, the italicized statement is non-universal and very subject to falsification. As a statute, it is very difficult to implement in any scientific way because multiple use and diversity are always, somewhere, at odds. Thus, the mandate in science and management must be to select toward the more vigorous mitigation, NO MATTER WHAT the perceived level of negative impact. There should be no less vigor when perceptions of impact "are believed to be within the range of historic variation" because the historic variation is NOT a template for present or future biodiversity. You may rob Peter to pay Paul, but Paul's bill will always be greater than the money gone from Peter's pocket. There should be NO relaxation in the rigor of analysis.

I cannot overemphasize the importance of my last observation. The QA/QC quality of data collection and analysis, the heart of objective science and the heart of your planning, is your only reliable source for decision making. The 101st monkey is hiding in the brush just beyond the reach of your least vigorous effort.

Your justification at the top of 3-5 for making MIS selections rests entirely on the points I am making. Broad discretion by NF officials about objective scientific data collection and analysis that is ultimately based on qualitative justifications such as trend analyses, sound judgement, rational explanations and the like, is NOT science and NOT good management, but merely and solely political science. I know this is a reality in federal service, especially where funding and mandates are emotionally based, but this is no excuse for scientists and forest managers to stand down and give way to rhetoric like "gives responsible officials broad discretion".

3-8 Effects on forest... Alternative One
This argument of "no impact" is specious. Even given your supplemental updating referred to in the subsequent paragraphs, the premise is flawed. It will never be known whether or not FPs or EISs have accurately anticipated any or all of the effects of FP activities when there are not MIS criteria used as QA/QC to assess those effects. I know you are doing your best, but all the study in the world, including MIS data, will not give you what you say you already have - no impact.

3-9 Cumulative Effects These reports have....
The evaluations have never used MIS, so their use as justification for no revision is incomplete. This is just verification of hypothesis scientese. For this reason, the conclusion that foreseeable future actions are not anticipated to affect the "no action" alternative are inconclusive and non-verifiable, as the following paragraph on the page points out, "management...would be uncertain."

3-9 bottom of page Selected species should be cost-effective to monitor. Only if they are truly MIS, and not cost-effective indicator species. Do you see the difference? What values drive the selection criteria?

3-10 Costs of implementing Alt 2 This cost data reveals, to me, that my suspicions are correct. The MIS effort is merely cost-driven and a shell game to appease the Undersecretary. To monitor 9 MIS effectively on one million acres will require \$370,300 dollars over five years, not one tenth of this figure.

Perhaps I have missed something. Nowhere except in 3-10 are there data on costs. I already have challenged your costs. What follows in 3-12, 3-13 justifies my belief that you must go back to the well and realistically reason the actual costs of conducting objective, thorough, scientific MIS

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monitoring that will deliver the quantity and quality of data necessary to make truly "responsible decisions" that honor the statutes that were created to protect our natural resources.

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The Rio Grande NF MIS LRMP Amendment EA's proposals are disconcerting for a variety of reasons. Viability is being undermined. Much of the appeal directives are not being followed. Cumulative impacts are ignored. Baseline regenerative studies are inconclusive. Species population and habitat surveys are incomplete. Management tactics are skewed to sign off destructive extractive activities.

Species viability is not being protected but deteriorated. Better definitions of viability are needed. Ecological conditions are not going to be documented by such an incomplete and cursory list of MIS. MIS and focal species need to be indicators of robustness of ecological integrity and health. Degraded habitat could easily be passed off as in good condition under this proposal. Destructive projects could much more easily be signed off this way. If you are going to try to adequately resolve viability issues you need to follow rules for focal species rather than just for MIS as you are now attempting.

Many types of ecosystems are being excluded by such a minimal listing. Of special concern are species dependent on old growth, roadless areas, connectivity, and/or buffering of habitat. Species most affected by logging are not included. Species that are unique to specific types of ecosystems are important to indicate the wide diversity present in RGNF. Merely choosing species that occur in a variety of LTA's does not validate your conclusions. Wide ranges of ecological conditions need to be accessed as a representation of the best available science. There are no monitoring guarantees that findings in one LTA will not affect monitoring in another LTA. Four birds, four fish, and four mammals fall far short of ensuring long term viability and sustainability.

Monitoring ease should not be as important a criterion. More difficult species to monitor are important for a variety of purposes. Exclusion of rare, threatened, or endangered species simply because monitoring is more difficult is a poor excuse. Most of these species are highly indicative of healthy and robust ecological conditions. Their use as Forest Plan MIS could be combined with ESA monitoring. This monitoring is needed regardless of their status as MIS. Many species could have been included without a lot of additional monitoring due to their current monitoring.

Blanket rejection of migratory birds is inappropriate. In some cases, wintering habitat and population inventories may be nonexistent, inaccessible, or unreliable. You should definitely consider international cooperation and participation as an alternative. Many advances could be made in completeness, quality control, and thoroughness. Additional funding for these migratory monitoring activities would probably not be limited to USFS, but have high incremental rates of return for environmental sustainability in the RGNF, the USA, and the western hemisphere.

Projections into the future are not covered at all. Your SIR should be a full EIS. These are very decisive issues for many species. Cumulative impacts are being ignored and are critical for

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long-term viability. Baseline regenerative studies are inconclusive. The ability of habitats to come back after destructive extractive practices are vastly overestimated. Population and habitat inventories are incomplete. Target habitat conditions from historical benchmarks are skewed by extractive activity. Dependable inventories are critical to the success of any future projections. Effects of global warming also should be examined. The sheer magnitude of these issues needs more than a cursory treatment outside of public process.

This end run around the entire issue of viability calls into question the role this attack will play on other forests such as Routt and Arapahoe-Roosevelt. As this policy extends itself nationally it could be considered a piecemeal overturning of the endangered species act itself. MIS are no substitute for population or habitat monitoring of rare, threatened, endangered, and at risk species. It is imperative that species viability and sustainability be well defined and protected.

In summary, the stated goals of recognizing MIS allied with special habitats, identifying species known to vary with management activities, considered analyses of the goal of de-emphasizing game or demand species is inconsistent within the proposal; it is used as justification for including species in some taxonomic groups (such as plants), but not others. The stated goal of using management indicators versus community indicators also is inconsistent across the MIS proposed or eliminated. Of course, it is agreed that some species have limited distributions within the forest and that multiple species are associated with certain habitats. However, the elimination of current MIS justified on these two factors is based on two assumptions that are scientifically ridiculous: (1) that endemic distributions equate to limited value of monitoring certain habits, and (2) that one species can be identified as indicative of the health of a single environment. In fact, the latter assumption does not make even administrative sense, much less scientific. If you intend to monitor populations in certain habitats, it is both more practical and more scientific to collect data on at least two species (three is preferred scientifically) in order to provide an adequate database for interpretation of environmental health from population trends. Thus, the monitoring approach suggested in this proposal, inherent in identifying only one species for many habitat types, also negates the stated goal of using "scientific accepted monitoring protocols." In conclusion, this proposal actually is a classic "house of cards." The proposal does not meet its own internal stated goals; it largely ignores or discounts currently available scientific data; it proposes monitoring procedures that are neither practical (in the administrative sense) nor scientific; and it disregards societal responsibilities and the potential cooperation of the scientific community.

The decision to manage the forest as one unit does not justify disregarding species which may represent the effects of forest management that only occur on one portion of the forest. The population trends of such species would demonstrate effects of management and since management activities occur on all portions of the forest these species could be important MIS. If adequately monitored annually these species would only necessitate analysis for projects occurring on portions of the forest on which they are found. The EA suggests that in many cases the use of MIS is too broad, resulting in failure to adequately identify specific attributes to be measured and show how the measurements correlate to management. However, there is no indication of where this information was obtained nor any indication of how monitoring will

proceed in the absence of an extensive MIS monitoring program. More likely, the problem is that the present program is not broad enough to clearly monitor affects of management. Perhaps the Rio Grande National Forest is trying too hard to decrease their workload and not to effectively monitor management on the forest.

The EA exclaims that the Forest Service has been directed as monitoring proceeds, the effectiveness of MIS should be evaluated to determine that a MIS is not serving it's original purpose, it's relationship to habitat changes is inconclusive or that monitoring for a species is not feasible. As an answer to this evaluation of MIS the majority of monitoring species were dismissed for not fitting into one or more of the following categories: species do not occur on the forest; species have limited distributions; species trends cannot be associated with changes to specific habitat or conditions; more than one species can be associated with the same habitat requirements; and species viability is protected by other laws and regulations. However, it is not just to analyze a system of monitoring which has been ineffective due to a lack of actual implementation of monitoring nor to provide criteria for an adequate MIS which no species can be defined by completely.

Perhaps the most important plants to be included as MIS are weed/exotic species. These plants are important MIS for there presence is indicative of degradation on the forest. Harvesting and other management activities that open up the canopy may increase the invasion of the forest by these exotics. Monitoring may also indicate areas where further management efforts could help to decrease the threat of the plants on our native forests. . As timber harvest is a large management objective it is important to monitor their invasion, ideally as MIS, into the open spaces provided through harvesting "a maximum of 40 acre plots."

The choice to eliminate almost all plants as MIS is ironic since one of the main reasons for paring down the list was to increase the ease of monitoring. Plants make excellent subjects for monitoring and surveying as they are immobile.

Although some birds may be more difficult to detect than others, a thorough monitoring program for all birds on the forest may be the type of monitoring the forest needs. Birds have highly individualized niches and thus the composition of all bird species on a forest may give a more accurate account of management effects then merely monitoring three bird species. In using landbirds as an indicator of species group, Hutto explains that an hierarchical approach to monitoring would allow the monitoring of compositional, structural, and functional elements at a variety of spatial scales. Through the monitoring of a large number (over 100) of landbird species to uncover habitat distribution patterns and population trends , Hutto says, "the USFS Northern Region has begun to rectify some of the problems associated with the indicator species approach to wildlife conservation." The added bonus to this type of monitoring is that from a single year's field efforts habitat relationship models can be developed. A similar surveying technique can be found within the Breeding Bird Survey, however the Rio Grande National Forest should employ a microcosm of this survey. A number of specific points, covering the vast variety of ecotypes within the forest, should be monitored to find a model for bird distribution on the forest. The monitoring and evaluation reports show that a good amount of data already exists for bird species occurring on the forest and yet only some of these are maintained as MIS. With the timber harvest program being a main management objective it seems opportune for the forest

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service to delete a species which needs large tracts of forest interior for ideal habitat from the list of MIS species and to instate a species that is found in many early successional habitats on the forest. The bird chosen to represent late successional forest should not be described as utilizing many forest community types across all successional stages and across a wide range of elevations.

The real challenge is to establish an effective manner in which to monitor the affects of certain management actions, however decreasing the number of MIS may not be the most effective nor informative solution. The EA does not contain any type of analysis of the environmental impacts of decreasing the legal amount of required species monitoring. The existing EA represents a list of justifications to eliminate species as MIS and thus decrease monitoring requirements and is no way assesses the effects of this amendment, decreasing monitoring could effectively eliminate the safety net the MIS were originally established to represent. Through the existing parameters of defined forest working groups the various attributes of the forest become over generalized and the decrease in MIS so that these working groups are not represented by a single species causes the forest monitoring activities to be even more generalized. The MIS are intended to suggest the effects of management throughout the forest. The dynamics of the forest ecosystem are too numerous to effectively monitor management effects through the monitoring scheme offered through this amendment.

Many of the MIS habitats/issues have no MIS. Some of these habitats that have no listed MIS are the ones with the best timber production have no MIS, but are clearly out of the traditional commercial timber base.

The EA fails to address the manner in which outside influences other than direct management actions will be monitored. The forest ecosystem is affected greatly by such things as exotic pests, disease, weather and other influences beyond the control of management. These natural events are a major component of the forests dynamics and become a part of possible effects that may be seen through management. Thus the monitoring of MIS needs to be an annual occurrence regardless of the number of projects which may affect certain MIS. The result of continued monitoring will be the ability to establish population trends with and without management activities.

Eco-system and natural community integrity is incredibly complex- it can rarely be re-stored or replicated once destroyed by man-made practices. Plants have (largely) limited dispersal mechanisms that may take thousands of years to stabilize as healthy and self-maintaining populations. Many plants have rigid constraints on where they can grow/thrive, often dictated by soil chemistry and mineral influences (limestone, magnesium, etc.) And micro-habitats and niches effected by slope, aspect, hydrology, etc. At what point does human activity/modification overwhelm the symbiosis of these processes? This is really the issue. There is NO natural disturbance that mimics a clearcut...there is no natural community that mimics the sterility of a Pine dominated monoculture - NONE. These are the real bottom-line issues that have caused, and continue to cause havoc on plant and animal populations. If the old MIS plan was deemed un-scientific, un-verifiable, and ineffective, than what has changed, other than a slightly re-invented system that seemingly allows select self-serving, and superficial monitoring to satiate a legal requirement? Bad science is bad science. If the new goal is towards

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higher quality science, then the other monitoring programs, properly and constantly applied, should be more than sufficient to indicate the forest health and trends to those concerned with the moral, ethical, and legal issues beyond "board feet available."

The ultimate result of the Amendment is that instead of revamping a system which was not working it merely eliminates the need for any extensive, useful monitoring. The ultimate goal which is for the MIS program to work will not occur if the forest does not suspend this amendment that merely makes it legal for Rio Grande National Forest to not monitor any additional species. The true need is for the Rio Grande to instate a program which has multiple levels of annual monitoring focusing on birds, macroinvertebrates, non-native species and threatened and endangered species.

Viability - since 1976, and FS still does not have an across-the-board, usable, measurable, or legally sufficient definition. That's 25 years and now RGNF desires to sign off on a very short incomplete list of MIS because the FS hasn't done the basic job of defining viability. And important regulatory and handbook material has been ignored.

RGNF ignores what FS already has committed to in the form of manual, handbook, and regulation material resulting in little, if any, blending of land & water responsibilities. The RGNF process features bits and pieces with little connectedness - all of which works against the essential evaluation of ecosystems and viability. While we recognize that implementation of the Nov 2000 36 CFR 219 regs were *delayed*, these regs are **final** until such time as new regulations are adopted. That could be years and in the meantime 11/2000 sets the legal standard. RGNF still should have been moving toward the concepts that are a part of the definition of viability. Failing that, there is no excuse for not applying the 1982 planning regs in a complete and rigorous way or for not implementing the Watershed Conservation Practices Handbook issued in 1996. Does the Forest need a special invitation? Viability is not a new issue and planning that does not take a hard look is incredibly wasteful of time and resources.

Starting from the Federal Register that gave the final 36 CFR 219 rule for NFMA planning [FR 11/9/2000, V65:218; p67513-67581], we note these aspects of viability:

p8 ... At the same time, the rule recognizes the limits of our scientific understanding and financial and technical capability to conduct viability assessments. To assess the viability of appropriate species of flora and fauna, the rule calls for the use of focal species as indicators of ecological conditions and the best available science and information, including professional opinion and the principles of conservation biology.

p38 Comparison of MIS and focal and at-risk species.

Comment: Species definitions. While some respondents sought general clarification of focal species, others suggested the final rule specifically elucidate the distinction between focal species and management indicator species.

Response: In the [1982 219] rule, management indicator species (MIS) are selected in order to estimate the effects of management actions on fish and wildlife populations. MIS include, where appropriate, threatened and endangered species; species with special habitat needs that may be significantly influenced by planned management programs; species commonly hunted, fished, or trapped; non-game species of special interest; and species whose population changes are believed to indicate the effects of management activities on other species of selected major biological communities or on water quality.

In the [11/2000 219] rule, focal species are selected for use as surrogate measures in the assessment of ecological integrity, including the diversity of native and desired non-native species. Their status and time trend provide insights to the integrity of the larger ecological system to which they belong. Species selected would represent the range of environments within the assessment area, and would serve an umbrella function, or play key roles in maintaining community structure or processes.

The [11/9/2000 219] rule defines species-at-risk as federally listed endangered, threatened, candidate, and proposed species and other species for which loss of viability, including reduction in distribution or abundance, is a concern. An introduced species could be designated as a species-at-risk.

The Department does not believe the definitions of focal species and species-at-risk create a statutory conflict with endangered and threatened species under the Endangered Species Act. Section 219.20(a) says the responsible [FS] official designates focal species and species-at-risk not already designated as such by the U.S. Fish and Wildlife Service. In defining species-at-risk, the Department sought a grouping of species based solely on viability concerns. For this reason, the Department inserted language in the final rule that species-at-risk include other species for which loss of viability, including reduction in distribution or abundance, is a concern within the plan area. These other species-at-risk may include sensitive species and state listed species. Viability is the criterion which determines what is included as a species-at-risk.

Page 8 draws focal species as indicators of ecological condition to address viability. Page 38 Comment/Response discussion clearly differentiates between MIS as population monitors and focal and at-risk species as indicators of viability. So the RGNF attempt to address the viability question needs to use the rules for focal species and not the rules for MIS as they currently have done.

The question of viability is not such a new requirement that it should be excluded from the RGNF's current exercise. For streams, at least, the issue was dealt with extensively in the rough and tumble, agency-public "discussion" during the years leading up to the FSH 2509.25 Watershed Conservation Practices Handbook. The Handbook was issued in December 1996 and re-issued again in March 1999 with an even better focus on endangered species. Both authorizations carry a definition for stream health that supports NFMA viability concepts as well as meeting several requirements from other laws including the ecological integrity definitions from the Clean Water Act. Section 05 Definitions carries these items:

Robust Stream Health: Comparable to the best situations unaltered by humans; habitat supports all regionally-expected species for the water body, including the most intolerant

forms, with full array of age and sex classes; trophic structure is balanced; and numbers and biomass of organisms, or productivity, are at least 90% of long-term natural (reference) conditions (Ohlander 1996).

Stream Health: The condition of a stream versus reference conditions for the stream type and geology, using metrics such as channel geometry, large woody debris, substrate, bank stability, flow regime, water chemistry, and aquatic biota. T-Walk (Ohlander 1996) is the minimum regional stream health screening tool; field methods used must be at least as rigorous.

We are coming up on the 6th year after these definitions were put into place. And there is no evidence that any attempt has been made by RGNF to incorporate the handbook definitions into the plan. The Watershed Conservation Practices Handbook was issued by R-2's Regional Forester and is binding on the RGNF. If the RGNF believes the Watershed Conservation Practices Handbook is NOT binding on its plan, we would like to know why. If RGNF believes its methods are superior to "T-Walk" for evaluation of streams we would like to have that rationale and related documentation as well.

RGNF wants a response to a narrow set of issues - 1,4,7 - okay, however, issues 1, 3, 7 are not disconnected from the rest of the lawsuit. One wonders why RGNF would write all this in a letter and then ask for restricted input. Relative to the fisheries species, there is no evidence that RGNF paid any attention to the stream health definitions - why would we assume that issues 2, 3, 5, and 6 will be handled with the necessary depth or in compliance with the Handbook either?

Given the new 36 CFR 219 planning regs, how can the RGNF possibly conclude that a MIS list is now equivalent to the focal species needed to evaluate viability? MIS had a different purpose in 1982 and certainly does not address the "all regionally expected species" aspect of the Robust Stream Health definition. To focus on MIS species without doing the focal species work to evaluate viability will merely compound the time and expense of getting the plan finalized. The introductory material to the Watershed Conservation Practices Handbook makes a list of legal requirements as a foundation for defining the most demanding tasks; it is high time that the planners paid attention to these demanding tasks.

According to Mike Young, the conservation assessment for inland trout concerns the very real possibility of extinction for 5 native fishes. The Endangered Species Act creates a legal presumption that these fishes are worth saving. These notes are from Mike Young's Conservation assessment for inland cutthroat trout. RM-GTR-256. USDA FS Rky Mtn Sta. 1995.

"The five subspecies of cutthroat trout considered in this assessment share one characteristic: the loss of populations throughout their historical ranges. Similar causes have led to these losses: the introduction of nonnative fishes, overharvest, habitat degradation, and probably habitat fragmentation. Synergism among these effects remains unstudied, and we do not understand the biology of some of these subspecies, hence our ability to reverse the loss of populations is handicapped. Ironically, such ignorance has been inappropriately interpreted as a reason to avoid management action until more research is conducted, risking the loss of these species in the interim." (p56).

Degraded habitat is among the most frequently cited cause of damage (p56).

Concludes that we understand the basic components but know little of what constitutes "ideal" habitat for any of the subspecies. There is even some question on selecting the dependent variable to define what is "ideal" habitat. Almost without exception, current fish habitat models use the greatest density or fish biomass to define the "best" habitat. But these measures do not always reflect habitat quality and there are many other factors involved that are not accounted for in the models (p56).

Concludes that future evaluations should consider alternative indices for defining habitat quality including the population age structure, or measures of habitat characteristics that confer persistence, resilience, or stability to fish populations at appropriate spatial and temporal scale (p56).

The MIS fish species do not allow RGNF to make this evaluation: first, because as individual species it does not address the ecosystem integrity question; and, second, it includes an introduced species which itself is part of the problem. The RGNF should be separating the entire Forest into biogeographic regions and defining what constitutes "Robust Stream Health" as provided by the R-2 Watershed Conservation Practices Handbook for each of the biogeographic regions.

In any case, we object to the use of brook trout as an indicator species. One recent study by Colorado Water Quality people determined the effects of 80 years of road sanding on Berthoud Pass into the Fraser River concluded that introduced brook trout did very well - no other native trout species were around to be competitive. The RGNF conclusion that brook trout are sensitive to sediments is not supported.

In a slightly larger context, it is ludicrous that the RGNF believes the ecological complexity from mountain top to valley bottom and from Slumgullion Pass near Creede to Sangre De Cristo mountains and the Closed Basin can be addressed with no more than 4 fish species, 4 birds, and 4 mammals. We believe that the concepts used in defining Robust Stream Health - all regionally expected species - also applies to water bodies, riparian areas, and uplands. A single species approach as outlined will not achieve the ecological evaluation required for sustainability nor does it address viability. MIS is on the wrong track legally and factually.

SELECTION OF MIS IS INADEQUATE

A central failing of the EA is that, having identified that MIS are intended to measure the effects, if any, that management activities may have on species population and population trends within an identified habitat type or working group the EA fails to grapple with how to fulfill this purpose and its primary habitats beyond criticizing and reducing the present set of MIS. Rather than proposing a set of MIS based on a rational scientific attempt to meet this directive, the

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primary criteria used to select species in the preferred alternative appears to be that these are species for which the agency may have a plausible claim to having population data sufficient to meet recent court decisions. Such a criteria is arbitrary, capricious, and contrary to the governing regulations.

36 C.F.R. § 219.19 provides in part:

In order to estimate the effects of each alternative on fish and wildlife populations, certain vertebrates 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. (Emphasis added).

Rather than attempting to implement this regulation in good faith, the EA reflects hostility toward the use of MIS and effectively guts the MIS program on the Rio Grande. The EA gives a one-sided critique of the MIS concept and then concludes that given the concerns addressed above, it would appear that in the case of determining management effects to unique communities, a better approach to using individual species as indicators of management, would be to set strict standards and guidelines for the management of specific communities of interest.

The species selected as MIS almost universally ignore forest-wide effects, long-term effects and cumulative effects of management. Most of the MIS habitats and issues are left without an MIS or with MIS that only partially address the habitat or issue. The EA skirts this issue by claiming that other monitoring is more effective at indicating these types of effects, but it is not at all clear that the other programs listed adequately track forest-wide, long-term, or cumulative effects of management.

Less than a decade ago, there was broad consensus that selecting MIS from among a number of species would provide fine-grained character as well as the long-term forest-wide, and cumulative indicators that are needed for an effective set of MIS. Such species scarcely are in evidence in the EA, nor does the EA address how the selected set of MIS will provide these indicators absent such species.

Thus, the EA violates NEPA because it inadequately addresses these long-term, cumulative effects and fails to explain how the selected MIS and "other monitoring" adequately address these effects. 40 C.F.R. §§ 1508.7, 1508.8. Instead of a "hard look," the EA relies on "bald conclusions" that violate NEPA. Maryland-National, 487 F.2d at 1040.

We are particularly concerned about wildlife that depends on mature, developing old growth, and/or old growth and/or larger tracts of unfragmented native forests. Such habitats are becoming increasingly rare and isolated as private lands are developed and other forests are subjected to intensive logging. Please disclose the population trends of the PETS species that have populations in the planning area. It is critical to determine these trends in order to evaluate the cumulative impacts of the project with other past, pending, and future projects on public and private lands. While the impacts of the proposed project may seem insignificant to the viability of PETS species, they may have significant cumulative effects. Please disclose the methodology

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for determining population trends.

The EA’s assertion that listed species are protected from negative impacts is in reality a questionable assumption. The measures taken to address these listed species may or may not provide the asserted protection, but making these species MIS and tracking their populations will help to make that judgment. And, if the data indicate that forest management is affecting these allegedly “protected” species, then the less-protected species almost certainly are being affected as well.

36 C.F.R. § 219.19 specifically identifies endangered and threatened species as a category to be represented in MIS.

The EA proclaims that the Forest Service consulted with other land management agencies and academia, and that these outside experts recommended species as MIS. But the EA provides no information to either the public or the decision maker about what species were recommended, who recommended what and why, and how the agency evaluated these recommendations. Surely, every recommended species should be discussed in the EA and reasons given for its adoption or rejection as an MIS.

Additional documentation related to each MIS includes: development of habitat objectives related to MIS; the rationale for the selection of monitoring methods for MIS; available sources for monitoring data and meta data; evaluation techniques and results of analyses; and decisions or outcomes that result from monitoring and evaluation of the LRMP

VIOLATION OF THE MIGRATORY BIRD ACT AND CONNECTED ISSUES

The Forest Service has failed to comply with the Migratory Bird Treaty Act (MBTA). Because the proposed action will take birds protected under the MBTA, the Forest Service must obtain a permit from FWS. This stipulation is required due to two recent events. The first was a lawsuit, *Humane Society v. Glickman*, 217 F.3d 882, in which the court found that the MBTA applies to all Federal agencies. The second was an Executive Order, issued January 10, 2001, published at 66 Fed. Reg.3853, which requires all Federal agencies to take action to protect migratory birds, including consultation with Fish and Wildlife Service. Until these actions are taken, the Forest Service cannot proceed with this timber sale.

THREATENED AND ENDANGERED SPECIES

So what TE species are obviously experiencing viability concerns? And would benefit from monitoring?

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The amendment will fail to ensure the viability of native species because it does not account for the effects of management on species listed as threatened or endangered.

According to 16 USC 1604(g)(3)(B),

management plans are to provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives,

Further, 36 CFR 219.19 provides that:

Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area.

The U.S. Court of Appeals for the Ninth Circuit has held that the “viability” standard does apply to threatened and endangered species. Seattle Audubon Society v. Evans, 952 F.2d 297 (9th Cir. 1991).

In its appeal, the Forest Service’s principal contention is that it is no longer required under the NFMA to plan for the future survival of the spotted owl because the Fish and Wildlife Service has declared the owl threatened under the Endangered Species Act, 16 U.S.C. Secs. 1531-1543 (1985) (“ESA”). The Forest Service contends that it is required to plan for “viable” species, and that a species declared threatened or endangered under the ESA is no longer viable.

The district court held that the listing under the Endangered Species Act triggered new obligations under that Act but did not reduce the planning obligations of the Forest Service under the NFMA. We agree with the district court that the government’s position in this case is inconsistent with the language of the key regulation, the purpose of the applicable statutes and with the position the Forest Service itself has taken in other contexts.

SAS v Evans, 952 F.2d at 298

According to the Forest Service, the sole question presented in its appeal is whether its duty under 36 C.F.R. Sec. 219.19 to maintain a viable population of owls ceased when the owl was listed under the Endangered Species Act. Judge Dwyer in his March 7 order held that the Forest Service had violated the NFMA by failing to have a plan in place to ensure the viability of all native vertebrate species, including the northern spotted owl. He correctly observed that there is little support for the government’s newly announced position that under the NFMA it need not plan for the survival of endangered

species. In rejecting the Agency's position that once a species becomes threatened or endangered, only the Endangered Species Act defines the Forest Service's duties, Judge Dwyer stated that "the record shows that the Forest Service has understood at all times that NFMA continues to apply after a species is listed under ESA."

This is readily apparent from the Forest Service Regulations themselves. The key part of the regulation at issue here, 36 C.F.R. Sec. 219.19, expressly requires the planning process under the NFMA to identify habitat "critical for threatened and endangered species" and to determine objectives "for threatened and endangered species that shall provide for, where possible, their removal from listing as threatened and endangered species through appropriate conservation measures...." Id. Sec. 219.19(a)(7). The Forest Service has used threatened or endangered species as indicator species pursuant to the same regulation. Id. Sec. 219.19(a)(1).

Moreover, section 219.19 is not the only regulation requiring the Forest Service to plan for threatened and endangered species under the NFMA. For example, section 219.27 provides that the "minimum specific management requirements" shall "[i]nclude measures for preventing the destruction or adverse modification of critical habitat for threatened and endangered species." Id. Sec. 219.27(a)(8). The Regulations were promulgated pursuant to the directive of the NFMA to provide for diversity of plant and animal communities in order to meet overall multiple use objectives. 16 U.S.C. Sec. 1604(g)(3)(B). The effect of the Forest Service's position in this litigation, were it to be adopted, would be to reward the Forest Service for its own failures; the net result would be that the less successful the Forest Service is in maintaining viable populations of species as required under its regulations, the less planning it must do for the diversity of wildlife sought by the statute. This is directly contrary to the legislative purpose of the National Forest Management Act.

Nor is there any support in the Endangered Species Act for the Forest Service premise that a threatened or endangered species under the ESA is not a "viable" species within the definition of the Forest Service regulation. A species may be listed by the Fish and Wildlife Service under the Endangered Species Act solely because of "threatened" destruction to its habitat. See 16 U.S.C. Sec. 1533(a)(1)(A). A species may also be listed simply because of "the inadequacy of existing regulatory mechanisms" to protect it. See id. Sec. 1533(a)(1)(D). **The ESA list is not a list of animals to be written off.** It is a mandate for all agencies involved to take aggressive steps to avoid a species' extinction and preserve its viability. See id. Sec. 1531(b) and (c).

We thus agree with the district court that the Forest Service's current, and belated interpretation of its statutory mandate and regulation is not entitled to any deference. As the district court said in its March 7 order: "[A]n agency cannot exempt itself from duties plainly imposed by law; it cannot decide that only one of two statutes governs its activities when the laws themselves, and the implementing regulations, clearly show that both apply." (Citations omitted).

The Forest Service attempts to buttress its interpretation of the law by contending that, in fact, it is now impossible for it to design a plan to maintain the viability of the spotted owl. This contention is apparently made for the first time on appeal and is not supported by evidence in the record. The Forest Service will doubtless have to coordinate its planning efforts with other agencies such as the Fish and Wildlife Service and the Bureau of Land Management ("BLM"), coordination contemplated under the Endangered

Species Act. The Agency's systematic refusal to follow the law in the past, as chronicled by the district court, is not an excuse for its avoiding the concurrent requirements of the NFMA and ESA in the future." SAS v Evans, 952 F.2d at 301-302.

This sentiment is echoed in other caselaw

The Forest Service's argument in this case that it was relieved of its NFMA duty to plan for the spotted owl's viability once the species was listed by the FWS as "threatened" was rejected in an order entered March 7, 1991. Order on Motions for Summary Judgment and for Dismissal (Dkt. # 824), 1991 WL 180099. The court found not only that the argument was insupportable, but that "the Forest Service has understood at all times that its duties under NFMA and ESA are concurrent." Id. at 15. Accordingly, summary judgment was granted determining that the Forest Service's proposal to log spotted owl habitat without complying with NFMA was unlawful. SAS v. Evans 771 F.Supp. 1081,1086 WDWash 1991.

But the argument that NFMA and NEPA cease to apply once a species has been listed cannot be sustained in any event. *6

NFMA, passed three years after ESA, directs the Secretary of Agriculture to promulgate regulations to provide for diversity of plant and animal communities in order to meet overall multiple-use objectives. 16 U.S.C. 1604(g)(3)(B). To that end, a regional guide is required for each administratively designated Forest Service region to provide standards and guidelines for forest planning. 36 C.F.R. 219.8(a). Regional foresters establish policy and approve all forest plans in their regions. 36 CFR 219.10(a). Forest supervisors prepare and implement forest plans. Id. ? 219.10(a)(2). A minimum requirement is that [f]ish and wildlife shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. ?? 219.13, 219.19. A viable population is "one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area." Id. ? 219.19. To insure viability, habitat must be provided to support at least a minimum number of reproductive individuals. Id.

The duty to maintain viable populations of existing vertebrate species requires planning for the entire biological community--not for one species alone. It is distinct from the duty, under the ESA, to save a listed species from extinction.

Under NFMA, species whose population changes are believed to reflect the impact of logging and other activities, and to measure wildlife viability, are selected as "indicator species." *Id.* ? 219.19(a)(1). The northern spotted owl is an indicator species. The Forest Service argues that while NFMA requires it to "maintain viable populations," ESA's purpose is to return threatened or endangered species to the point where their populations are viable. The agency thus contends that NFMA applies only to non-viable species, and that once a species becomes threatened or endangered ESA alone defines the Forest Service's duties. However, NFMA was enacted three years later than ESA, and nothing in its language or legislative history suggests that Congress intended to exclude endangered or threatened species from NFMA's procedural and substantive requirements. The regulations under NFMA explicitly address endangered and threatened species. They do not suggest that ESA alone governs, or imply any conflict between the two statutes. The record shows that the Forest Service has understood at all times that NFMA continues to apply after a species is listed under ESA. The regulations under NFMA impose the following requirement, among others, on management planners: Habitat determined to be critical for threatened and endangered species shall be identified, and measures shall be prescribed to prevent the destruction or adverse modification of such habitat. Objectives shall be determined for threatened and endangered species that shall provide for, where possible, their removal from listing as threatened and endangered species through appropriate conservation measures, including the designation of special areas to meet the protection and management needs of such species. *7 *Id.* ? 219.19(a)(7) (emphasis added). *Washington Audubon Soc. v. Robertson*, 1991 WL 180099, W.D.Wash., March 7, 1991.

SPECIES-HABITAT RELATIONSHIPS ARE INADEQUATE BASIS TO ASSUME ACTUAL POPULATION TRENDS.

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MIS ARE INADEQUATE. NORTHERN GOSHAWK AND CANADIAN LYNX SHOULD ALSO BE INCLUDED AS MIS.

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MINIMUM VIABLE POPULATION ANALYSIS MUST BE ADEQUATELY PERFORMED FOR NATIVE AND NON-NATIVE FLORA AND FAUNA.

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The Rio Grande MIS EA, as planned will not maintain the viability of the northern goshawk, neo-tropical migrant birds and other native species.

o **A. Viability, the legal and scientific standard**

The National Forest Management Act (NFMA) directs the Secretary of Agriculture to issue regulations that will "provide for diversity of plant and animal communities ... in order to meet overall multiple-use objectives." 16 U.S.C. 1604(g)(3)(B). Toward that end, the Forest Service has adopted regulations guiding the development of forest plans. These regulations require that "[f]ish and wildlife shall be managed to maintain viable populations of existing native and desired nonnative vertebrate species in the planning area." 36 C.F.R. § 219.19. A viable population is defined as "one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area." *Id.* To insure viability, habitat must be provided to support at least a minimum number of reproductive individuals. *Id.* This duty "requires planning for the entire biological community -- not for one species alone." *Seattle Audubon Society v. Moseley*, 798 F. Supp. 1484, 1489 (W.D. Wash. 1992) quoting unpublished March 7, 1991, Order on Motions for Summary Judgment and Dismissal).

A memorandum from the Chief's office provides relevant guidance on the meaning of the population viability requirement. The memorandum emphasizes that "it is essential" that size and distribution of management areas "should be based on the specific biological requirements of the management indicator species such as home range size and dispersal capabilities." (Hilmon, 1982: 1). Furthermore, "distribution of habitat [must] enable individuals to move among suitable habitat within their existing range" and the species' "general distribution" must not be affected by reductions in density. *Ibid.*

Thomas et al. (1990: 373), in their comprehensive report on the northern spotted owl, also discussed the viability requirement. Although their report focuses on the owl, the principles they discuss apply to habitat conservation planning more generally. According to the authors, "[m]aintaining the viability of ... populations entails ensuring adequate amounts and distributions of habitat for all life needs." In particular, the report stated:

Specific objectives for maintaining population viability include providing habitats that are:

- (1) Of high quality and of sufficient size and proximity to ensure high rates of reproductive pair occupancy;

(2) Spaced closely enough and of sufficient size to ensure high probabilities of being locally recolonized, and;

(3) Distributed so as to ensure that individuals interact among geographic locations, providing for populations that do not become demographically isolated.

Additional criteria for complying with 36 C.F.R. § 219.19 has been formulated by the Forest Service at the regional level. In region six, for example, such criteria has been approved by the Chief's office and incorporated into the Regional Forester's official "Final Minimum Management Requirement (MMR) Report and Modified MMR Direction. (USDA Forest Service, 1986a).

In order to meet viability standards, wildlife populations must be large enough to provide: "(1) security from normal fluctuations in births and deaths, and; (2) the genetic ability to adapt to changes in the environment." (Ibid: 4). Moreover, distribution of individuals within populations must be maintained in such a way that it: "(1) protects the population from extinction caused by local catastrophes or epidemic diseases, (2) maintains the potential for periodic colonization of unoccupied habitats, and; (3) provides for continual exchange of genetic material throughout the population." (Ibid).

Although this specific guidance has not been incorporated by Region 3, it, none the less, represents a further scientific refinement of Forest Service duties regarding viability, and is generally applicable throughout the national forest system.

To avoid future problems with population viability, the Forest Service must take proactive measures to insure that populations of imperiled species do not continue to drop to the point where listing is necessary: "Develop and implement management practices to ensure that species do not become threatened or endangered..." FSM 2670.22 (1).

In order to conserve viability of species and biological diversity, the Forest Service has a duty to incorporate the most accurate scientific information available in development of management plans and accompanying environmental impact statements:

Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analysis in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. 40 C.F.R. § 1502.24.

Planning regulations call for use of interdisciplinary planning teams who "shall integrate knowledge of the physical, biological, economic and social sciences, and the environmental design arts in the planning

process." 36 C.F.R. § 219.5 (a). This includes the requirement that forest plans shall be based upon "current inventory data appropriate for planning" and that planning decisions will reflect "the best available data." 36 C.F.R. *219.12(d). Utilization of the best available information in order to insure the viability of species "may require that special inventories or studies be prepared." (Ibid).

In addition, 36 CFR § 219.19 requires the Forest Service to maintain viable populations of the species designated in that regulation, and to preserve sufficient habitat for them. However, the Forest Service has not determined the minimum viable population, or minimum necessary habitat, for each of those species. Therefore, the Forest Service is not meeting its duties under 219.19, and its decisions as to whether it is protecting viability and sufficient habitat are arbitrary and capricious.

- **B. Species as metapopulations** Advancements in scientific management of native vertebrate species on national forests has led to a recognition that many species exist as "metapopulations" across the landscape, where local populations, over time, shift throughout a matrix of suitable habitat. Managing metapopulations represents a significant departure from species conservation strategies of the past that focus on mitigating the impacts of resource extraction through protection of individual territories or occupied sites.

In 1990, for example, a comprehensive review of the Region-6 northern spotted owl conservation strategy by a scientific panel concluded that the network of small, individual management territories was a "prescription for extinction of spotted owls, at least in a large proportion of the owl's range." (Thomas, 1990: 39). To replace the SOHA network, the scientific committee recommended establishment of large blocks of habitat in Habitat Conservation Areas (HCAs) capable of supporting multiple spotted owl pairs, connected throughout the landscape by means of a forest matrix managed to meet minimum dispersal requirements. (Ibid: 23).

Fragmentation and edge were recognized as detrimental to the owl and other species adapted to interior forests, and were minimized in the new HCA network: "Large HCAs reduce the effects of habitat fragmentation and edges, which are major concerns for a species threatened with systematic removal of suitable habitat." (Ibid: 39).

The HCA plan was one of the first plans to recognize that wildlife populations on national forest should be managed as "metapopulations," which exist as a number of subpopulations scattered across the landscape, interconnected by a forest matrix of suitable habitat. Metapopulation theory has been described most succinctly by Wilson (1993):

Watched across long stretches of time, the species as a metapopulation can be thought of as a sea of lights winking on and off across a dark terrain. Each light is a living population. Its location represents a habitat capable of supporting the species. When the species is present in that location the light is on, and when it is absent the light is out. As we scan the dark terrain over many generations, lights go out as local extinction occurs, then come on again as colonists from lighted spots reinvade the same localities. The life and death of species can be viewed in a way that invites analysis and measurement. If a species manages to turn on as many lights as go out from generation to generation, it can persist indefinitely. When the lights wink out faster than they are turned on, the species sinks to oblivion.

This view of a species as a metapopulation in flux across the landscape over time has given rise to a set of principles for effective reserve design for targeted species. These principles were first developed in the context of the HCA plan for the northern spotted owl, and are "widely accepted among specialists in the fields of ecology and conservation biology." (Thomas, et. al, 1990). Murphy and Noon (1992) describe these principles as "universally crucial for consideration in species conservation efforts." To paraphrase, these five principles are:

- (1) well distributed species are less prone to extinction than species confined to small portions of their ranges;
 - (2) large blocks of habitat, supporting multiple breeding pairs are superior to small blocks of habitat with only one or a few pairs;
 - (3) blocks of habitat that are closer together are superior to blocks that are farther apart;
 - (4) less fragmented habitat is better than more fragmented habitat, and;
 - (5) blocks of habitat that are well connected are superior to those that are not.
- o **C. The Rio Grande MIS EA prescribes no conservation strategies or mitigation measures to maintain viability for most native species, in direct violation of scientific and legal standards.**

The Rio Grande MIS EA area is home to dozens of mammals and birds, many of which are sensitive to timber harvest, fragmentation of habitat, and roads. Bear, elk, deer, turkey, Abert's squirrel, Mexican spotted owl, northern goshawk, flammulated owl, and numerous neotropical migrant bird species inhabit the sale area. Despite the abundance of sensitive wildlife, the Forest Service has chosen to implement conservation strategies for only a minimal number of species. The remaining species are either not addressed at all, or are addressed in broad-brush mitigation

measures or habitat capability targets, neither of which meets legal mandates requiring viability because they are:

- (1) not based upon an assessment of effects on actual numbers and distribution of species in the planning area;
- (2) not based upon specific biological requirements of management indicator species such as home range size, life cycle needs, and dispersal capabilities;
- (3) not based upon an assessment of the size, spacing, and distribution of residual habitat;
- (4) not based upon an analysis of the population structure of species throughout the forest and region, and;
- (5) not supported by scientific studies or generally accepted methodologies.

Clearly, to comply with scientific and legal standards for species conservation, the Forest Service must drop its mitigation and habitat capability target approach and adopt a conservation strategy for guilds or other groups of sensitive species based upon detailed information about the life cycle needs, population structure, and landscape level habitat requirements.

The Forest Service's refusal to adopt credible strategies for maintaining viability are especially egregious in light of a recent court opinion affirming the Forest Service's duty to base its viability determinations on species-specific location and habitat data. In *Sierra Club, et. al vs. Glickman* (Case 9-85-CV-69) U.S. District Court judge Richard Schell found that the

"Forest Service is not collecting population data on wildlife to ensure viable populations. The Forest Service is, instead, relying on hypothetical models to assess habitat capability and then assuming that viable populations of species are in existence and well distributed on the forest land. The Forest Service's failure to collect population data forecloses its ability to evaluate forest diversity in terms of wildlife and to adequately determine the effects of its management activities..."

In light of this opinion, the Forest Service's determination that the Rio Grande MIS EA will not threaten viability of any native species, without reference to any population viability models, and without reference to any population data, is completely arbitrary and capricious.

The threats to neo-tropical migrant songbird species resulting from the Rio Grande MIS EA provide an example of how the Forest Service has failed to maintain viability of most native species. NTMBS species are declining throughout the nation, and in the Southwest.

Neotropical migratory bird species are an important class of birds that require attention as they contribute greatly to biological diversity and have exhibited a decline in both abundance and diversity throughout their North American breeding and stopover range. Habitat fragmentation and the loss of habitat components especially affects neotropical migrants.

There are both qualitative and quantitative results associated with habitat fragmentation, specifically increased edge habitat and related effects and habitat loss. Adverse effects associated with edge habitat include: microclimate or microhabitat change, increased nest predation, increased rates of brood parasitism, increased rates of interspecific competition, reduced pairing success, and reduced nesting success. The Rio Grande MIS EA, as planned, will result in a further decline in abundance and diversity of neotropical migrants from one or more of the above mentioned effects.

The ponderosa pine and pine-oak forests within the timber sale units are occupied by several species that are Neotropical migrants declining in abundance and especially sensitive to silvicultural treatments. In addition, there is a relative abundance of old-growth oak habitat within the Rio Grande MIS EA units. As oaks mature and become less vigorous their boles and limbs provide an important habitat component as cavity substrates. The Rio Grande MIS EA will further imperil these species and many others by adversely modifying habitat components and increasing habitat fragmentation. Group selection harvest and road construction will be the primary causes of habitat fragmentation. Because the non-commercial element of the sale cannot be appropriately regulated or controlled, the loss of key habitat components such as pine and oak snags is foreseeable.

The Forest Service has failed to disclose either the local or cumulative impacts of habitat fragmentation on neotropical migrants. Population viability cannot be accurately documented or assessed using the Habitat Capability Index. Monitoring populations both at the project level and greater is the only precise method of documenting viability of neotropical migrant populations. Such monitoring, particularly in the case of neotropical migrants, has not been analyzed in the E.A. or B.E. for the Rio Grande MIS EA.

o **D. The Rio Grande MIS EA fails to insure the viability of the northern goshawk.**

One of the native species that is addressed by a conservation strategy is the northern goshawk. This strategy, the Management Recommendations for the Northern Goshawk (MRNG), has been adopted in a forest plan amendment for the Rio Grande dated September 3, 1996. Unfortunately, the conservation strategy fails to pass the test of scientific rigor, and is unsubstantiated as a method for maintaining goshawk viability. One of the most glaring deficiencies in the MRNG is its reliance upon single territories instead of large clusters of suitable habitat that can support multiple goshawk pairs over time. A single territory approach violates one of the most important reserve design criteria widely accepted by the scientific community—namely, that reserves should be large, and capable of supporting multiple breeding pairs.

The MRNG is also controversial because it permits logging in goshawk territories, post fledgling family areas, and nest stands in direct contradiction of studies which indicate extreme goshawk sensitivity to timber harvest.

The northern goshawk (*Accipiter gentilis atricapillus*) is dependent upon mature, closed canopy forests, and finds ideal habitat within the closed canopy and structurally diverse stands in the Rio Grande MIS EA analysis area. In contradiction with findings of the MRNG and the Rio Grande MIS EA E.A., northern goshawks do not favor "open to moderately closed canopy" foraging habitat (B.A. at 8), but "have evolved physical characteristics (morphology) that enable them to hunt most efficiently in relatively mature, dense forest structures" (AGFD, 1993). The open forest conditions that will be created by the Rio Grande MIS EA are likely to create forest structural characteristics which will not enable goshawks to use their morphological adaptations most efficiently.

After logging, much of the Rio Grande MIS EA analysis area will exhibit canopy closure far below the 60%+ level preferred by the goshawk, including many acres of small patch clearcuts (group selection). Maintaining low canopy densities will give advantage to the goshawk's chief competitors, which include the red tailed hawk and great horned owl. Scientific evidence of the effects of logging on goshawks has documented that these species tend to outcompete and take over goshawk nesting areas once the forest canopy has been opened:

Competition can manifest itself through interspecific aggression, direct predation on goshawks, (especially nestlings), as well as through competition for nest sites and prey. Therefore, creating open forest conditions in goshawk foraging habitat...could actually result in a competitive disadvantage for the goshawk. Id.

Other indirect effects to the goshawk will include reductions in prey base, especially those prey dependent upon dense clumps of forest. Mycorrhizal fungi communities, which are the most important food sources for the goshawk's small mammal prey, will be adversely impacted by open forest conditions. Mycorrhizal fungi spreads only in stands where canopy closure is high, most often above 60% (Reynolds, 1992).

Managing for open forest conditions also fails to account for changes in the prey base caused by the change of seasons. In winter, many of the goshawk prey species migrate or hibernate, leaving available only a limited number of prey species which are dependent upon dense forests. During the winter, dense patches of mature forest are essential for maintaining populations of the blue grouse, cottontail rabbit, hairy woodpecker, northern flicker, red squirrel, Stellar's jay, and Williamson's sapsucker. These and other indirect effects on goshawk viability from management for open forest conditions are described in a comprehensive review of goshawk management completed by the Arizona Game and Fish Department (AGFD, 1993).

Logging is directly detrimental to the goshawk, even if such logging involves only light touch thinning. In a peer reviewed article first published by the Wildlife Society, one of the Forest Service's leading goshawk researchers concluded that:

Even with nest buffers, recorded reoccupancy (of goshawk nest sites) dropped by 80% and recorded nestling production dropped by 94% following logging. The true decreases were greater. Other raptors replaced goshawks in most logged territories. (Crocker-Bedford, 1990).

Crocker Bedford's study was completed on the North Kaibab ranger district, and examined protected nest sites that ranged in size from 1.2-200 hectares. Timber harvest around the nest sites removed only 1/3 of the trees.

In the Rio Grande MIS EA, a similar intensity of logging will take place within all components of at least one goshawk territory. In addition, road reconstruction, log hauling, firewood cutting (both legal and illegal) and increased human activity along improved roads will exacerbate the logging's impact. As a result, it is likely that the goshawk within the affected territory will be extirpated.

Timber harvest within the affected goshawk territory is unjustified, as well, because the Forest Service has failed to complete the necessary site level and ecosystem management level analysis of structural stages necessary for determining whether or not proposed timber harvest would adversely affect goshawk habitat. Distribution of habitat structures...should be evaluated at the ecosystem management area level, at the mid-scale such as a drainage, and at the small scale of a site.

The Rio Grande MIS EA and Biological Assessment only document an analysis of habitat structures and vegetative structural stages (VSS) in the timber sale area. There is no analysis at the ecosystem management area level (EMA), or at the level of a site using detailed "zipcode" data that displays the distribution of structural stages within individual cutting units. Without such analysis, VSS stages or habitat components that may be lacking at a broad landscape level or within individual stands may be adversely impacted, and move the affected lands away from the desired future condition targets set forth in the goshawk guidelines.

Abert's squirrel

The Abert's squirrel (tassel-eared squirrel, *Sciurus abertii*) is a key prey species for the northern goshawk as well as a popular watchable wildlife species in Colorado. The squirrel is considered key in symbiotic nutrient and water exchange relationships in ponderosa pine forest in the southwest. Ponderosa pine forests are used to the greatest extent by this squirrel however, they are also found in piñon pine, Douglas fir, and spruce-fir forests. Preferred feeding and nesting trees are generally in the range 8-30 inches diameter at breast height (dbh).¹ Further, it appears that groups of trees with interlocking crowns and a canopy cover greater than 80% is especially important for this squirrel species.² Dodd et al. (1998) found strong relationships between interlocking tree canopies and squirrel recruitment as well as basal area and fitness.³

Tree cutting (more open conditions) and prescribed burning activities in the Ft. Valley area will negatively effect this critical prey base of the northern goshawk and reduce the numbers of this important wildlife species.⁴ Thinning trees up to 16 inches dbh will reduce the available feeding and nesting trees as well as escape cover for the Abert's squirrel. Despite the fact that Abert's squirrels require basal areas of 150-200 square feet, the immediate basal area resulting from restoration thinning will be way too low. Creating a clumpy and fragmented habitat will reduce canopy cover to well below 80% and minimize interlocking tree crowns potentially affecting squirrel recruitment and fitness. Piling and burning, as proposed in the Rio Grande MIS EA project to avoid killing large trees and burning large snags will destroy the litter layer and microclimate necessary for the fungal development that is essential in the squirrel-fungi-pine interrelationship.⁵

¹ Reynolds, et. al, 1992: Management Recommendations for the Northern Goshawk in the Southwestern United States, Rocky Mt. Range and Experiment Station Gen. Tech. Rpt. RM-217, USDA Forest Service.

² Hoover, R.L., and D.L. Wills, ed. 1984.

³ Dodd, N.L., S.S. Rosentock, C.R. Miller, and R.E. Schweinsberg. 1998: Tassel-eared squirrel population dynamics in Arizona: Index techniques and relationships to habitat condition, AZ Game and Fish Department, Tech. Rep. 27.

⁴ USDA Forest Service, Rio Grande National Forest T&E&S Evaluation-Rio Grande MIS EA Analysis (Project Record # 124). USDA Forest Service, Rio Grande National Forest, 1998. Rio Grande MIS Environmental Assessment.

⁵ Dodd, N.L., S.S. Rosentock, C.R. Miller, and R.E. Schweinsberg. 1998. Tassel-eared squirrel population dynamics in Arizona: Index techniques and relationships to habitat condition. AZ Game and Fish Department, Tech. Rep. 27.

Dodd et al. (1998) found that “forest management practices that focus on intensive, widespread thinning will adversely impact” Abert’s squirrel populations.⁶ Such “intensive, widespread thinning” is precisely what is proposed in the Rio Grande MIS EA project as well as on an additional acres in the Interface. Despite the strong recommendation of Dodd et al. (1998) that land managers consider landscape-scale habitat relationships in addition to stand-scale habitat needs of Abert’s squirrel, the Forest Service, in planning the Rio Grande MIS EA project, has neglected to do just that. Instead, it has relied on stand-scale effects and a habitat capability index model to predict effects, techniques that underestimate negative effects. However, even this analysis indicated a decline in this species’ habitat capability due to loss in cover. The Forest Service justifies the effects of this species’ decline on goshawk prey availability by noting the goshawk will turn to other species as a food resource. However, Abert’s squirrel is a significant food source for the goshawk-as much as 10% of its diet.⁷

Despite the likelihood of adverse effects on Abert’s squirrel populations, the Forest Service has provided no population monitoring data nor analysis of such data in the project record which documents that the viability of Abert’s squirrel would be maintained in the planning area. This includes a lack of any project specific survey data, or monitoring data from past projects which can be used to predict the Abert’s squirrel’s response to activities planned in Rio Grande MIS EA project.

THE RIO GRANDE NF MIS LRMP AMENDMENT EA AND ROD VIOLATE NEPA AND NFMA, IN REGARDS TO CANADA LYNX, AND WILL RESULT IN VIOLATIONS OF SECTION 7 AND 9 OF THE ESA.

In December 1999, the Forest Service and Bureau of Land Management completed their “Biological Assessment Of The Effects Of National Forest Land And Resource Management Plans And Bureau Of Land Management Land Use Plans On Canada Lynx” (Programmatic Lynx BA). The Programmatic Lynx BA concluded that the current programmatic land management plans “may affect, and are likely to adversely affect, the subject population of Canada lynx.”

The Lynx BA team recommended amending or revising Forest Plans to incorporate conservation measures that would reduce or eliminate the identified adverse effects to lynx. The Programmatic Lynx BA’s determination means that Forest Plan implementation is a “taking” of lynx, and makes Section 7 formal consultation on the Rio

⁶ Ibid

⁷ Reynolds, et. al, 1992: Management Recommendations for the Northern Goshawk in the Southwestern United States, Rocky Mt. Range and Experiment Station Gen. Tech. Rpt. RM-217, USDA Forest Service.

Grande Forest Plan mandatory, before actions such as the Rio Grande NF MIS LRMP Amendment project are approved. *See Pacific Rivers Council v. Thomas*, 30 F.3d 1050 (9th Cir. 1994) (affirming that ESA § 7 consultation must be completed before ongoing agency actions impacting protected species may continue).

The fact that continued implementation of the Forest Plan constitutes a “taking” of the lynx is not disclosed in the EA nor in either Rio Grande NF MIS LRMP Amendment Biological Assessment. Such taking can only be authorized with an incidental take statement, issued as part of a Biological Opinion (B.O.) during of Section 7 consultation. The RGNF must incorporate terms and conditions from a programmatic B.O. into a Forest Plan amendment or revision before projects affecting lynx habitat, such as the Allen Creek, can be authorized.

The Programmatic Lynx BA’s “likely to adversely affect” conclusion was based upon the following rationale.

- generally direct an aggressive fire suppression strategy within developmental land allocations. ...this strategy may be contributing to a risk of adversely affecting the lynx by limiting the availability of foraging habitat within these areas.
- allow levels of human access via forest roads that may present a risk of incidental trapping or shooting of lynx or access by other competing carnivores. The risk of road-related adverse effects is primarily a winter season issue.
- are weak in providing guidance for new or existing recreation developments. Therefore, these activities may contribute to a risk of adverse effects to lynx.
- allow both mechanized and non-mechanized recreation that may contribute to a risk of adverse effects to lynx. The potential effects occur by allowing compacted snow trails and plowed roads which may facilitate the movements of lynx competitors and predators.
- provide weak direction for maintaining habitat connectivity within naturally or artificially fragmented landscapes. Plans within all geographic areas lack direction for coordinating construction of highways and other movement barriers with other responsible agencies. These factors may be contributing to a risk of adverse effects to lynx.
- are weak in providing direction for coordinating management activities with adjacent landowners and other agencies to assure consistent management of lynx habitat across the landscape. This may contribute to a risk of adverse effects to lynx.
- fail to provide direction for monitoring of lynx, snowshoe hares, and their habitats. While failure to monitor does not directly result in adverse effects, it makes the

detection and assessment of adverse effects from other management activities difficult or impossible to attain.

forest management has resulted in a reduction of the area in which natural ecological processes were historically allowed to operate, thereby increasing the area potentially affected by known risk factors to lynx. The Plans have continued this trend. The Plans have also continued the process of fragmenting habitat and reducing its quality and quantity. Consequently, plans may risk adversely affecting lynx by potentially contributing to a reduction in the geographic range of the species.

- The BA team recommends amending or revising the Plans to incorporate conservation measures that would reduce or eliminate the identified adverse effects to lynx. The programmatic conservation measures listed in the Canada Lynx Conservation Assessment and Strategy (LCAS) should be considered in this regard, once finalized.

(Programmatic Lynx BA, at 4.)

The Programmatic Lynx BA notes that the LCAS identifies the following risk factors to lynx in this geographic area:

- Timber harvest and precommercial thinning that reduce denning or foraging habitat or converts habitat to less desirable tree species
- Fire exclusion that changes the vegetation mosaic maintained by natural disturbance processes
- Grazing by domestic livestock that reduces forage for lynx prey
- Roads and winter recreation trails that facilitate access to historical lynx habitat by competitors
- Legal and incidental trapping and shooting
- Predation
- Being hit by vehicles
- Obstructions to lynx movements such as highways and private land development

As evidenced by the fact that the Canada lynx is now listed as Threatened under the Endangered Species Act, it is clear that the RGNF must do more than follow its Forest Plan's weak protections provided for lynx. The following are portions of the LCAS that the RGNF has ignored in the Rio Grande NF MIS LRMP Amendment EA and 4/3/2000 BA:

The following are some considerations to include in analyzing cumulative effects of proposed action on lynx [underlining for emphasis]:

1. Lynx habitat components within LAUs should be mapped along with human activities.

2. Consider the combined effects of human activities and projects within an LAU, including:

a. The proportion of the LAU affected by human alteration of habitat, permanent development, and other disturbances at a given time.

b. The proportion of adjacent LAUs affected by human alteration of habitat, permanent development, and other disturbances at a given time.

Habitat connectivity ... between LAUs. (LCAS at 95.)

Project Planning - Standards

Within each LAU; map lynx habitat. (LCAS at 78.)

Maintain habitat connectivity between LAUs. (Id.)

The LCAS sets mandatory Standards that would modify or amend the Forest Plan—steps the RGNF has thus far not accomplished. Important Programmatic Standards include:

Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across all ownerships. (LCAS at 87.)

Develop and implement a plan to protect key linkage areas on federal lands from activities that would create barriers to movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project. (Id.)

Map and monitor the location and intensity of snow compacting activities that coincide with lynx habitat, to facilitate future evaluation of effects on lynx as information becomes available. (LCAS at 82.)

On federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU.

Not only will lynx foraging areas and denning areas be reduced if the project is approved, effective use of these areas by lynx may be reduced even further if snowmobiles encroach on lynx habitat. The FS admits that the project area receives snowmobile use and admits that proposed road closures will not apply to snowmobilers. Other closed roads and access routes may receive snowmobile traffic as well. Impacts of snowmobiles, logging vehicles and other motor vehicles on lynx are not adequately analyzed in the EA.

The EA discloses use by motorized recreationalists in the Rio Grande NF MIS LRMP Amendment project area:

Motorized use is very high in the area, both on and off road and trail.

The Forest does not have use studies for the project area documenting the amount of use quantitatively, but perceptions of managers are that ATV use has increased markedly over the past decade, to the point of

evident resource damage. In the winter, the area receives some use by snowmobilers, snowshoers, and cross country skiers.

(EA III-108). It is clear that the RGNF has an incomplete understanding of the current level of use of the Rio Grande NF MIS LRMP Amendment project area for snowmobiles. The EA and project BA fail to disclose the expected level of cumulative impacts on lynx from the miles of new roads to be constructed, reconstructed, and spot reconstructed and additional non-system roads to be converted to skid trails/logging access routes in the project area—roads that could be used by snowmobilers, snowshoers, and cross country skiers long after the logging activities have stopped. These roads can also impact lynx habitat during other seasons because of increased access for humans.

It seems that the RGNF prefers to remain uninformed about the impacts of the ever-increasing recreational use of the Forest. It cannot, therefore, adequately understand the cumulative impacts of implementing its Forest Plan as NFMA requires, nor can the Forest Service adequately analyze the cumulative effects on lynx from the recreational use in the Rio Grande NF MIS LRMP Amendment project area.

The increased access contradicts LCAS requirements because the new roads will create an increase in over-the-snow routes. Along with causing displacement of seclusion-loving lynx, predators such as bobcats and coyotes could be expected to exploit the compacted snow surfaces created by over-the-snow recreationalists, competing with lynx for the limited prey available during winter.

Such access is a reason why the Forest Plan already constitutes a “taking” of lynx. The failure of the Rio Grande NF MIS LRMP Amendment EA and BA to adequately analyze these cumulative effects only increases this illegal taking, in violation of the Endangered Species Act.

The BA discloses that future management activities are scheduled to occur in two adjacent LAUs. However the BA lacks a genuine cumulative effects analysis of the full range of those projects’ activities, and fails to provide a map showing the locations of those actions.

The EIS and BA fail to provide adequate maps of LAUs and habitat components along with areas of human activity as the LCAS requires, making it extremely difficult for the public and decision maker to understand the impacts of motorized travel as well as understand habitat and connectivity both within and especially in relation to areas beyond the project area.

From Ruggerio, et al. (1999), upon which the LCAS is largely based: “Lynx metapopulation dynamics operate at regional scales” (p. 24). Lacking maps and adequate discussion of the connectivity issue in the EA and BA, it is impossible to see the landscape features that affect connectivity and metapopulation dynamics within and

between LAUs both within and outside the Rio Grande NF MIS LRMP Amendment project area, a goal of the LCAS mapping requirement.

The very existence of roads and compacted travel routes from motorized vehicles in snow adversely affect lynx because of the advantage provided for other predators that normally wouldn't be in portions of the Rio Grande NF MIS LRMP Amendment project area in winter. Regarding this, the EA and BA are silent.

The EA and BA also fail to disclose the effects of livestock grazing on the two national forest livestock grazing allotments in the project area.

The BA also suffers to a large degree in downplaying the impacts of immediate, short-term impacts on lynx. Almost nothing in the EA and BA addresses the direct impacts of the logging activities, road construction, reconstruction and use, and fire and smoke from prescribed burning on individual lynx. The likelihood of "take" as defined by the ESA because of the resulting displacement of lynx and/or prey from preferred habitat was glossed over by the EA and BA.

The EA and BA also tend to downplay or ignore the fact that for many years the areas logged and/or burned will be avoided by lynx. But the EA and BA fail to disclose that "in the west, it may take approximately 15 to 30 years following forest management practices or fire for conifers and/or brush species to regenerate to heights sufficient to extend above average winter snow levels and create high quality habitat for snowshoe hare. The time it takes for the vegetation to develop varies, depending on factors such as site productivity, climatic conditions, and forest type." (LCAS at p. 18, internal citations omitted). This differs substantially from the EA's overly optimistic estimation that vegetation re-growth would result in forage "within fifteen years."

The analysis for lynx also suffers from another deficiency. The analysis uses methodology—a data base query—inadequate for delineation of lynx habitat components such as for denning and foraging. The problem with relying on database-derived habitat suitability models is that such data is unreliable. The information is gathered by stand examiners who may or may not have biological training, and is often quite dated. Recently, the Forest Service has admitted that the use of database habitat information is suspect:

"Habitat modeling based on the timber stand database has its limitations: the data are, on average, 5 years old; canopy closure estimates are inaccurate; and data do not exist for the abundance or distribution of snags or down woody material..." (Idaho Panhandle National Forests 1998 Monitoring and Evaluation Report).

There is no evidence that the RGNF relied upon anything except the unreliable database queries for the quantified lynx habitat analysis.

The EA and BA also mislead the public regarding the degree of understanding scientists and land managers have of lynx ecology. For example, assumption that lynx do not use

habitat below 6000 feet in elevation in the project area. This assumption ignores the fact that in order for lynx to migrate or travel between their home ranges lower elevation areas must be able to serve as some type of habitat component. As noted above, the EA and BA fail to meet the mapping requirements of the LCAS, and thus do not adequately disclose information on the issue of connectivity outside the project area LAU. The LCAS treats landscape-level connectivity as an important issue, however the Rio Grande NF MIS LRMP Amendment EA and BA essentially neglect this important biological consideration.

In its scientific inadequacy, the EA's and BA's analysis of direct, indirect, and cumulative effects on lynx violates NEPA regulations outlined at 40 CFR § 1502.24:

Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement

Clearly the implementation of Rio Grande NF MIS LRMP Amendment Preferred Alternative will adversely impact lynx and therefore results in a "taking," which is prohibited under section 9 of the ESA. Since an Incidental Take Statement for lynx has not yet been issued for the Rio Grande National Forest, and the Forest Plan has not been revised to include terms and conditions that would reduce the level of take, formal consultation as required under Section 7 of the ESA should be concluded at both the project and programmatic level, in order to establish terms and conditions that would minimize the taking of lynx during project activities.

THE GOVERNMENT VIOLATED NEPA BY PREPARING AN EA INSTEAD OF A FULL EIS

BLM violated NEPA by preparing only an EA instead of an EIS. A full EIS can be avoided only if the federal action will have "no significant impact" on the environment. 40 C.F.R. § 1501.4(e). This and other courts have struck down several agency "Findings of No Significant Impact" as arbitrary and capricious, where, as here, the agency has ignored or minimized significant impacts. See, e.g., Forelaws on Board v. Johnson, 743 F.2d 677 (9th Cir. 1984), cert. denied, 478 U.S. 1004 (1986) (long-term contracts for power delivery would have significant impact); Foundation for North American Wild Sheep v. United States Dep't of Agriculture, 681 F.2d 1172 (9th Cir. 1982) (reopening mining road would have significant impact on bighorn sheep); American Horse Protection Ass'n v. Andrus, 608 F.2d 811 (9th Cir. 1979) (horse roundup would have significant environmental impact); Minnesota Public Interest Research Group v. Butz, 498 F.2d 1314 (8th Cir. 1974) (logging and roadbuilding generally have significant impacts on the environment); Audubon Soc'y of Central Arkansas v. Dailey, 977 F.2d 428 (8th Cir. 1992) (bridge affecting park use would have significant impact).

The Rio Grande MIS LRMP Amendment will cause significant impacts to the human environment, therefore an EIS meeting the requirements of 40 CFR 1502 is necessary.

In order to determine significant impacts, the Forest Service must look at the factors found in 40 CFR 1508.27. These are divided into (a) context and (b) intensity. As for context, this project will permanently affect over two square miles of forest. With respect to intensity, we look to the 10 factors:

- (1) Beneficial and adverse impacts.
- (2) Public health or safety.
- (3) Unique characteristics, historic or cultural resources, parks, farmlands, wetlands, wild and scenic rivers or ecologically critical areas.
- (4) whether the project is highly controversial

This project has been controversial from the start.

- (5) uncertain, unique or unknown risks
- (7) establishment of precedent, future considerations
- (8) NRHA facilities, cultural resources
- (9) threatened and endangered species
- (10) violation of Federal, state or local environmental laws

In addition, the CEQ Document "NEPA's Forty Most Asked Questions" 48 Fed. Reg. 18027 (1981) states:

"the Council has generally advised agencies to keep the length of EAs to not more than approximately 10-15 pages. Some agencies expressly provide page guidelines (e.g., 10-15 pages in the case of the Army Corps) . . . Agencies should avoid preparing lengthy EAs except in unusual cases . . . In most cases, however, a lengthy EA indicates that an EIS is needed."

In this case, the EA with appendices is well over 15 pages long. It is many times the recommended length of an EA, and obviously a comprehensive EIS is necessary.

Sincerely,

Scott Hatfield
Forest Chair- Sierra Club Rocky Mountain Chapter
POB 18421
Boulder, CO 80308-8421
scott_f_hatfield@hotmail.com



SOUTHERN UTE INDIAN TRIBE

T R B A L A F F A R S B U L D N G

April 1, 2003

MIS Amendment Comments
Rio Grande National Forest
Attn: Bob Dalrymple
1803 Highway 160
Monte Vista, CO 81144

Subject: EA Revised Land and Resource Management Plan for the Rio Grande National Forest

Dear Mr. Dalrymple:

I have reviewed your EA of February 27, 2003, and, at this time, believe there are no known impacts to areas of Native American cultural sites that are sensitive to this Tribe in regards to your revisions noted in the EA. In the event of inadvertent discoveries of Native American sites, artifacts, or human remains, this Tribe would appreciate immediate notification of such findings.

Should you require additional comments or have any questions, feel free to contact me, at the number listed below, extension 2209.

Sincerely,

Neil B. Cloud

Neil B. Cloud
NAGPRA Coordinator

Cc: Howard D. Richards Sr., Chairman
Southern Ute Indian Tribe

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RIO GRANDE N.F.



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www.intforest.org

April 10, 2003

MIS Amendment Comments
Rio Grande National Forest
1803 Highway 160
Monte Vista, CO 81144

Dear Sirs:

We have reviewed the Management Indicator Species Environmental Assessment, and offer the following comments:

-Overall, your analysis does a good job of evaluating a large number of species, and documenting why species were either selected or not selected.

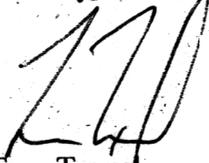
-We strongly agree that selection of Management Indicator Species should take into consideration your ability to monitor and evaluate the selected species.

-We believe that selecting both the Lincoln's sparrow and the Wilson's warbler for riparian areas is duplication, and recommend that you choose one or the other.

-We recommend that you drop deer and elk as Management Indicator Species. Population levels of deer and elk are affected much more by weather and hunting seasons than by activities on national forest lands. One of the criteria used to evaluate species is whether it significantly improves the agency's ability to evaluate the effects of management activities on habitats and populations. Bighorn sheep were not selected because populations are not affected by management activities. The same could be said for deer and elk.

-The remaining Management Indicator Species appear to adequately cover the habitats on the Rio Grande NF that will be affected by land management activities.

Thank you for this opportunity to comment.


Tom Troxel
Director

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BY EMAIL AND U.S. POST

April 17, 2003

Attn: MIS Amendment Comments
 Rio Grande National Forest
 1803 Highway 160
 Monte Vista, Colorado 81144

To Whom It May Concern

On behalf of the undersigned organizations, our organizational members and supporters, and myself as an individual, please accept the following comments on the proposed amendment to the Revised Forest Plan for the Rio Grande National Forest (RGNF) regarding Management Indicator Species (MIS). We were informed by the Team Leader that the postmark deadline for comments on the Environmental Assessment (EA) is April 17, 2003 (personal communication with Rocky Smith, Colorado Wild, March 26, 2003). These comments, both postmarked and submitted via fax on April 17, 2003, are therefore timely.

For the most part, our comments and concerns mirror those articulated in our December 21, 2001 comment letter on this proposal (comment letter of Center for Native Ecosystems et al., December 21, 2001, hereafter referred to as "CNE"), and we hereby incorporate that letter by reference. We have two major concerns about the proposed amendment – that the proposed MIS list fails to capture a reasonable range of ecosystem types and conditions on the RGNF, and, similarly, that it does not cover a number of key ecosystem types and conditions.

Our key concern is that the species included on the proposed MIS list will not indicate for a number of key ecosystem types and conditions. While we appreciate the FS' interest in minimizing the number of species on the list, as we explained in our scoping letter, the MIS program is a critical component of the FS' ability to ensure that assumptions made in the Forest Plan and its EIS are accurate, adjust the plan when conditions or circumstances change, ensure compliance with the Forest Plan's many environmental protection requirements, and, among other things, maintain viability of native species.

Monitoring of the species on the proposed MIS list will not provide critical ecosystem health and species viability information about aspen, alpine, pinyon-juniper, gambel oak, and wetland ecosystems, nor will it provide such information about crucial ecosystem characteristics, and those species dependent on them, such as woody debris and subnivean habitat conditions. Moreover, the FS is proposing to omit multiple species that would serve these functions well. The result is that the MIS program, as proposed in this amendment, will not allow the Forest Service to fulfill its duties to evaluate and ensure diversity, maintain viability, and conserve forest resources.

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The FS provides numerous inappropriate rationales for omitting important potential indicator species from the proposed MIS list. For example:

"no baseline data" – Initiating monitoring of a species for which there is not currently baseline data would immediately result in baseline data. While the lack of baseline data would make it impossible to identify trends occurring during the previous forest planning period, it would not obstruct the identification of trends occurring during the course of the current planning period.

"rare" or "specialized habitat" – Rare species are often excellent indicators of habitat conditions and ecosystem health, in part because they are often associated with ecosystem types of concern. Omitting species from the MIS list on this basis will make it much more difficult, if not impossible, for the FS to identify trends occurring in the associated ecosystem types. Similarly, species requiring specialized habitat are frequently excellent indicators of the health of that habitat type. Specialized habitat types are not captured by the proposed MIS list.

"wide-spread" – Widespread species are often excellent indicators of habitat conditions and ecosystem health because they are easier to monitor and their population levels may be more responsive to habitat changes. Eliminating species because they are too rare and others because they are too widespread suggests that the FS is eager to find excuses for omitting species from the MIS list rather than developing a list that fulfills its biological and legal obligations.

not tied to any specific management activity – Many species function well as indicators of habitat condition even if their status isn't tied to a single management activity because they are dependent on specific habitat conditions that can be affected by a range of land use. For example, a species like the chorus frog is sensitive to changes in aquatic habitat health regardless of their source – overgrazing, logging, road construction and use, etc. If they decline in a given habitat type, it is a clear indication that whatever activities affect the habitat conditions on which they depend are potentially problematic. Omitting such species because they are not narrowly sensitive to the impacts of a single land use, especially when so many land uses have very similar impacts, is to dramatically reduce the effectiveness of the MIS program and substantially lessen its ability to detect problematic changes in land health and species viability and otherwise provide key information about the effects of land use on the RGNF.

not tied to any particular habitat – As above with regards to management activities, many species are excellent indicators of adverse environmental impacts even if they aren't tied to specific habitat types but rather to habitat conditions that occur, under healthy conditions, across multiple habitat types.

"viability concerns addressed through biological assessments" – Biological Assessments, Biological Evaluations, and similar analyses do not include monitoring and therefore cannot substitute for monitoring. In other words, the FS cannot use assessments of species status, without actual population data, to assess the health or condition of habitat types or other species associated with that habitat type.

"protected by specific standards and guidelines and already monitored in the Forest Plan" – While the Forest Plan has standards and guidelines that may offer protection for some species of concern, these provisions cannot substitute for monitoring. In fact, the very purpose of the MIS program itself is to test the effectiveness of those standards and guidelines. Additionally, the existence of monitoring provisions in the Forest Plan for a species does not justify its exclusion from the MIS list, because the non-MIS monitoring provisions generally do not call for

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monitoring of populations, as expressly (and appropriately) required of those species on the MIS list.

"monitoring difficulties" – The FS omitted many species from consideration on this basis, but in many cases the difficulties are not so significant as to justify omission from the proposed MIS list given how strong as indicator species they are. Marten, for instance, are very strong indicators for older forest types, down woody debris, and other factors not well captured by the proposed MIS list, and they are not so difficult to monitor that their inclusion should be precluded for this reason.

"populations affected by prey levels" – This rationale for omitted species from the MIS list is, strangely, one of precise characteristics that MIS should be used to indicate for. In other words, population declines of a species like marten might well be resulting from declines of its prey base, which would tell the FS a great deal about the impacts of land use activities within marten habitat.

"populations influence by factors beyond forest management" – This is true for virtually every species that might be considered for inclusion on the MIS list, and so is a nonsensical rationale for omitting species from the list. The issue is, rather, will declines in a particular species tell the FS something important about the impacts of land use to that species, particular habitat types, and species associated with those habitat types? Many species affected by factors beyond forest management still function well as indicators.

- this habitat type is represented by other MIS – These claims, which appear several times in Appendix B of the EA, are generally inaccurate. For instance, while deer and elk may indicate for some characteristics of winter range habitat, they do not necessarily indicate very well for the health of those habitat types as a whole.
- limited, if any, breeding populations on the RGNF – Breeding is not the only life history stage that indicates for effects of land use, and eliminating potential MIS on this basis means that important potential indicators are inappropriately removed from consideration.

The Forest Service seems to be imposing an impossible and contradictory standard in its process for selecting MIS on the RGNF. On the one hand, it acknowledges that the MIS program is but one important tool for assessing the impacts of forest management, and the data derived from MIS monitoring must be evaluated in the context of other such data (i.e., MIS monitoring data provides some, but not all, the essential information). On the other hand, it has imposed a standard for inclusion on the MIS list that ensures that very few species will qualify, and that the MIS program will not detect the very population changes for which it is included in the FS' management obligations in the first place.

Most of the species we recommended for inclusion on the MIS list in our scoping letter were excluded by the FS from the proposed list. The rationales for these exclusions are generally inappropriate. For example:

- Macgillivray's warbler – Should have been included because the proposed MIS list does not include good indicators for mid-elevation riparian areas, and the habitat components necessary for deer and elk (EA at B-27) are not the same as those required for this species.

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yellow warbler – Should have been included because the proposed MIS list does not include good indicators for lower and mid-elevation riparian areas. For this reason Wilson's warbler and Lincoln's sparrow are not good substitutes.

- chorus frog and tiger salamander – Should have been included to indicate for montane riparian and wetlands, in part because these ecosystem types are not appropriately captured by the proposed MIS list and in part because they are such good indicators of key environmental changes associated with land use activities on the RGNF.
- beaver – Should have been included because it is an extremely good indicator of general aquatic/riparian ecosystem health and is very easy to monitor.

In short, we reiterate the recommendations we made in our scoping letter, for the reasons discussed therein and noted above. The FS' rationale for excluding these species, as discussed in our scoping letter and in these comments, is generally inappropriate.

Our recommendations included: pine marten, white-tailed ptarmigan, Uncompaghre frittilary butterfly, high elevation boreal forest species, boreal owl, lynx, red-naped sapsucker, western wood-pewee, black-headed grosbeak, Abert's squirrel, plumbeous vireo, gray flycatcher, goshawk, three-toed woodpecker, boreal toad, and others. Additionally, we find the FS' complete omission of plant species from the proposed MIS list as unfortunate and inappropriate for the reasons discussed in our scoping comment letter.

We have several additional concerns. First, the EA fails to adequately analyze a reasonable range of alternatives to the proposed MIS Amendment, as required by NEPA, 42 U.S.C. § 4321 *et seq.*, and the NFMA, 16 U.S.C. § 1600-1614. In fact, the EA only considers the No Action Alternative and the Proposed Action. While consideration of the No Action Alternative is required, it is of no use in comparing the proposed action to other possible actions, since the No Action Alternative is clearly illegal (i.e., the purpose of the amendment in question is to amend the Forest Plan to redress its legal deficiencies). In other words, the EA does not consider a range of reasonable alternatives, since the No Action Alternative is, in this case, not legal and therefore not reasonable. Our scoping letter made numerous proposals and recommendations for species that could have comprised alternative MIS list proposals. CNE at 2-15.

Second, while we agree that, on the whole, the proposed changes to standards and guidelines improve the Revised Forest Plan, most do very little; and the Forest Service should not overstate their value. For instance, the proposed revision to Guideline 9 (Section 2 – Watershed Areas) is basically the same as the current Guideline, and in fact may even weaken it by adding the qualifier "[a]s a general rule . . ." EA at A-1. The proposed addition of Guideline 13 (Section 3 – Biological Resources), while appropriately suggesting that the firewood program should be managed "in a manner that reflects overall resource objectives, including snag densities," is not only a guideline (and thus generally unenforceable) but merely reiterates the obvious importance of ensuring that management decisions are consistent with management objectives. While possibly helpful, the conservation benefit resulting from this change is likely to be minimal and should not be overstated.

We appreciate the proposed amendments that clearly improve protections for biological resources, such as the proposed increase in the ponderosa pine snag retention density standard (Section 3 – Biological Resources, Biodiversity, Standard 1) and the limitations on recreation livestock in riparian areas (Section 5 – Social Resources, Dispersed Recreation, Standards 6 and 7). EA at A-2 and A-5.

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Third, the proposed amendment does not address our recommendations for the monitoring plan. CNE at 15-18.

Fourth, the EA is inadequate because the proposed MIS Amendment, which, among other things, includes the development and addition of an MIS list to a forest plan, constitutes a significant amendment, and therefore requires a full EIS under NFMA and NEPA. The proposed MIS Amendment is significant because, in part, the implementation of a set of MIS and monitoring protocols for those MIS will have pervasive impacts on the classification and management of lands and resources throughout the Rio Grande National Forest.

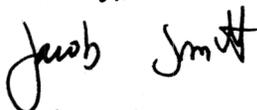
Fifth, the process for evaluating species for inclusion on the MIS list inappropriately restricted itself to species associated with a very small number of activity types on the RGNF. This concern is in addition to our concerns, voiced above, that the condition of a species need not be narrowly linked to a particular land use for that species to be an extremely effective MIS. We appreciate that the FS included "travel and related use disturbance," as we recommended in our scoping letter, but other land uses occur on the forest in significant enough measure to warrant attention in the development of the MIS program, including oil and gas development, developed recreation, mining, and other activities.

Sixth, we note that the EA does not adequately analyze the implications of the proposed MIS, and a range of alternative MIS, or monitoring protocols for the designation of areas as suitable or unsuitable for timber management, including areas recently reclassified under the RGNF's Timber Suitability Amendment (which failed to comply with the requirements of NFMA and NEPA).

Finally, we once again wish to draw attention to our concerns about the FS' need to develop a new livestock grazing suitability determination. As explained in our scoping letter, the FS cannot sufficiently address this legal deficiency through a Supplemental Information Report. CNE at 19-25. Similarly, the proposed action fails to address the numerous additional legal deficiencies raised in the April 1997 Appeal of the Record of Decision on the Revised Land and Resource Management Plan (Forest Plan) for the Rio Grande National Forest, submitted by Colorado Environmental Coalition et al. We incorporate by reference that appeal into this comment letter. We encourage the Forest Service to correct these deficiencies before they lead to continued declines of native species, continued degradation of National Forest resources, continued habitat degradation.

Thank you for your consideration of these comments.

Sincerely,



Jacob Smith
Executive Director

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April 7, 2003

Bob Dalrymple
Forest Planner
1803 Highway 150
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RIO GRANDE N.F.

Postmarked 4/17/03
RJD



Dear Bob:

Thanks for taking the time to visit and giving an overview of the Management Indicator Species to the Revised Land and Resource Management Plan for the Rio Grande National Forest. My comments are based on reviewing the document and integrating the proposed amendment with previous letters that we have sent about MIS and discussions with you and other individuals who are concerned about protection of biodiversity.

On the whole, the Forest Service has made a good effort of tackling MIS and balancing it with other forest management plans including the revision of the Regional Forester's Sensitive Species List; the pending regional Lynx amendment; 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 the Endangered Species Act; pending U.S. Fish and Wildlife Service approval of the draft Recovery Plan for the Southwest Willow Flycatcher; and the pending Roadless Area Conservation Rule.

The above mentioned "plans" for the Forest Service are a lot to consider for implementation. The future monitoring of species on public lands will include formalizing partnerships with other agencies (which the Forest Service is already doing) and development of regional MIS monitoring programs. Because of downsizing and other budget restraints, building creative partnerships will be essential. These potential partners may also include organizations like the Colorado Natural Heritage Program, Rocky Mountain Bird Observatory, The Audubon Society and The Nature Conservancy.

Local partnerships with organizations (like us!) that are working toward protection/conservation of natural resources will also be an important component.

The interpretation of Management Indicator Species (MIS) and how it is being handled on each forest appears puzzling. The Rio Grande National Forest ideally needs to standardize MIS with it's surrounding National Forests. Why is the Abert squirrel listed on the Pike and San Isabel NF's, (perhaps for raptor prey base), but this is not acknowledged on the Rio Grande National Forest? The same is true of the Pine Marten (timber harvest), which is listed on three adjacent Forests but not the Rio Grande. As mentioned in our previous letter, "the Umpqua NF in

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"To protect and restore - through research, education, and advocacy - the biological diversity, ecosystems, and natural resources of the Upper Rio Grande bioregion, while balancing ecological values and human needs."

Oregon successfully monitors Pine Marten using remote camera bait stations and has documented populations trends for a species that the RGNF recognizes as being sensitive to timber management.”

All MIS bird species chosen by RGNF have distributions throughout North America with exception of the Pygmy nuthatch. This latter mentioned species does have an isolated and restricted population and is a positive MIS choice. It is also good that you have chosen species whose habitats can be impacted in riparian areas. The others chosen species occur “commonly” over a large area of the U.S. and are not recognized as species of concern in Colorado. While monitoring of any species is better than none, it is unfortunate the RGNF chose to ignore bird species whose future population viability are dependent on their Colorado populations. Many of these species have been identified by Audubon Society in their Colorado Watch List. (see attached.)

SLVEC recommends that RGNF MIS include such species as Flammulated Owl, Brown Capped Rosy Finch or Rufous hummingbird for Forest activities and recreation impacts.

It has been indicated that there are philosophical differences as to whether monitoring MIS is even effective for determining the health of an ecosystem. When that thinking is coupled with the interpretation that MIS means Local Forest Management Impacts only on specific species it creates a psychological impass where any sort of sensitive species monitoring is considered suspect and ineffectual.

SLVEC wants to redirect this approach. Monitoring sensitive species needs to be looked at as a way to develop a baseline for future management decisions for all our regional forests, regardless of whether or not this specific forests management practices or global warming are effecting the (for example) amphibian population. The selected MIS for RGNF is short changing the opportunity to monitor for biodiversity.

To provide more clarity, if Rio Grande National Forest is monitoring for the Boreal Toad, Northern Leopard Frog and Tiger Salamander and sees a decline in these populations, first you will look at your management practices and if you know there are no direct links then you will have to look at larger factors. You then have the opportunity to inform and make recommendations outside your local forest. You would not have that capability if you were not monitoring sensitive species to begin with.

The driving force behind this proposed RGNF MIS monitoring plan is lack of monitoring funds. (\$38,000.00) If RGNF chooses to incorporate more partnerships into the monitoring plan, it may be possible to develop a better regional comprehensive MIS monitoring plan.

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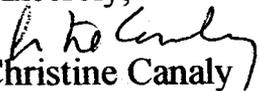
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Obviously, SLVEC would like to see taxonomic groups such as amphibians, which we know are in decline, added to the MIS list.

Finally, no predators were listed, either bird or mammal. Neither were their prey. This concerns us. If places in Africa, using low tech approaches, can monitor the mountain lion, why can't we monitor predators more closely? If we are giving permits to hunt mountain lion, just like deer and elk, then they deserve to be monitored more closely. This inconsistency needs to be addressed and we recommend CDOW & Forest Service to work towards a coherent plan. Forest Service input could influence CDOW to consider predators a valuable part of the landscape. Individuals within both agencies already see this, but it needs to be institutionalized.

Thanks for reading our concerns and my apologies up front for any inconsistencies, we know the Forest Service is working very hard on these issues and we appreciate the opportunity to have input. We wish we could have spent more time with research and explanation, but hopefully our recommendations are fairly clear.

Sincerely,

Christine Canaly
Director

AUDUBON WATCHLIST COLORADO BIRDS					
Regularly found in Colorado			Regularly found in Colorado		
Mountains			Mountains		
1	Black Swift	***	1	Gunnison Sage-Grouse	***
2	Olive-sided Flycatcher	***	2	Brown-capped Rosy-Finch	***
3	Greater Sage-Grouse	**	3	Spotted Owl	**
4	Blue Grouse	**	Plains		
5	Band-tailed Pigeon	**	4	Mountain Plover	***
6	Flammulated Owl	**	5	McCown's Longspur	***
7	Rufous Hummingbird	**	6	Greater Prairie-Chicken	**
8	White-throated Swift	**	7	Lesser Prairie-Chicken	**
9	Grace's Warbler	**	8	Long-billed Curlew	**
10	Virginia's Warbler	**	9	Bell's Vireo	*
11	Calliope Hummingbird	*			
12	Willow Flycatcher	*			
13	Black Rosy-Finch	*			
Marsh					
14	Wilson's Phalarope	*			
15	Marbled Godwit	*			
16	Short-eared Owl	*			
Plains			Key to codes		
17	Swainson's Hawk	***	Colorado important to species ***		
18	Ferruginous Hawk	***	Colorado fairly important **		
19	Lewis's Woodpecker	**	Occurs in Colorado *		
20	Red-headed Woodpecker	*			
21	Dickcissel	*			
22	Harris's Sparrow	*			
Pinon/juniper & desert			Totals		
23	Gray Vireo	***	yellow	26	
24	Brewer's Sparrow	**	red	9	35
25	Pinyon Jay	**	rare red	10	
26	Curve-billed Thrasher	*	rare yellow	24	34
				69	
Rare in Colorado			Rare in Colorado		
1	Trumpeter Swan		1	Black Rail	
2	Harris's Hawk		2	Piping Plover	
3	Yellow Rail		3	Snowy Plover	
4	American Golden-Plover		4	Whooping Crane	
6	American Woodcock		5	Buff-breasted Sandpiper	
7	Whimbrel		6	Baird's Sparrow	
8	Hudsonian Godwit		7	Bendire's Thrasher	
9	Red Knot		8	Cerulean Warbler	
10	Short-billed Dowitcher		9	Golden-winged Warbler	
11	Thick-billed Kingbird		10	Sprague's Pipit	
12	Wood Thrush				
13	Bay-breasted Warbler				
14	Blue-winged Warbler				
15	Canada Warbler				
16	Hermit Warbler				
17	Kentucky Warbler				
18	Lucy's Warbler				
19	Prairie Warbler				
20	Prothonotary Warbler				
21	Red-faced Warbler				
22	Worm-eating Warbler				
23	Rusty Blackbird				