The Wildlife Society
Western Section
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10 August, 2000

Bradley E. Powell
USDA Forest Service-CAET
Sierra Nevada Framework Project
PO Box 7669
Missoula, MT 59807

Re: Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement.

Dear Mr. Powell,

The Wildlife Society-Western Section (TWS-WS) was pleased to have the opportunity to review the Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement. The Wildlife Society is an international, nonprofit scientific and educational organization serving professionals in all areas of wildlife conservation and resource management. The Western Section of TWS is composed of professional wildlife biologists working for government agencies, consulting firms, universities, non-profit NGOs and as individuals in the states of California, Nevada, and Hawaii. For over 60 years our membership of nearly 800 dedicated women and men has sought to enhance the capability of wildlife professionals in conserving diversity, sustaining productivity, and ensuring responsible use of wildlife resources for the benefit of society. The principal objectives of TWS include the following:

(1) To develop and promote sound stewardship of wildlife resources and of the environments upon which wildlife and humans depend;
(2) To undertake an active role in preventing human-induced environmental degradation;
(3) To increase awareness and appreciation of wildlife values; and
(4) To seek the highest standards in all activities of the wildlife profession.

The Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement bears on our objectives. On behalf of the TWS-WS, I hereby provide comments on the Plan Amendment.

Comment period

The TWS-WS commends the Forest Service for undertaking a planning effort that is envisioned to improve ecological conditions throughout the national forests in the Sierra Nevada. Due to the complex scope of this effort, the TWS-WS requests more time to review the Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement. Given more time we could provide invaluable detailed comments on how to improve this

Amendment using the collective knowledge, expertise, and perspective of the many biologists in our organization. Because we have had limited time to comment, our comments focus on the general approach the Forest Service has taken to change its management direction to accomplish the stated purpose and need of the planning effort. We request an extended comment period of six months.

Alternatives

Given our main objectives in our mission statement, the TWS-WS cannot prefer any of the alternatives offered in this Plan Amendment, because they all degrade wildlife habitat relative to the potential habitat occurring in the Sierra Nevada (e.g., page 39). According to the Plan Amendment (page 39), all eight of the alternatives would produce deleterious impacts to the focal species of wildlife. We are unwilling to endorse any alternatives which result in impacts to wildlife that are contrary to our objectives 1 and 2 above.

If TWS-WS was willing to compromise on our objectives, then our nearly 800 member organization would still be unable to agree on any one alternative, because the conditions that each of our members would favor are hopelessly intermixed amongst the alternatives. For example, some of our members might want to minimize PM10 emissions, mechanical treatments in forests, prescribed fires, timber extraction, wood-chipping, and grazing intensity, while also maximizing conservation of old forests, connectivity, and habitat suitability for the focal species. In this case, those of our members would prefer aspects of Alternatives 2, 3, 5, 6, 7, and 8, but would oppose aspects of all 8 Alternatives. These members of TWS-WS are undoubtedly unhappy with this Plan Amendment. Of course, most of our members would probably prefer some other set of conditions than those described for this example. Nevertheless, each of our members would be unlikely to find all of their preferred conditions in a single Alternative described in this Plan Amendment, and our members are unlikely to agree as a majority to one Alternative offered in this Plan Amendment.

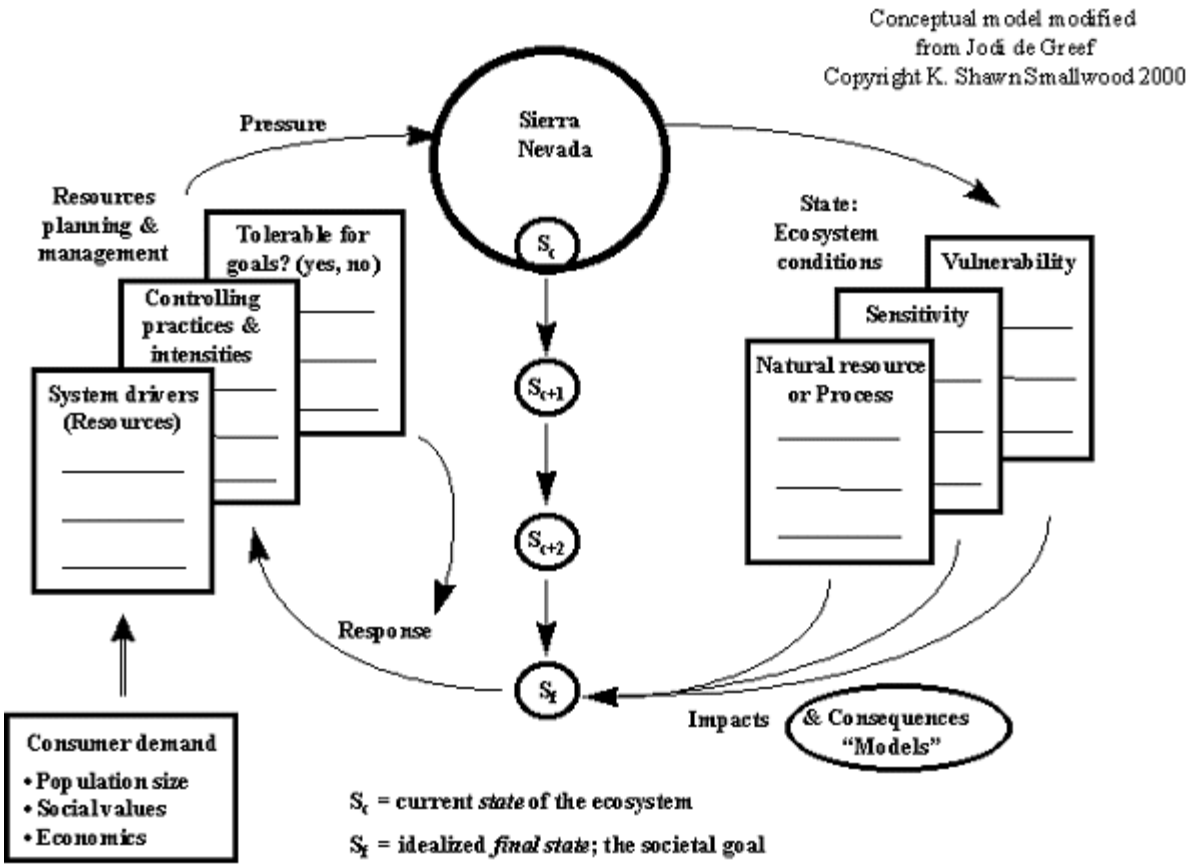
Alternatives are prepared incongruously. For example, Alternative 2 proposes a protection strategy to maintain and perpetuate desired conditions in old forest, aquatic, riparian, meadow, and hardwood ecosystems. Then it prescribes full containment of all fires regardless of cause. To be consistent with its protection theme, this Alternative should have prescribed no fire suppression, or at least very little fire suppression. In another example, the theme of Alternative 6 is to integrate old forest and hardwood conservation with fire and fuels management. However, the conservation strategy for aquatic, riparian, and meadow ecosystems is unclearly linked to the theme of Alternative 6. How is the active management of noxious weeds related to the theme of Alternative 6? It seems to us incongruous that noxious weed management would be so actively pursued in Alternative 8, which emphasizes a cautious approach to managing sensitive wildlife habitat. Where is the caution in eradicating weeds that may now serve as habitat for sensitive species, or which may coexist with sensitive plant species that are likely to be affected by the eradication efforts, as well? These incongruities within the Alternatives are the result of a flawed approach to preparing the Alternatives for public comment.

The approach to developing the Alternatives would have been more scientifically defensible and more likely to have generated a cogent set of Alternatives had the Forest Service used a systems approach. That is, the Sierra Nevada needs to be compartmentalized into types of forest, wet versus dry meadows, lakes and ponds, meaningful elevation zones, and stream order. These compartments need to be linked by processes (O'Neill et al. 1986, Ricklefs et al.

1984, Holling 1986), such as water storage and flow, fire, seed dispersal, and animal movements and habitat use.

Once the ecosystem of the Sierra Nevada has been appropriately described, the conditions of each of the compartments and processes need to be assessed, along with their histories and local circumstances. The most critical step is defining the desired conditions of these ecosystem compartments and processes at some later date (see Figure 1 on the next page). The public should be heavily involved with this step, since the idealized future state of the Sierra Nevada should be that defined by the public. Once the desired conditions have been defined, pressures (Rotmans et al. 1994), or stressors (Schulze et al. 1994), on these conditions should be identified, as well as their relative levels of threat to the desired future conditions. This approach is known as the Pressure-State-Response (PSR) approach to ecosystem monitoring and management (e.g., Rapport et al. 1985, Karr et al. 1986, Bedford and Preston 1988, Graham et al. 1991, Cairns and McCormick 1992) using ecological and policy performance indicators, and was developed by the RIVM of the Netherlands (Adriaanse 1993, Rotmans et al. 1994) and modified by the US EPA (Schulze et al. 1994) and USDA (1994). This approach is based on ecosystem principles (O'Neill et al. 1986) and the availability of Geographic Information Systems (GIS) and their growing usefulness with risk assessment (Rejesky 1993).

Figure 1. A generalized pathway model conceptualizing the ecological indicators approach applied to a land mass such as the Sierra Nevada. Terms are defined below.



Pressure	**Resource extraction, land conversion, chemical or biological inputs.**
Sensitivity	**Inherent potential of ecosystems or components (e.g., fauna, soil, air, water) to degrade under pressure.**
Vulnerability	**The likelihood of degradation, given the intensities and types of pressures applied.**
Impact	**The product of the ecosystem's sensitivity and vulnerability, such as chemical or biological contamination, habitat fragmentation, mass wasting, and reduced ecosystem functionality. Influenced by buffer capacity of the system, thresholds, lag-times and spatio-temporal scale.**
Response	**The reaction of society to realized or anticipated impacts.**

The Forest Service would be able to provide more scientifically sound alternatives by systematically describing the Sierra Nevada, the desired future conditions, and the human activities that potentially threaten our realization of these desired conditions. The public could then comment on each set of alternatives for each ecosystem component and each process separately. The Forest Service could then integrate the preferred alternatives according to their combined compatibility.

By identifying unique local circumstances in the systematic description of the Sierra Nevada,

the alternatives presented to the public would also avoid presenting universal management options to be applied across the entire Sierra Nevada. For example, the grazing issues in high elevation wet meadows are not the same as those of lower elevation dry meadows. Also, the impacts of grazing and timber management alternatives may be very different between the headwaters and lower reaches of streams. Universal management prescriptions are likely to cause many conflicts over local resources, and would frustrate adaptive management strategies (see Adaptive Management section below).

At present, this Plan Amendment does not explicitly describe desired future conditions of the Sierra Nevada, and its alternatives are not derived from a systematic analysis of the Sierra Nevada's resources and ecological processes. At present, it is highly unlikely that the TWS-WS's hardwoods biologists are going to prefer the same alternative as our biologists who work on Willow Flycatcher. It is unlikely that our game biologists are going to prefer the same alternative as our endangered species biologists. However, if the Forest Service used a systems approach similar to the generalized one described above, then hardwoods biologists could focus their comments on the alternatives that address their areas of specialization, and the same could be true for the game biologists and endangered species biologists. Each of our members could provide well-founded reasons for preferring alternatives in their areas of expertise, rather than attempting to identify which of the combinations of management prescriptions amongst disparate resource issues best suits their needs.

In generating this comment, our members have already demonstrated that the Forest Service used the wrong approach to developing alternatives. Members of TWS-WS issued comments from their perspectives as experts on particular resource issues of the Sierra Nevada. Hardwoods specialists were forced to choose a different Alternative than did endangered species specialists, and one biologist who commented on the Plan's consideration of pack stations had to prefer some other Alternative. The reality, however, is that these biologists could probably agree on nearly all the of the management prescriptions that prompted each of them to prefer a particular Alternative, even though the Alternatives preferred were different. This Plan forces our members to appear more at odds with each other regarding the management of the Sierra Nevada, when in reality, they are much more in agreement. We request that this Plan Amendment be abandoned and a systems approach adopted for developing alternatives so that our membership can provide well-founded comments that can collectively represent the position of TWS-WS.

We also suggest that a wider range of alternatives would have been helpful and would have been more inclusive of the values of the American people. One of the authors of Alternative 3, Dean Carrier, who is also a past-President of TWS-WS, feels that his Alternative 3 was not the Alternative 3 that appeared in the Plan Amendment. We suggest that those who prepared this Plan Amendment not only rewrite it, but if they agree to include alternatives from the public, please provide us the Alternative as it was originally prepared.

Without our recommended changes, the current Plan Amendment offers undesired Alternatives to most who review it. Every Alternative offers arbitrary, universal management prescriptions.

Adaptive Management

Deferring the description of the adaptive management strategy to the Final EIS makes it impossible for the TWS-WS to comment meaningfully on the use of adaptive management in this Plan Amendment, other than to say that adaptive management should start with a

statement of goals for future conditions of the Sierra Nevada, then list prescribed management actions and hypothesized environmental responses for each Alternative. The DEIS provides none of these critical aspects of adaptive management, and so we have to trust that the Forest Service will properly implement adaptive management, which so far, has been implemented improperly in most cases (Lancia et al. 1996, McClain and Lee 1996).

Adaptive management integrates the ecological indicators approach described above (Holling 1978, Walters 1986). Therefore, if adaptive management is going to be used, then the Plan Amendment should be structured in the manner that we recommend under the Alternatives section above. Following stake-holder meetings, at which the future desired conditions are identified, adaptive management should proceed with the design of replicated and interspersed treatments, including controls, at a meaningful, large scale (Lee 1991, Simberloff 1998). This approach precludes universal management prescriptions across the Sierra Nevada, as we explained under the Alternatives section above.

Analytical Approach

The analytical approach described for the DEIS in Appendix E was uninformative. It discusses the merits and pitfalls of models, but that is all.

Scientific Foundation

We are pleased that the Forest Service seeks to use the best available science (e.g., page 3-2), which is consistent with the objectives of TWS-WS. However, we are concerned about the use of science based on some of the comments of our members who focused on the scientific foundation of conclusions relevant to their areas of expertise. In separate comment letters, some of our members have identified cases of improper extrapolations of data, inappropriate assumptions, and selective referencing. TWS-WS simply does not have sufficient time within this public comment period to address the scientific foundation of conclusions in the Plan Amendment. Based on our limited examination of the scientific assessments in this Plan Amendment, we request that a rewrite of this Plan Amendment include greater care in the use of scientific data and the scientific method.

Concluding remarks

We appreciate the opportunity to provide comments on this Draft EIS, and sincerely hope our comments are understood in the constructive context in which they were offered. We are eager to help in any way we can. Please contact me (MM) or Shawn Smallwood (TWS-WS Chair, Conservation Affairs Committee) if you have any questions or require clarification of any points we raised.

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Sincerely,

Michael Morrison, President