



NORTHERN ARIZONA UNIVERSITY

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March 14, 2011

Coconino National Forest
Attn: 4FRI
1824 South Thompson Street
Flagstaff, Arizona 86001
4FRI_comments@fs.fed.us

Dear Forest Supervisors Stewart and Williams:

On behalf of the Ecological Restoration Institute (ERI) I would like to comment on the Proposed Action (“PA”) and Notice of Intent to Prepare an Environmental Impact Statement for the Coconino and Kaibab national forests, Four Forest Restoration Initiative (4FRI), as released on January 21, 2011 and published in the *Federal Register* at 76 Fed. Reg. 4279 on January 25, 2011.

The ERI is an active participant in the 4FRI collaborative process. We take very seriously the agency’s commitment to use the best available science to inform land management. To this end we strive to provide the research and scholarship that is needed to restore frequent-fire forests of the West. The ERI is nationally and internationally recognized for peer-reviewed research that meets the highest standards of academic rigor. Equally as important, we are dedicated to interpreting and transferring science for the land managers and stakeholders who design, implement or influence restoration treatments.

The Four Forest Restoration Initiative (4FRI) represents an exciting breakthrough in land management. In 1997 I testified before Congress urging that we begin immediately to restore frequent fire forests at the landscape scale. Based on my research and that of others, I predicted that we would have 15 to 30 years to restore forests before either catastrophic fire or unanticipated ecological changes would significantly alter the function and resilience of these ecosystems. Since that time, new research indicates that climate change is likely to lead to longer fire seasons and hotter temperatures. The convergence of these factors reinforces the need and urgency to think and act at the landscape scale.

The 4FRI provides an equally important opportunity to test NEPA implementation at a large scale and in a highly collaborative framework. Building support among stakeholders while analyzing more acres per planning dollar could achieve greater economic and time efficiency. However, given that: 1) successful challenges to NEPA are most commonly caused by procedural issues (not science), 2) that forest restoration projects proposing mechanical treatments are more often challenged when compared to other restoration treatments, and 3) that a successful challenge to the first assessment could unravel years of collaboration, private investment in wood utilization, and all the innovation and forward progress that 4FRI represents, it is critical that the agency does an impeccable job of following procedure. My comments address both process and science.

1. **The Proposed Action (PA) must ultimately provide more specificity.** We understand that the 4FRI Team plans to provide greater specificity following public workshops. In addition, we appreciate that the Forest Service is experimenting with a more inclusive process to develop proposal details. However, we remain concerned that the next step in the Proposed Action process be sufficiently consistent with established policy that it is not vulnerable to challenge.

2. **Greater specificity is needed in several areas.**

- a. The project objective is to re-establish forest structure, pattern and composition, which will lead to increased forest resiliency and function. However, the PA does not define the parameters for those components or the basis for establishing those components.
- b. With respect to the basis for re-establishing forest structure and pattern we urge that the best available science (including climate science), combined with the natural range of variability (as defined by site characteristics and reference conditions) be used to inform treatment design for the following reasons:
 - A survey of the scientific literature indicates a broad consensus that reference conditions provide an objective and necessary guide to restoring natural variability.
 - Reference conditions are a manifestation of the evolutionary environment that shaped the forest and provide a picture of how a healthy, resilient forest looks. They are much like the results of a baseline physical for a healthy person.
 - Reference conditions and historic evidence provide an objective, practical and repeatable way for markers to implement treatments. Using historic evidence eliminates subjective and unpredictable choices on the ground and results in an approximation of the natural variation which occurred under natural conditions.
 - By using a “reading the land” approach it is more likely that the kind of landscape diversity that is characteristic of the evolutionary environment can be achieved—and then maintained as fire is allowed to play its natural self-regulatory role.
 - By using historic evidence management will follow the precautionary principle in deciding how to mark stands for restoration thinning because it will track natural tendencies. There may be reasons which we do not now understand that explain historical patterns, so, in keeping with the precautionary principle of conservation biology, it may prove to be a wise choice to emulate them where possible.
 - Because mechanistic approaches to restoring ecological health and function will not work in the long-term. Silvicultural approaches that strive solely to

create a regulated forest or the rigid use of diameter caps will undermine effective, long-term ecological restoration and resiliency.

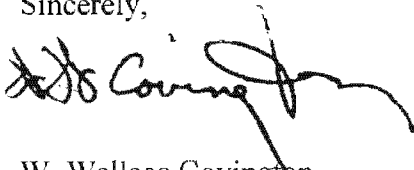
- c. Clarify where and when mechanical treatments will take place. What criteria will be used to establish priorities? This should be transparent in order to build support. We urge that those ecological attributes that are most difficult to replace (e.g., critical habitat and old-growth trees) receive priority attention. Articulating the process used to establish priorities will be important to explain actions and justify appropriations in the future.
- d. Restoring fire to a safe role in management is critical. The agency should clarify how, where and when planned and unplanned ignitions will be used as a management tool.
- e. Identify what will be monitored in order to evaluate if treatments are achieving desired outcomes and how it will inform adaptive management. These two elements are crucial for two reasons: 1. So we proceed using the best available information; and 2. So that people can support this effort in the face of uncertainty knowing that changes will be made as new information develops.

3. Reinforce commitments to Ecological Restoration and the protection of Old-Growth Trees.

- a. Although the Proposed Action borrows definitions and language from the Forest Service Handbook definition of Ecological Restoration a definitive statement of commitment to ecological restoration as the goal of the project would make the Agency's intent clearer.
- b. Old-growth trees are widely recognized as under-represented in the contemporary forest when compared to other age classes. In addition, emerging research suggests that old-growth trees are manifesting accelerated decline due to climate changes. With the exception of hazard trees, cutting of old-growth trees cannot be scientifically justified at this time.

The ERI is committed to making the 4FRI a success. We look forward to working with the Forest Service and the stakeholders to provide assistance through all phases of the Initiative.

Sincerely,



W. Wallace Covington
Executive Director and Regents Professor
The Ecological Restoration Institute
Northern Arizona University