



March 13, 2018

Cal Joyner, Southwest Regional Forester  
Steve Best, Apache Sitgreaves National Forest Supervisor  
Neil Bosworth, Tonto National Forest Supervisor  
Laura Jo West, Coconino National Forest Supervisor  
Heather Provencio, Kaibab National Forest Supervisor  
Wendy Jo Haskins, Apache Sitgreaves National Forest Deputy Forest Supervisor, acting 4FRI Chief Executive for Planning  
Robert Sanchez, Coconino National Forest Deputy Forest Supervisor, acting 4FRI Chief Executive

RE: Alternative Development for the Four Forest Restoration Initiative (4FRI) Rim Country Environmental Impact Statement (EIS)

*Via email*

Dear 4FRI Executive Board and Regional Forester:

On March 2, 2018, Forest Service staff posted the following statement on the 4FRI Collaborative "Basecamp" web site: *"The Board has decided to move forward with analysis of the modified Proposed Action alternative (with the Extended Duration Restoration (EDR) treatments as proposed to the Planning Workgroup), other alternatives, and begin preparing the draft EIS. The modified Proposed Action and alternatives cannot be changed once we're in the analysis phase."*<sup>1</sup>

The Planning Work Group (PWG) is a deliberative and advisory work group of the 4FRI Collaborative, tasked with working with the Forest Service on development of the Rim Country EIS. The PWG develops recommendations, which are then presented for consideration by the broader Stakeholder Group (SHG), which is solely vested with decision-making authority for the Collaborative. As of the date of this letter, the Forest Service and PWG remain engaged in discussions over the EDR proposal, attempting to reconcile significant questions concerning its scientific foundations, efficacy, nexus with other treatments in the Proposed Action, and challenges related to implementation and monitoring. It must be clearly stated that the 4FRI Collaborative has not fully vetted the EDR proposal nor decided whether or not to endorse the modified Proposed Action for full analysis. The Center for Biological Diversity ("the Center") views this unilateral decision as a significant breach of the collaborative protocol that undermines the level of trust developed between the Forest Service and all 4FRI stakeholders. As stated at the 3/7/18 Planning Work Group meeting, "Once something is in a preferred alternative, in our experience it's extremely difficult to get it out." Additionally, the acreage identified by the Forest Service EDR identification process, 60,000 acres, is substantially larger than we had been lead to believe would be proposed for inclusion in the proposed action.

The Center is also concerned that the modified Proposed Action fails to incorporate new scientific information relevant to landscape-scale restoration within the 4FRI footprint and does not satisfactorily address issues we raised during the Scoping Process for the Rim Country EIS. These include:

---

<sup>1</sup> Brienne Pettit Basecamp Post, 3/2/2018

- Strategically placed treatments to support fire use in the long-term, utilizing anchor points such as natural fuel breaks, previously treated or burned areas, roads, and waterways;
- Reasons why the location, timing and intensity of proposed mechanical actions will support a coherent restoration strategy;
- Landscape scale assessment of opportunities to manage unplanned natural ignitions for resource benefits;
- An analysis of fire-risk at multiple spatial scales using broader criteria<sup>2</sup> including:
  - (1) Surface fuel density and arrangement;
  - (2) Canopy base height;
  - (3) Crown bulk density;
  - (4) Local topography;
  - (5) Prevailing weather patterns.

To address these deficiencies, the Center formally requests that a new, stand-alone *Strategic Treatments for Fire Use Alternative* be included in the analysis.

This is appropriate timing for introducing an alternative which fulfills regulatory requirements of the National Environmental Policy Act (NEPA) and is based on the best available scientific information regarding the natural range of variability of forest types within Rim Country, fuels treatment optimization, landscape-scale planning, community and infrastructure protection, and beneficial effects of planned and unplanned fire. It is a return to the original intent of the 4FRI, insofar as “*The goal of landscape-scale restoration includes assessment of 2.4 million acres, **identification of priority treatment areas** and aggressive implementation of restoration at an accelerated rate over the next 20-30 years.*”<sup>3</sup>

The Statewide Strategy for Restoring Arizona’s Forests<sup>4</sup>, which is the origin of the 4FRI framework, set the tone for landscape-scale forest restoration:

*“Even under significantly increased budget scenarios, selective thinning and burning treatments will likely occur across only a limited portion of Arizona’s forests during the next twenty years, due to high cost and limited capacity. To meaningfully address restoration, fire, and community protection simultaneously, we must identify strategies for maximizing the effectiveness and efficiency of limited forest management resources. Here we offer four promising management approaches worth serious consideration:”*

*1) Strategically prioritize restoration, fire management, and community protection activities at the landscape-level*

*2) Strategically place treatments to reduce the threat of landscape-scale fire events*

---

<sup>2</sup> These criteria have long-been identified as fundamental factors in effective fire and fuels-management planning, for example see: Agee, J.K., and C.N. Skinner. 2005. Basic principles of forest fuel reduction treatments. *Forest Ecology and Management* 211(1): 83-96 and Reinhardt, E. D., R.E. Keane, D. E. Calkin, and J. D. Cohen. 2008. Objectives and considerations for wildland fuel treatment in forested ecosystems of the interior western United States. *Forest Ecology and Management* 256:1997-2006.

<sup>3</sup> Memorandum of Understanding between the 4 Forest Restoration Initiative (4FRI) Collaborative Stakeholder Group Representatives and the U.S. Forest Service, signed February 22, 2011. (emphasis added)

<sup>4</sup> Governor’s Forest Health Council, State of Arizona. June 2007. *The Statewide Strategy for Restoring Arizona’s Forests*. Aumack, E., T. Sisk, and J. Palumbo, editors. Published by Arizona Public Service, Phoenix, AZ.

3) *Employ prescribed fire and Wildland Fire Use as restoration and fire management tools*

4) *Employ adaptive management to continually refine management approaches and increase strategic efficiency*

The *Strategic Treatments for Fire Use Alternative* would bring additional focus on the first three approaches, which have thus far been inadequately considered in formulation of the Rim Country EIS. At a conceptual level, the *Strategic Treatments for Fire Use Alternative* is an updated iteration of the 2010 Landscape Restoration Strategy<sup>5</sup>, which utilized (1) an assessment of current forest conditions, (2) mapping of Firescapes, and (3) fire behavior modeling; resulting in a document that provided “a proof-of-concept for using a systematic approach to stratify a large analysis area into strategic areas for treatment area identification” at “three scales at which landscape-level forest restoration planning should be conducted.”<sup>6</sup> This Landscape Restoration Strategy began when “the USFS requested information regarding...identification and prioritization of treatment areas,”<sup>7</sup> and it successfully identified areas that 4FRI Stakeholders considered the highest-priority for treatment. A similar process – consistent with ecological restoration principles – is needed in the Rim Country analysis: “Prioritizing restoration efforts is essential because resources are limited. An initial focus on areas most likely to provide benefits and that present a low risk of degradation of ecological values will build experience and credibility.”<sup>8</sup>

A rigorously designed approach to prioritize and place treatments that facilitate landscape-scale fire processes is an oft-neglected component of ponderosa pine forest restoration. In our view, the Rim Country modified Proposed Action does not utilize a process where “Strategies for conserving both aquatic and terrestrial resources at multiple scales are based on ...secur[ing] areas with high ecological integrity (“anchor habitats”), extend[ing] these areas, and connect[ing] them at the landscape level”<sup>9</sup>. Forest Service scientists have established that any science-based planning should ask “Which locations provide the greatest strategic opportunity for fuel treatments that would facilitate attainment of desired conditions?”<sup>10</sup> The *Strategic Treatments for Fire Use Alternative* would address this question and take it one step further, expanding prescribed and wildland fire use through strategic placement of mechanical treatments. This fire process-oriented approach is a necessary step in the analysis, because “Prioritizing treatment areas allows the consideration of landscape-scale patterns of vegetation change, fuel continuity, and potential fire spread,”<sup>11</sup> aspects which, when fully studied, would meet the project Purpose and Need. This approach should also incorporate the newest information on structure and community protection<sup>12</sup> in the context of climate adaptation,<sup>13</sup> and the capacity for

---

<sup>5</sup> Sesnie, S.E., J. Rundall, S. Hedwall, and V. Horncastle, technical editors. October 1, 2010. Landscape restoration strategy for the first analysis area: report from the Four Forests Restoration Initiative Stakeholder Group to the USFS Planning Team.

<sup>6</sup> Ibid: Page 5

<sup>7</sup> Ibid: Page 4

<sup>8</sup> Brown, Richard T., James K. Agee, and Jerry F. Franklin. 2004. Forest restoration and fire: principles in the context of place. *Conservation Biology* 18(4):903-912.

<sup>9</sup> Ibid

<sup>10</sup> Peterson, D.L. and M.C. Johnson. 2007. Science-based strategic planning for hazardous fuel treatment. *Fire Management Today* 67(3):13-18.

<sup>11</sup> Sisk, T.D., M. Savage, D.A. Falk, C.D. Allen, E. Muldavin, and P. McCarthy. 2005. A landscape perspective for forest restoration. *Journal of Forestry* 103(6):319-320.

<sup>12</sup> Alexandre, P.M., et al. 2016. Factors related to building loss due to wildfires in the conterminous United States. *Ecological Applications* 26(7): 2323-2338.

<sup>13</sup> Schoennagel, T. et al. 2017. Adapt to more wildfire in western North American as climate changes. *PNAS* doi/10.1073/pnas.1617464114.

human effects to override climate influence on fire behavior<sup>14</sup> independent of mechanical thinning treatments.

Integrated approaches that provide promising direction for strategic treatment prioritization, such as optimized fuel treatments developed by academic<sup>15</sup> and Forest Service<sup>16</sup> scientists have been developed. Such approaches have shown that “*optimum placement of fuels treatments*” [and] “*efficiently allocating resources, in this case thinning, and using thinned areas to restore surface fire in the short-term, can... restore adaptive capacity for more extreme late-century fire weather.*”<sup>17</sup> In addition, new research indicates that regeneration patterns following recent uncharacteristically severe fires “*could be more resilient to climate change and severe wildfires than the overly-dense ponderosa pine forests that were present before the wildfires,*”<sup>18</sup> suggesting that assumptions about severe fire effects on climate resilience should be questioned. Recent science syntheses also suggest that “*complex early-seral forests*”<sup>19</sup> which can only arise following mixed-severity fire events, are a valuable component of a biologically diverse and fire-resilient landscape.<sup>20</sup> While this phenomenon has only been anecdotally reported in the Rim Country analysis area, the topic clearly merits further consideration.

The *Strategic Treatments for Fire Use Alternative* provides 4FRI the opportunity to be a model for utilizing the best available science and most advanced approaches to restoration planning and implementation. It would support use of moderate and mixed severity fire to move towards desired conditions<sup>21</sup> while placing mechanical treatments most effectively for infrastructure protection, fire management, cost-efficiency, and protection of ecologically sensitive sites. A failure to incorporate these cutting-edge methodologies and science in active restoration of Rim Country is inconsistent with 4FRI’s foundational principles.

Palpable, ongoing failures implementing mechanical treatments across much of the 4FRI footprint call into question the Forest Service's ability to accomplish accelerated landscape-scale restoration. These include the loss of millions of dollars in just a few years by key industry partners<sup>22</sup>, the inability of selected 4FRI contractors to complete more than a tiny fraction of contracted thinning<sup>23</sup>, and soaring costs of implementation that exceed even the most well-crafted funding mechanisms.<sup>24</sup> Concerns

---

<sup>14</sup> Syphard, A., *et al.* 2017. Human presence diminishes the importance of climate in driving fire activity across the United States. *PNAS* doi.org/10.1073/pnas.1713885114.

<sup>15</sup> Chung, W. 2015. Optimizing fuel treatments to reduce wildland fire risk. *Current Forestry Reports* 1:44-51; Chung, W., *et al.* 2013. Optimising fuel treatments over time and space. *Int. J. of Wildland Fire* 22: 1118-1133.

<sup>16</sup> Finney, M.A. 2007. A computational method for optimising fuel treatment locations. *Int. J. of Wildland Fire* 16: 702-711.

<sup>17</sup> Krofcheck, D.J. *et al.* 2017. Prioritizing forest fuel treatments based on the probability of high-severity fire restores adaptive capacity in Sierran forests. *Global Change Biology* DOI: 10.1111/gcb.13913: p.1-9.

<sup>18</sup> Owen, S.M., *et al.* 2017. Spatial patterns of ponderosa pine regeneration in high-severity burn patches. *Forest Ecology and Management* 405: 134-149.

<sup>19</sup> DellaSala, D.A., and C.T. Hanson, editors. 2015. The ecological importance of mixed-severity fires. Elsevier, Waltham, MA.

<sup>20</sup> Swanson, M.E. *et al.* 2011. The forgotten stage of forest succession: early-successional ecosystems on forest sites. *Frontiers in Ecology and the Environment* 9(2): 117-125.

<sup>21</sup> Huffman, D.W. *et al.* 2017. Efficacy of resource objective wildfires for restoration of ponderosa pine forests in northern Arizona. *Forest Ecology and Management* 389: 395-403, and Huffman, D.W. *et al.* 2017. Restoration benefits of re-entry with resource objective wildfire on a ponderosa pine landscape in northern Arizona, USA. *Forest Ecology and Management* 408: 16-24.

<sup>22</sup> Arizona Republic, December 10, 2017: “[Conservationists boost logging to restore national forests...](#)”

<sup>23</sup> Arizona Daily Sun, January 31, 2018: “[Flagstaff-area forest thinning falters](#)”

<sup>24</sup> Arizona Daily Sun, February 11, 2018: “[City: \\$10 million bond not enough to cover Flagstaff forest thinning](#)”

surrounding the selection and capacity of the original 4FRI contractors<sup>25</sup> and an apparent unwillingness to make sufficient acreage available to attract new industry have also contributed to the current cloud of uncertainty over who can and will complete the actual work of forest restoration.<sup>26</sup> The trend in implementing 4FRI supports our position that “*The backlog of areas in need of restoration combined with limited budgets requires that projects are implemented according to a prioritization system.*”<sup>27</sup>

The *Strategic Treatments for Fire Use Alternative* is a reasonable alternative as it ensures that the Forest Service does not “*prematurely foreclose options that might protect, restore, and enhance the environment.*”<sup>28</sup> The NEPA implementing regulations refer to the selection and review of alternatives as “*the heart*” of the environmental impact statement.<sup>29</sup> NEPA requires that a range of meaningful alternatives be explored in the environmental review process<sup>30</sup> and that the comparison of the alternatives helps to “*sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decision maker and the public.*”<sup>31</sup>

In the 4FRI Rim Country EIS the Forest Service must “*study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.*”<sup>32</sup> The Forest Service decision to proceed with the modified Proposed Action despite numerous unresolved questions and lack of concurrence from the broader Stakeholder group strongly suggests that unresolved conflicts exist. The Forest Service is ostensibly poised to begin the EIS analysis and close the door to considering any more than the modified Proposed Action and “*other alternatives*”<sup>33</sup>. Therefore this is the appropriate opportunity to request that the *Strategic Treatments for Fire Use Alternative* be included as an “*other alternative*”<sup>34</sup> for inclusion in the EIS.

The Center appreciates the opportunity to advance a reasonable alternative that incorporates a broad range of the best available science, new information, and pragmatic consideration of the economic and logistic realities of implementing landscape-scale treatments in a time of rapid change. The *Strategic Treatments for Fire Use Alternative* provides a fair venue for the comparison of restoration modalities, while addressing the Center’s unresolved issues raised in scoping and meeting the project purpose and need. A more detailed set of parameters is forthcoming and should be expected soon.

Sincerely,

Todd Schulke  
Senior Staff and Cofounder  
Center for Biological Diversity  
575.574.5962  
[tschulke@biologicaldiversity.org](mailto:tschulke@biologicaldiversity.org)

---

<sup>25</sup> High Country News, September 1, 2014: “[Lost in the woods: how the Forest Service is botching its...](#)”

<sup>26</sup> Arizona Daily Sun, February 13, 2018: “[Forest Service puts new 4FRI large-scale thinning contract on hold](#)”

<sup>27</sup> Ager, A.A., *et al.* 2013. Restoration of fire in managed forests: a model to prioritize landscapes and analyze tradeoffs. *Ecosphere* 4(2): 1-19.

<sup>28</sup> FSH 1905.15 Ch. 20 § 14

<sup>29</sup> FSH 1905.15 – Ch. 20, and also 40 C.F.R. § 1502.14

<sup>30</sup> 42 U.S.C. §§ 4332(C)(iii))

<sup>31</sup> FSH 1905.15 – Ch. 20 § 23.3

<sup>32</sup> 42 U.S.C. § 4332(2)(E)

<sup>33</sup> Brienne Pettit Basecamp Post, 3/2/2018

<sup>34</sup> *ibid*