

Data Submitted (UTC 11): 10/6/2016 12:00:00 AM

First name: Stephen

Last name: Dewhurst

Organization: School of Forestry Northern Arizona University

Title:

Comments: General Comments on the Proposed Action for 4FRI Rim Country Project

Stephen M. Dewhurst, School of Forestry, Northern Arizona University

P.O. Box 15018, Flagstaff Arizona, 86011

928) 523 9647

Stephen.Dewhurst@nau.edu

1. In general the Proposed Action (PA), has more general statements than substance. The document could be improved by adding detail to the description of the project and its scope. It is nice to state that the project will accomplish objectives like increased forest resiliency, but it is more important to capture what that means and how that will be accomplished, with enough detail to allow the public to make meaningful comments. I would like to know what a 'resilient' forest will look like compared to how it looks now. What are the metrics, the ranges of conditions, and the percentages of the landscape that will receive those specific modifications? Also it would be good to connect the content of the different sections; the topics discussed in each section (Purpose [Need, Existing Conditions, and Desired Conditions) should be the same, but there are different topics discussed in some but not others (i.e. cultural resources).

2. Under Purpose and Need]

a. The second paragraph on page 2 states "The purpose of the project is to reestablish and restore forest structure and pattern.... To conditions within the natural range of variation," but there is not a section in the document that adequately describes the natural range of variation (NRV) for the project area.

b. Forest Service Manual (FSM) 2020 is referenced but this document does not adequately capture the direction and/or intent of FSM 2020 as it relates and guides this project. Adding this direction and information on the NRV would help the reader understand the purpose and need for this project. (From FSM 2020 - "In order to construct a desired future condition for an area, one should assess past and current conditions as well as how these conditions may change into the future." And "The desired future condition of an ecosystem should be informed by an assessment of spatial and temporal variation in ecosystem characteristics under historic disturbance regimes during a specified reference period.")

c. In the fourth paragraph on page 2 there is a statement about how the Forest Plans will "define" how the forest will be moved toward NRV but there is no information on how NRV and the Forest Plans are connected (if they are). It would be good to add some information to help the reader understand the difference between the purpose of the project being reestablishing conditions within NRV and the need to follow the Forest Plans. It would also be good to explain the difference in the Forest Plans and the revisions of those plans and how those differences will manifest themselves across the project area (one plan is new, one has been released as a draft and the Tonto plan is just starting revision, with the existing plan having minimal direction).

d. The descriptions of the different headings is more about general statements (i.e. "reduce the risk of undesirable fire behavior" "improve the condition of..") than specific

description of what the project need really is. As an example (fire); since you mentioned the purpose was to return to NRV, what was the fire behavior under NRV? The document would be stronger if the purpose statements were connected to NRV information. It would also help the reader understand the difference between what the current conditions are now and what the desired conditions are, especially if specific metrics and descriptors are being used consistently. For example fire risk can be defined by fire behavior (low intensity

surface fire - a component of NRV for frequent fire ecological systems), which can be defined by forest conditions (tons of coarse woody debris, tree density, ladder fuels, crown density and connectivity, etc.), all of which can be assigned historical (NRV), current, and desired, condition quantifiers. Then you can describe the need (NEPA direction) as the difference between existing and desired. For example there is a need to reduce coarse woody debris across the project area (or within a specific habitat type) from 15-25 tons per acre (existing) to 3-10 tons per acre (from Forest Plan which corresponds with NRV). This detail provides a better understanding of what the need really is (you need to remove 12-15 tons per acre).

e. Under the section titled Terrestrial and Aquatic Species Habitat, there is a statement "There is a need to retain as many old large trees as possible". This needs to be clarified; 'as possible' is based on what? What is an 'old large tree'? Without definition and clarification how will you know if you have met this? Without more information how will the public know how this will shape the forest?

3. Under Existing Conditions;

a. This section provides some existing condition information, but only a few (Table 2 only covers three metrics) of the many that are connected to the different treatment needs (grasslands, riparian areas, different forest types, etc.). As stated above it would be beneficial to look at the existing condition information along with both the NRV (historical), and desired condition, by resource or management need. For example under Terrestrial and Aquatic Species Habitat there is a snag element which can be described for historical, current and desired conditions. This format would be more comprehensive and easier to assimilate as a reader. Also it would allow for the display of more desired conditions.

b. Table 2 has a difference in metric display; the existing condition information for basal area and trees per acre is one number but the metric for desired condition information for these two descriptors is displayed as a range, they should be the same either as a range or an average (the chart heading says average).

c. Tables 3[4 do not provide descriptions for passive and active crown fire. There is no definition of what 'no fire' means. The components that support fire behavior like fuel loading (coarse woody debris), crown bulk density, ladder fuel, interspaces (canopy breaks), and canopy base heights are not included. What are those elements you need to change and how do compare with existing conditions and desired conditions.

d. There are discussions of existing conditions that were not previously discussed under the purpose and need section, like acres of understocked forest lands. Again, by jointly describing the existing conditions and desired conditions and then establishing the project need the complete purpose of the project can be displayed. This comment applies to the discussion of grasslands, savannas, and meadows, as well.

e. Some of the discussion is just general information and does not include information on existing condition (the discussion of the 360 miles of fish-bearing streams). Some of the existing condition discussion is not linked to desired conditions so there is no indication of what the need for change is and what elements need to be changed (the discussion of springs and riparian streams). As a result it is difficult to comprehend what management needs will be incorporated into the proposed action (are all of the riparian areas on all the forests going to be addressed or just some parts?). The discussion of existing conditions should be tied to the discussion of purpose and need and should be written so they define the scope of the proposed action.

4. Under Desired Condition]

a. This section does not mesh with the other two sections; that is the discussion points put forth in the purpose and need do not logically flow through the sections on existing and desired conditions. As a result there is no clear comparison of the metrics that define the need for change discussion points.

b. The table 7 information was already displayed and should be removed.

c. In the second to last paragraph there is mention that many of the understocked areas are not suitable for planting; this is not desired condition information. This information should be included under the existing condition write-up and the amount of acres that are suitable should be included if this project proposal includes the planting of these acres. At the end of this paragraph it states planting, burning, and other management actions will 'be considered', since this is a site specific analysis the plan to project analysis should have determined what management actions will be incorporated into the proposed action and those actions should be described here specifically not as a speculative, possible, action. Also this is not desired condition information - more purposed and need discussion.

d. The desired condition statements should be linked (referenced) to the Forest Plans, since that should be the origin. I realize that there are different plans with different levels of revision but still, if the Forest Plans are driving the project (which they are), the DC statements should be from the plans not from general conclusions. By linking the plans the associated environmental analysis can be incorporated by reference.

e. A lot of the paragraphs in this section are composed of general statements, which aren't really desired condition statements. Also only bits and pieces of the desired conditions for the resource areas (like wetlands) are described it would be easier to just cut and paste in the DC statements from the plans, i.e.;

Desired Conditions for Wetlands/Cienegas

*Wetland conditions are consistent with their flood regime and flood potential.

*Native plant and animal species that require wetland habitats have healthy populations within the natural constraints of the particular wetland community.

*Wetlands infiltrate water, recycle nutrients, resist erosion, and function properly. (From the Kaibab plan)

f. The last paragraph in this section describes some effects; "any negative effects on these species from management actions will be mitigated and plant numbers will remain the same". Where the heading for this section is Desired Conditions any discussion of effects should be removed. This section should be specific to the desired conditions as

captured in the Forest Plans, and closely linked to those different vegetative or ecological components that are associated with the restoration plans of the project.

5. Under Proposed Action/Proposed treatments;

a. This section lacks information that would help the reader/interested public fully understand the scope of the project - again this is a site specific analysis, not a programmatic document. Whereas it is difficult to talk to thousands of acres, the scoping process as I interpret it under the NEPA legislation and the FSM and FSH direction directs the scoping process to be specific. Some examples;

i. Mechanically thin trees - to what end will you 'thin trees'? What will be the residual density, density ranges, and where would those ranges be applied and why? What other treatment components would be included in the 'tree thinning'? Like spatial arrangement, canopy gaps (interspaces), diameter/age distribution, and where and why that treatment would be applied. Without this information how can you expect to get meaningful comments? When you say were going to make the forest great again and nothing more you can't expect to get a consistent understanding from stake holders as what the forest will look like and what the expected effects will be. The treatment description has some information (thin to a BA of 30-80 in ponderosa pine) but it does not describe where and why you would thin to a BA of 30 vs a BA of 80, nor does it describe how much heterogeneity would be applied (post treatment how much of the area would be treated to a BA of 30)? The same comments would be applied to the 10%-90% interspaces - Where and why would you create 30% of the area as interspace vs 70% let say?

ii. Conduct facilitative operations - what is this? Need to have a definition for this term - the reader does not know if this applies to roads, trees, recreation facilities or what! What are you facilitating? This statement is followed by parenthesis capturing thinning and burning, is there more? If it is thinning and burning, then the above comments should be considered in describing the activities.

iii. Planting, burning, and other activities to encourage reforestation - Need more detail; how many acres are going to be planted and where? What are the "other activities"? Remember this is a site specific analysis, not a programmatic document.

iv. There are similar general statements for the other bullets (Improve, relocate and reconstruct roads, restore function of riparian areas, restore hydrologic function). It is great that you are going to do all this good restoration work but how are you going to do it? Are you going to use mechanical equipment, do seeding, planting, or just what and where are you doing this (the maps show stream locations, meadows and such but does that mean that the entire length or entire meadow is going to be treated)? Since this is a 'scoping document' there needs to be enough information to convey the scope of the project so that meaningful comments can be made.

v. There is no mention or link, to how, or even if, NRV will be incorporated into the proposed action (other than the initial sentence at the beginning of the proposed

action). There is also no general information about NRV as it might relate to this project, in contradiction to the new FSM 2020 direction. For example, tree planting: if NRV was specific to certain spatial patterns, would you still plant trees on a fixed DXD spacing or would you incorporate some other requirements to re-stock unforested areas in a more "natural" configuration?

6.Under Possible Alternatives;

a.Since the desired conditions in Tables 2 and 7 are specified in terms of a range of values, it must be ensured that the range of alternatives is sufficient to demonstrate the difference in effects between managing at the low versus the high side of the range.

b.At least 1 alternative which analyzes the impact of returning the forest to a state closely approximating historic reference conditions, and which incorporates an aggressive strategy to achieve the stated goal of comprehensive landscape restoration (as stated in the Introduction) while complying with requirements such as the Endangered Species Act is essential. What would comprehensive landscape restoration look like? How soon could we get there? How does that compare to the proposed action? Why is it inconsistent with the forest plans?

c.Decades and millions of dollars have been spent on scientific research into historic forest conditions and the ecological consequences of management actions. This document appears to be almost devoid of science, and a science-based alternative is required to understand how the compromises and simplifications built into this document either are, or are not, consistent with the best available science.