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First name: Brandt

Last name: Mannchen

Organization: Lone Star Chapter of the Sierra Club

Title: Forest Management Issue Chair

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Mr. Jamie Barbour

Assistant Director

Ecosystem Management Coordination

U.S. Forest Service

Dear Jamie Barbour,

These are the comments of the Lone Star Chapter and Houston Regional Group of the Sierra Club (Sierra Club) about the U.S. Forest Service (FS) "Request for Information" (RFI) for federal mature and old-growth forests.

These comments supplement and subordinate to any comments from the national Sierra Club. These comments reflect only the experiences that the Sierra Club has had, via its collaboration and interaction with the National Forests and Grasslands in Texas (NFGT), in implementation of mature and old-growth forest protection using the 1996 Revised Land and Resource Management Plan (RLRMP).

President Biden's April 22, 2022 Executive Order 14072, "Strengthening the Nation's Forests, Communities and Local Economies", requires a number of actions, all which are related to protection and management of mature and old-growth forests. These actions are related to mature and old-growth forests in the following ways.

1. Mature and old-growth forest inventory.

There already is an inventory of old-growth forests in the RLRMP for the NFGT. This inventory of 95 year and older stands of trees is supposed to be used by the FS to determine different types of old growth including old growth (also called existing old growth), potential old growth, designated old growth, restored old growth, and future old growth.

In Appendix I and the Supplement to Appendix I (6/1999), RLRMP, the FS is supposed to implement an old growth procedure based upon biological diversity (RLRMP, Page 54, Forest-wide Standards and Guidelines, FW-021) that inventories, evaluates, analyzes, and designates old growth forest stands from each Compartment in each national forest (Sam Houston, Davey Crockett, Angelina, and Sabine).

It's revealing that over 26 years that the RLRMP has existed the NFGT has never designated any form of old growth. The Sierra Club has conducted dozens of old-growth surveys and provided these to the FS with recommendations for old-growth designations. Not a single recommendation has been acted upon by the FS. In addition, until recently (the Sierra Club has been told an old-growth inventory/evaluation was done on a project but has not been provided that document) has never said it has conducted the old growth procedure that is required by the RLRMP or revealed the analysis to the public.

Appendix I also determines old growth characteristics that will be maintained in stands that the RLRMP states don't have to consider designated old growth.

The FS also has requirements in the 1996 RLRMP and compartment/stand data that refer to what the Sierra Club considers may be mature forests. These requirements include logging rotations of 70 years for Loblolly Pine, 80 years for Shortleaf Pine, 120 years for Longleaf Pine, and 100 years for mixed stands. Although the

Sierra Club may not totally agree with this current "ad hoc" description of "mature forests" this is a good starting point from which to determine what mature forests are in the NFGT.

2. Coordination of conservation and wildfire risk reduction activities.

Mature and old-growth forests shouldn't be looked upon as good candidates for logging in the guise of restoration projects. Some level of wildfire occurs naturally in every mature and old-growth forest. The idea is to allow such wildfires to burn, when possible, because they provide mature and old-growth forests with seasonal disturbance heterogeneity that prescribed fires cannot provide.

Dead, mature, and old-growth trees that exist or are due to wildfire don't constitute an ecological catastrophe, but do represent the proper functioning of biological and ecological processes and plant succession.

Mature and old-growth forests provide biological legacies, snags, downed wood, root-wads, thickets, large live trees, etc., that provide biodiversity, protect forest ecosystems, filter water, protect soil, provide oxygen, and store carbon.

3. Identify threats to mature and old-growth forests.

The greatest threats to mature and old-growth forests are humans. Therefore, humans must control their actions (logging, roading, fragmentation, too much recreation, etc.), reduce their consumption, and stabilize and lower their numbers so that mature and old-growth forests and all the living and non-living elements that are part of or rely upon them are fully protected.

4. Develop policies to address threats.

Human control of human actions is needed along with more biologists, botanists, ecologists, hydrologists, soil scientists, law enforcement personnel, educators, etc., so that the true worth, value, and benefits of mature and old-growth forests can be protected, managed with a light hand, ecosystems evolve as they are intended, and humans are taught to respect and protect these forests.

Currently, the FS via the NFGT is not implementing its old-growth requirements in the RLRMP and therefore doesn't protect old-growth.

5. Develop agency-specific reforestation goals by 2030.

Mature and old-growth forests contain early successional habitats due to natural disturbances. These early successional and other habitats should be allowed to grow, succeed, and evolve as an example of functioning natural ecological processes. A reliance on natural regeneration is important to keep soil harming site preparation and herbicide use to a minimum.

6. Develop climate-informed reforestation plans.

We cannot out guess climate change. It's far too complicated for us to successfully determine what future mature and old-growth ecosystems will look like or where they will or won't be. We must stop chasing climate change and learn from Nature as it adapts to this horrendous, Earth encompassing, human-caused disturbance.

Research over the long-term and observation of Nature that allows us to understand what Nature tells us is the best course of action for mature and old-growth protection and appropriate management.

The real job of humans in conservation and preservation of mature and old-growth forests is to stop polluting the

atmosphere with climate change air pollution and stop destroying and degrading these precious forests.

7. Develop recommendations for community-led local and regional economic development opportunities.

Development is how we have created climate change and destroyed mature and old-growth forest ecosystems. We need less development, more humility, less emphasis on consumption, and less focus on making money (greed). Community and regional projects must not be used as a disguise to make money and harm mature and old-growth forest ecosystems.

Questions to be Answered

1. What criteria are needed for a universal definition framework that motivates mature and old-growth forest conservation and can be used for planning and adaptive management?

The existing FS 1989 definition of old-growth, which also is the NFGT RLRMP definition makes a lot of sense and should be retained, "Old-growth forests are ecosystems distinguished by old trees and related structural attributes. Old-growth encompasses the later stages of stand development that typically differ from earlier stages in a variety of characteristics, which may include tree size, accumulations of large dead woody material, number of canopy layers, species composition, and ecosystem function."

This definition could be modified to include biological legacies like snags, downed wood, thickets, root-wads, old and large trees; disturbance; multiple succession levels that are integrated into the old-growth forest, etc.

What is really needed is implementation so that mature and old-growth forests are protected in the NFGT. The FS has failed to implement existing mature and old-growth forest protection and management priorities in the NFGT 1996 RLRMP. What is needed is that the FS use and implement the NFGT existing old-growth forest inventory procedure, with designation of old growth categories, and add to this an inventory procedure for mature forests with designation of mature forests.

Threats to mature and old-growth forests are climate change, logging, excessive recreation, fragmentation, roading, and over-burning, etc., human actions. Currently, the FS wants to treat mature and old-growth forests like all other forests and log them into the direction and or condition the FS wants rather than let them evolve into a more stable and natural condition due to climate change alterations.

Climate-smart stewardship of mature and old-growth forests is another way for the FS to continue business as usual and log, burn, road, fragment, and recreate these areas into what it wants versus what they should be allowed to attain themselves. Forests that are not logged store more carbon than those that are logged. That is a lesson the FS must learn and follow.

2. What are the overarching old-growth and mature forest characteristics that belong in a definition framework?

Use the NFGT RLRMP Appendix I Supplement criteria of minimum age of the oldest age class, disturbance criteria, minimum basal area, diameter at breast height of the largest trees with the flexibility built into these criteria.

9. Protection of Mature and Old Growth Forests

Using the NFGT Appendix I, as a model, old-growth forest inventories, evaluations, analyses, and potential designations should be required and documented for all FS proposed actions. This is required to be done in a certain manner, by Appendix I, Old Growth, and Appendix I, Supplement #1, 6/1999, NFGT 1996 RLRMP.

The FS must conduct these inventories, evaluations, and analyses as Supplement #1 states and designate old growth stands in appropriate old growth categories. This is a site-specific environmental analysis required for

proposed FS actions.

The definition for old growth is distinguished by old trees and certain structural attributes as outlined in 1996 LRMP, Appendix I, Old Growth and Supplement #1, June 1999.

These structural attributes include large trees, wide variation in tree size and spacing, accumulations of large dead standing and fallen trees, decadence in the form of broken or deformed tops, bole, and root decay, multiple canopy layers, and canopy gaps and understory patchiness.

The NFGT Appendix I/Supplement is backed up by specific old-growth forest definitions for different forest ecosystems. These definitions were put together by the FS Southern Research Station. Some of these forest ecosystem specific definitions include:

- a. "An Old-Growth Definition for Xeric Pine and Pine-Oak Woodlands".
- b. "An Old-Growth Definition for Dry and Dry-Mesic Oak-Pine Forests".
- c. "An Old-Growth Definition for Wet Pine Forests, Woodlands, and Savannas".
- d. "An Old-Growth Definition for Western hardwood Gallery Forests".
- e. "An Old-Growth Definition for Seasonally Wet Oak-Hardwood Woodlands".
- f. "An Old-Growth Definition for Evergreen Bay Forests and Related Seral Communities".
- g. "An Old-Growth Definition for Eastern Riverfront Forests".
- h. "An Interim Old-Growth Definition for Cypress-Tupelo Communities in the Southeast".
- i. "An Old-Growth Definition for Southern Mixed Hardwood Forests".
- j. "An Old-Growth Definition for Red River Bottom Forests in the Eastern United States".
- j. "An Old-Growth Definition for western Juniper Woodlands: Texas Ashe Juniper Dominated or Codominated Communities".
- k. "An Old-Growth Definition for Southwester Subtropical Upland Forests".

One general definition for old-growth, the FS 1989 definition, is needed for this issue/concern. Then specific definitions, like those above, are needed for each forest ecosystem like the ones mentioned above. Don't recreate the wheel. We already have a procedure now we must use it, implement it, and designate old-growth and mature forests for preservation, protection, and in some cases, appropriate management.

Old Growth inventories, evaluations, analyses, and designations are required to meet FW-21 conditions. It is important to note that Stands that are not 95 years or older may qualify for Future Old Growth (FOG).

Stands exhibit old growth characteristics when they are 95 year or older and may have been already inventoried for old growth in the 1996 RLRMP or have since turned 95 years or older. All stands in the project area that weren't inventoried in the RLRMP need to be inventoried, evaluated, analyzed, and designated now in the proposed MTPBP.

Categories of old growth, like "future old growth", don't have to meet the age requirements for the "old growth" category. Page 2, Appendix I, 1996 RLRMP, lists five categories of old growth including: old growth, potential old growth, designated old growth, restored old growth, and future old growth.

For example, FOG is defined in 1996 RLRMP, Appendix I, Supplement #1, Page 3, Old Growth on the NFGT, as:

"Areas which have been designated to eventually become old growth areas will be subject only to natural forces. No active management practices such as thinning will be applied to these areas to develop or enhance old growth attributes."

1996 RLRMP, Appendix I, Supplement #1, Pages 1-2, National/Regional Direction, states:

"Compositionally, old growth encompasses both older forests dominated by early seral species, such as fire-dependent species, and forest in later successional stages dominated by shade tolerant species."

1996 RLRMP, Appendix I, Supplement #1, Page 3, Social Needs, states:

"Distribution of old growth needs to be evaluated at both the individual stand level and at the landscape level."

"It is imperative that public involvement continue in the evaluation of social values of old growth. This involvement will help determine the range of physical access needed, where the important old growth images now occur and where did they occur, how old growth areas relate to other areas in the forest, what size does an area of old growth really need to be to achieve the desired benefits, and how does the old growth area relate to the location of users."

"It will also be necessary to consider areas that do not presently meet the old growth criteria for future old growth locations."

1996 RLRMP, Appendix I, Supplement #1, Page 3, Old Growth Inventories states:

"No old growth allocations were made in MA-1, general forest area, or MA-2, habitat management area, although some stands in these two management areas probably could be classified as "old growth". The management emphases in these areas is not directed toward old growth ... As further assessment continues, areas within SMZs, scenic areas, botanical areas, and other special management areas (SMAs) categorized as potential old growth may be selected as restored old growth and managed for old growth attributes."

"This preliminary inventory is to be used during project level planning to identify and assess possible old growth. The NFGT will continue inventorying and evaluating stands for old growth characteristics, and to monitor SMAs to assess how potential, designated, and future old growth is developing. Data will normally be gathered and analyzed during the compartment prescription process."

1996 RLRMP, Appendix I, Supplement #1, Pages 4 and 5, Implementing Directions, states:

"If during field inventory, a stand meets all four criteria it will be considered existing old growth ... Minimum Age of the Oldest Age Class ... These estimates are not absolutes and there is a need for flexibility in applying this guidance during the field inventory",

"Disturbance Criteria ... Recent vegetative management activities which maintain characteristics consistent with old growth would not disqualify an area as existing old growth. Examples of these activities may include commercial thinnings, midstory treatments, prescribed fire, or interpretive trails",

"Minimum Basal Area ... The minimum basal area for each old growth forest community type in Table 4 is a conservative estimate to ensure that stands are not excluded due to the variety of ecological conditions which exist in the Southeast",

"Diameter at Breast Height (dbh) of the Largest Trees ... Based upon available information and as a conservative rule of thumb, the criteria for the dbh's of the largest trees are applicable when at least 6 to 10 trees for all old growth forest community types ... are present. There is a need for flexibility in applying this guidance during the field inventory because there are situations in which the number of large trees per acre could be fewer."

1996 RLRMP, Appendix I, Supplement #1, Pages 5 and 6, Implementing Directions, states:

"The Leadership Team identified the following two objectives and additional guidance for use during project level planning."

"Objectives:

1. Maintain 10% of the major community types in existing old growth, future old growth, unsuitable land classes, or stands with one or more old growth attributes to meet current old growth needs and maintain future old growth options.
2. Consider old growth needs in up-represented community types believe to occur on the National Forests in Texas during project level planning to maintain future old growth options."

"Guidance:

1. An additional 3,021 acres are needed in community type 25, dry and dry-mesic oak-pine forests, from MA-1, MA-2, and MA-6 to meet the 10% old growth objective. This acreage is to identified during project level planning in small areas (generally 100 acres or less) in forest type 32, shortleaf pine, where interim management for old growth is compatible with the Management Area and project area objectives and desired future conditions. These areas will not be allocated to old growth but will be managed for old growth character. See forest-wide standard FW-021 found in the Forest Plan."

"2. "Maintain all existing old growth in the un-represented community types."

"5. Inventory the un-represented upland community types (type 21 and type 22) for occurrence and distribution. The inventory should normally be done as part of the compartment prescription process but may also be ecosystem management projects or special projects with cooperators or partners."

1996 RLRMP, Appendix I, Supplement #1, Page 6, Considerations for Old Growth During Project Level Planning, states:

"A first step during project level planning is to review any stands identified in the preliminary inventory as possible old growth. These stands should be visited in the field in order to determine their status as existing old growth ... A second step is to determine the old growth status of other stands in the project area. For those stands which meet the operational definitions for old growth, the directions in the forest plan will provide management options."

"When addressing areas with old growth direction in the Forest Plan or this appendix, but containing no Forest Plan land allocations for old growth, the district will have the added responsibility of considering small-size old growth areas. Currently, only forest type 32-shortleaf pine and the un-represented community types discussed under "Implementing Directions" above are to be considered for designation as small-sized old growth areas under FW-021. The district should use the information from the preliminary inventory and the field examination to help in designating areas for old growth management."

There is a specific protocol that the FS in the NFGT must use when it surveys and analyzes old growth for projects. This includes, as quoted above from the Appendix I, Supplement #1, June 1999, Pages 3-6:

1. "Distribution of old growth needs to be evaluated at both the individual stand level and at the landscape level."
2. "It will also be necessary to consider areas that do not presently meet the old growth criteria for future old growth locations."
3. "This preliminary inventory is to be used during project level planning to identify and assess possible old

growth."

4. "Data will normally be gathered and analyzed during the compartment prescription process."
5. "If during field inventory, a stand meets all four criteria it will be considered existing old growth ... Minimum Age of the Oldest Age Class ... These estimates are not absolutes and there is a need for flexibility in applying this guidance during the field inventory",
6. "Disturbance Criteria ... Recent vegetative management activities which maintain characteristics consistent with old growth would not disqualify an area as existing old growth. Examples of these activities may include commercial thinnings, midstory treatments, prescribed fire, or interpretive trails."
7. "Minimum Basal Area ... The minimum basal area for each old growth forest community type in Table 4 is a conservative estimate to ensure that stands are not excluded due to the variety of ecological conditions which exist in the Southeast",
8. "Diameter at Breast Height (dbh) of the Largest Trees ... Based upon available information and as a conservative rule of thumb, the criteria for the dbh's of the largest trees are applicable when at least 6 to 10 trees for all old growth forest community types ... are present. There is a need for flexibility in applying this guidance during the field inventory because there are situations in which the number of large trees per acre could be fewer."
9. Objective - "Maintain 10% of the major community types in existing old growth, future old growth, unsuitable land classes, or stands with one or more old growth attributes to meet current old growth needs and maintain future old growth options."
10. Objective - "Consider old growth needs in un-represented community types believe to occur on the National Forests in Texas during project level planning to maintain future old growth options."
11. Guidance - "An additional 3,021 acres are needed in community type 25, dry and dry-mesic oak-pine forests, from MA-1, MA-2, and MA-6 to meet the 10% old growth objective. This acreage is to be identified during project level planning in small areas (generally 100 acres or less) in forest type 32, shortleaf pine, where interim management for old growth is compatible with the Management Area and project area objectives and desired future conditions. These areas will not be allocated to old growth but will be managed for old growth character. See forest-wide standard FW-021 found in the Forest Plan."
12. "Maintain all existing old growth in the un-represented community types."
13. "Inventory the un-represented upland community types (type 21 and type 22) for occurrence and distribution. The inventory should normally be done as part of the compartment prescription process but may also be ecosystem management projects or special projects with cooperators or partners."
14. "A first step during project level planning is to review any stands identified in the preliminary inventory as possible old growth. These stands should be visited in the field in order to determine their status as existing old growth".
15. "A second step is to determine the old growth status of other stands in the project area. For those stands which meet the operational definitions for old growth, the directions in the forest plan will provide management options."
16. "When addressing areas with old growth direction in the Forest Plan or this appendix, but containing no

Forest Plan land allocations for old growth, the district will have the added responsibility of considering small-size old growth areas. Currently, only forest type 32-shortleaf pine and the un-represented community types discussed under "Implementing Directions" above are to be considered for designation as small-sized old growth areas under FW-021. The district should use the information from the preliminary inventory and the field examination to help in designating areas for old growth management."

The above noted old-growth procedure exists in the NFGT but remains unimplemented. The FS must, in the NFGT and nationally, implement a mature and old-growth protection procedure so this national, natural, native resource is preserved, protected, and when necessary, appropriately managed.

3. How can a definition reflect changes based on disturbance and variation in forest type/composition, climate, site productivity and geographic region?

Use the disturbance criteria in the NFGT RLRMP Appendix I Supplement (6/1999).

4. How can a definition be durable but also accommodate and reflect changes in climate and forest composition?

Don't chase climate change. Allow evolution to occur, succession to occur, and ecosystem processes to function and Nature will decide how climate change is addressed. Don't force what the FS thinks it wants or is right on mature and old-growth forests. Let them decide their own fate.

5. What, if any forest characteristics should a definition exclude?

Anything development related including salvage logging, even-aged management, restoration logging, thinning, roading, fragmentation, and intensive recreation.

The Sierra Club appreciates this opportunity to provide comments on this mature and old-growth forest proposal.

Sincerely,

Brandt Mannchen
Forest Management Issue Chair
Lone Star Chapter of the Sierra Club
Chair, Forestry Subcommittee
4300 Dunlavy St. Apt. 3138
Houston, Texas 77006
281-570-7212
brandt_mannchen@comcast.net