

**Appendices A-D**  
**for**  
**Amendments to Land Management Plans to**  
**Address Old-Growth Forests Across the**  
**National Forest System**  
**Draft Environmental Impact Statement**



# Appendix A: Scoping Period Summary

## Introduction

This report provides a summary of written public comments received for the Land Management Plan Amendment for Old-Growth Forest Conditions Across the National Forest System during the scoping period. This report captures consistent and frequent comment themes found in the range of perspectives in written comments received but is not exhaustive of all written comments. Please refer to the original letters located in the project reading room

(<https://cara.fs2c.usda.gov/Public//ReadingRoom?Project=65356>) for additional written public comment detail. Letters that may contain proprietary or sensitive resource information, or that may be otherwise sensitive, are automatically withheld from displaying in the reading room pending human review. Letters received, but not accessible here, will still be considered and included as part of the record for this project.

## Background

The United States Department of Agriculture (Department) is proposing to amend all land management plans for units of the National Forest System (128 plans in total) to include consistent direction to conserve and steward existing and recruit future old-growth forest conditions, and to monitor their condition across planning areas of the National Forest System. The intent is to foster the long-term resilience of old-growth forest conditions and their contributions to ecological integrity across the National Forest System. The Department published a notice of intent (NOI) on December 20, 2023, to inform the public that it will prepare an Environmental Impact Statement (EIS), thereby initiating a 45-day scoping period. The scoping period closed on February 2, 2024.

An additional opportunity for public comment will be provided following release of the Draft EIS. The Department will notify the public regarding this opportunity by publishing a Notice of Availability (NOA) in the Federal Register.

## Public Comment Overview

Approximately 7,300 public comments were received during the scoping period. These comments came from Tribes, state and local governments, businesses, organizations, and individuals. Throughout this report, these commenters and the comments are generally referred to as “commenters” or “public comments,” without identifying the commenter type unless specifically stated otherwise.

## Comment Consideration and Response

All scoping responses were reviewed, coded, and analyzed to develop the below overarching themes and resource/program/process-specific concerns and recommendations. These themes, concerns, and recommendations were considered and used to inform the agency response. The agency responded by:

- Modifying the proposed action;
- Developing action alternatives;
- Using information to inform/conduct the analysis (including consideration of various literature/references cited);

- Making factual corrections or updating content to read more clearly and be more readily understood;
- Considering but making no change because the concern/recommendation was already accounted for, outside the scope of the amendment, and/or outside the authority of the Department/agency; or
- Developing engagement sessions and other communication tools/opportunities to inform, listen to, and learn from Tribes, partners, stakeholders and the public.

## Overarching Themes

- Concern regarding the overall approach taken to amend the various Forest Plans:
  - ◆ Perception that a top-down approach to a nationwide plan amendment doesn't meet the 2012 Planning Rule requirements for public engagement and local input and doesn't address local environmental conditions.
  - ◆ Perception that a single amendment makes more sense than 128 separate plan amendment efforts, which would impact the workload of agency employees working on other important efforts (e.g. Wildfire Crisis Strategy, plan revisions).
  - ◆ Perception that a consistent approach to managing old growth is needed given the natural disturbance threats exacerbated by climate change (e.g., wildfire, insects and disease).
  - ◆ Perception that proposed action alternatives that reduce active management of National Forests will limit the agency's ability to manage multiple use goals and maintain forest health.
  - ◆ Concern that the aggressive timeline for the National Environmental Policy Act (NEPA) process further restricts opportunities for meaningful engagement.
- Encouragement to include direction and protections for both mature forests and old-growth forests.
- Encouragement to highlight the values of old-growth forests:
  - ◆ Noting that old growth has economic values beyond timber, such as recreation, tourism, and special forest products.
  - ◆ Noting that old-growth forests provide additional ecosystem services beyond carbon sequestration, such as recreational, wildlife, spiritual, and cultural values.
  - ◆ Encouragement to recognize and protect large trees that persist on the landscape but aren't necessarily in areas defined as old growth forest; terms used to describe these large trees include "elder," "legacy."
- Concern that local economies could be impacted due to potential reduction in timber output.
- Perception that the amendment places too much emphasis on old growth and could result in a trend towards all successional stages becoming old growth.
- Concern about the level of exceptions included in the amendment:
  - ◆ Perception that the potential exceptions to standards would allow too many loopholes for management activities, thereby weakening protections for old growth.
  - ◆ Perception that there are not enough exceptions to account for other uses, authorizations, or management scenarios, and this amendment may conflict with the Wildfire Crisis Strategy.

- Concern that activities authorized by special use permits not directly tied to timber (e.g., rights-of-way [ROWs] for utility corridors, ski management areas, as well as mining activities) could be affected.
- Concern regarding the capacity of the agency to monitor the condition of old-growth forests and the effectiveness of management actions, as well as how this is done and the way data is disclosed to the public.
- Encouragement to fully address how the amendment would influence carbon sequestration and storage.
- Encouragement to fully address how the amendment would influence the risk of wildfires and other disturbances.
- Encouragement to provide a clear definition of “old growth” and “mature forests”.

## Abbreviated Comment Summary

### **Recommendations to modify the proposed action and/or analyze additional action alternatives:**

- Modify proposed action – numerous recommendations for clarifying plan component language or changing language to either improve protections for old growth or allow for more management discretion:
  - ◆ Eliminate some of the exceptions (notably the Southeast Alaska Sustainability Strategy).
  - ◆ Add exceptions to better demonstrate alignment with the Wildfire Crisis Strategy.
  - ◆ Expand Goal 1 to include other stakeholders, such as state and local governments.
  - ◆ Provide an interim policy to apply while adaptive strategies are being developed at the unit level.
  - ◆ Change the Guideline and Management Approach to be Standards to make them more enforceable.
  - ◆ Set the bar higher by revising the Objective to require more than demonstrating that just one prioritized landscape exhibits measurable improvements within 10 years. Some suggest expanding this beyond old-growth conditions.
  - ◆ Addition of monitoring questions such as “How close is the current fire regime (including pattern, frequency, intensity, fire return intervals, etc.) to pre-colonization fire regimes (as described by Indigenous peoples and through Indigenous Knowledge)?”
- Do not allow commercial timber harvest for any reason in old growth (some propose no management of any kind).
- Extend Amendment to include mature forest (i.e., “old-growth and mature forest”) and suggestion to include large trees (i.e., “large trees and mature and old-growth forest”).
- Exempt plans that have been recently revised or are currently going through revision under the 2012 Planning Rule (e.g. Nantahala-Pisgah, Custer-Gallatin, Northwest Forest Plan).
- Emphasize protection of all habitats and forest structural stages, not just mature and old-growth forests.

- Provide a conservation alternative that would increase conservation of mature and old-growth forests, prioritize fire-risk reduction near homes and in young plantations, increase natural wildfire use, and reduce roads.
- Prioritize proactive management for wildfire risk reduction and allow for commercial timber production.
- Use mature forests to improve connectivity between old-growth patches.
- Provide exceptions for energy infrastructure and provide "tree height buffers" along ROWs.
- Allow for salvage after natural disturbance events (e.g. wildfire, insect and disease mass mortality) but also conversely prohibit salvage.
- Establish old-growth designated areas within the plan area that are not suited or open for timber production and assess the impact of this new designation.
- Designate areas for special management, including:
  - ◆ “National Carbon Reserves,” “Climate Resilience and Mitigation Areas,” or “Special Interest Areas.”
  - ◆ The oldest 30% of stands in each forest be designated as Old-Growth Conservation and Stewardship Areas (OGCASAs).
  - ◆ Establish 50% of each National Forest as Old-Growth Stewardship Areas.

### **Suggestion to Improve Tribal Inclusion in Planning and Implementation.**

- Include Tribes with the opportunity to collaborate and actively participate in the co-management of old growth forests, including but not limited to government-to-government consultations and co-stewardship agreements with affected Tribes.
- Tribes must have a role in co-stewardship as opposed to solely involvement, beyond the involvement required by federal, state, and local regulations, when possible
- Integrate and honor Trust responsibility, Tribal sovereignty, traditional knowledge and lifeways, treaty rights, oral histories, documented archeological sites, and traditional cultural properties when participating in Tribal consultation and planning proactive stewardship/management activities.
- Work with Tribes to implement a flexible plan to administer cultural burning techniques, as well as other Indigenous stewardship practices.
- Recognize that local and regional products often carry cultural and historical significance and may be included in treaties, and access to these products is imperative to preserving traditional cultural practices and lifeways.
- Take guidance from the Indigenous reciprocity approach and clarify that stewardship within old growth can and should provide social, cultural, and economic benefits, so long as the scale and intensity of stewardship is consistent with the promotion and maintenance of a desirable distribution of old growth at the landscape scale.

### **Timber Economics**

- Explain how the National Forest System will provide old-growth wood for user groups that are dependent upon old-growth trees for the raw material necessary to create high-end finished products, such as musical instruments, sailboat masts, or for carving.

- Increase, decrease, or eliminate the Allowable Sale Quantity/Total Sale Program Quantity.
- Identify suitable and not suitable lands for timber production.

## **Fire**

- The amendment could affect the way the agency manages wildfires or wildfire prevention efforts (e.g., fuel treatment types).
- Assessing and providing fire management direction at the national level could result in direction and management that does not capture the nuance needed at a single forest level and could create policies that conflict with other agency objectives (e.g., Wildfire Crisis Strategy, sensitive species management, multiple uses, establishment and development of early stage stands, sustainable timber industry, watershed restoration, and other strategic plans).
- The proposed amendment could affect the defensibility of future agency fire mitigation efforts.

## **Expand the Purpose and Need to Include Recreation and Access**

- Incorporate the importance of maintaining recreation in old growth and mature forests to allow the public access to nature.

## **Alternative Approaches**

- Develop plans at the forest level, not a top-down, nationwide approach.
- Streamline and improve efficiency of conducting management activities and authorizing uses/occupancy, such as creating new categorical exclusions for fire mitigation efforts.
- Acquire inholdings to expand network of mature and old-growth forests.
- Stop incentivizing logging with timber targets.
- Establish regional strike teams to support local forest staff.
- Establish a National Land Management Planning Consistency Oversight and Accountability Program to provide input into the development of the amendment and step-down adaptive management strategies.
- Ensure approved plan does not interfere with progress on vegetation management plans and agreements already in process.
- Develop a robust restoration strategy for damaged and fragmented old growth forests aimed at the sustainable management of old growth forests.

## **Public Participation and Timelines**

- The 45-day scoping period was too short.
- Development of the adaptive strategies should require public and stakeholder engagement and opportunities for input.
- Extend the overall project timeline to provide adequate time for analysis and meaningful collaboration.
- Provide online resources (i.e., webinars) and in-person meetings to better inform the public of the amendment and how to engage in the process.

- Provide numerous opportunities for public participation, and participation processes should be publicized and conducted in the vicinity of the affected unit to foster local collaboration.
- Seek input from and engage with a wide range of stakeholders, including local and state agencies and governments, international stakeholders, other nations, Tribes, and under-represented communities throughout all stages of the planning process.

## **Recreation**

- Roads affected by wildfire should be re-built/maintained to provide the same level of access as before.
- Consider the impact of additional old-growth protections on ski areas, recognizing that demand for ski areas currently outpaces supply.
- Ensure that the proposed amendment continues to allow trees to be cut in the vicinity of trails, roads, trailheads, and other recreation infrastructure in the interests of public safety.

## **Transportation**

- New road construction should be limited with existing roads maintained to provide reasonable access for the public.

## **Vegetation**

- The proposed amendment could affect the way old-growth and mature forests are defined, inventoried, managed, and monitored.
- The amendment should include clear management direction for addressing and treating invasive, nonnative species in old-growth forests.

## **Watersheds and Aquatic Species**

- Add protections for riparian areas, such as the Northwest Forest Plan's Aquatic Conservation Strategy and Riparian Reserves system.

## **Socioeconomics**

- The proposed amendment could have adverse effects on socioeconomic conditions.
  - ◆ The amendment has the potential to negatively affect revenue and employment opportunities by reducing the available timber supply.
  - ◆ Alternatives that reduce active management of national forests will limit the agency's ability to manage for multiple use goals and maintain forest health.
  - ◆ Reductions in timber sales and recreation access/opportunities negatively affect the economies of rural forest-dependent communities, including payments to local schools.
  - ◆ Protecting mature and old-growth forests should not stop thinning projects and the marketable timber sales that fund those projects.
- The proposed amendment could have beneficial effects on socioeconomic conditions.
  - ◆ The economies of most small communities adjacent to national forests would be better served by long-term protection than boom-and-bust timber harvest.

- ◆ Protecting and ensuring the health and vitality of mature and old-growth forests provides economic benefits through tourism.
- The amendment should incorporate provisions to allow for the commercial harvest of high-value wood products, artisanal forest products, firewood, and other forest products.

## **Requests for Specific Analyses**

The public provided recommendations for analyses and assessments that should be included in the EIS to fully address and disclose the potential effects of the proposed amendment.

- Disclose the acres of non-commercial fuel reduction and prescribed fire projects approved in the past 15 years, that were not fully implemented.
- Develop a nature-gap analysis of the Old and Mature Growth Tree Inventory to determine where forest conservation can create access to nature for frontline communities and communities of color.
- Assess the issue of "understory response" and its association with canopy reduction to 50 percent or lower.
- Assess the effects of logging and the establishment of staggered canopy openings on fires risk.
- Assess economic effects preferably at the forest level but at no larger than the regional level.
- Assess the current threat to mature and old-growth forests posed by logging as compared to threats posed by natural disturbance.
- Quantify the cumulative carbon storage impacts of the proposal.
- Evaluate the current protection status of mature and old-growth forests on Forest Service lands.
- Evaluate impacts to carbon storage, carbon emissions, noxious weed spread, habitat connectivity, wildlife habitat, watershed values, climate refugia, and other measures of "land health."
- Assess Forest Inventory and Analysis (FIA) plots over the past 20 to 25 years or more in Late Successional Reserves (LSRs) and elsewhere across the Western states where large fires have occurred and summarize whether any natural seedlings are coming in or whether the site was planted and was the planting successful.
- Provide clarity on how the amendment will impact approved vegetation treatment and forest health restoration projects that already have contracts or are undergoing the NEPA process.
- Analyze the impacts to nearby Tribal lands and to Tribal treaty rights and retain cultural and subsistence activities on National Forest System lands.
- Evaluate the impact of additional old-growth protections on recreation use, including both motorized and non-motorized use.
- Determine how each action alternative would impact transmission lines, specifically the ability to maintain transmission line ROWs and respond to wildfire events.



## Appendix B. National Forests and Grasslands and Forest Service Regions

There are nine Forest Service regions (see Figure 1). The regions are broad geographic areas, usually including several states. Many states contain one or more national forests and/or grasslands. (See the tables below for lists of corresponding states to national forests/grasslands.)

National recreation areas, national monuments, or other such special management areas are not listed *unless* they have a land management plan separate from a national forest/grassland.

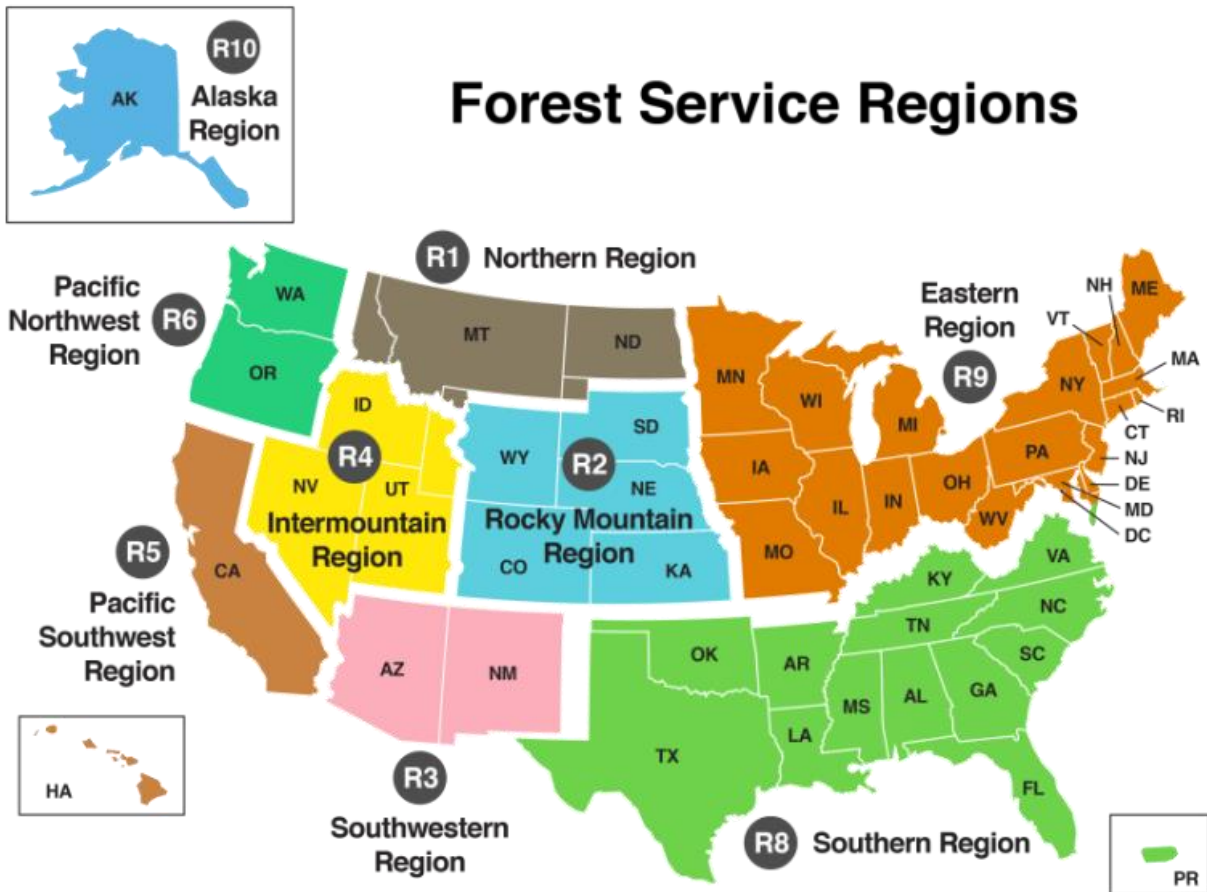


Figure 1. U.S. Forest Service Regions

## Northern Region (Region 1)

The [Northern Region](#) is comprised of 9 National Forests spread across North Idaho, Montana, and a sliver of northeastern Washington and National Grasslands in North Dakota and northwestern South Dakota.

**Table 1: Northern Region (Region 1) National Forests and National Grasslands by State**

State	National Forest/Grassland
MT	Beaverhead-Deerlodge National Forest
MT/ID	Bitterroot National Forest
MT/SD	Custer Gallatin National Forest
ND/SD	Dakota Prairie Grasslands
MT	Flathead National Forest
MT	Helena-Lewis and Clark National Forest
ID/WA	Idaho Panhandle National Forest
MT/ID	Kootenai National Forest
MT	Lolo National Forest
ID	Nez Perce-Clearwater National Forest

## Rocky Mountain Region (Region 2)

The [Rocky Mountain Region](#) is comprised of 17 national forests and 7 national grasslands across Colorado, Kansas, Nebraska, and most of South Dakota and Wyoming.

**Table 2: Rocky Mountain Region (Region 2) National Forests and National Grasslands by State**

State	National Forest/Grassland
CO	Arapaho and Roosevelt National Forests and Pawnee National Grassland
WY	Bighorn National Forest
SD/WY	Black Hills National Forest
CO	Grand Mesa, Uncompahgre and Gunnison National Forests
WY/CO	Medicine Bow-Routt National Forests and Thunder Basin National Grassland
NE/SD	Nebraska and Samuel R. McKelvie National Forests and Buffalo Gap, Fort Pierre and Oglala National Grasslands
CO/KS	Pike and San Isabel National Forests and Cimarron and Comanche National Grasslands
CO	Rio Grande National Forest
CO	San Juan National Forest
WY	Shoshone National Forest
CO	White River National Forest

## Southwestern Region (Region 3)

The [Southwestern Region](#) is comprised of 6 national forests in Arizona, 5 national forests and a national grassland in New Mexico, and one national grassland each in Oklahoma and the Texas panhandle.

**Table 3. Southwestern Region National Forests and National Grasslands by State**

State	National Forest/Grassland
AZ	Apache-Sitgreaves National Forest
NM	Carson National Forest
NM (Grasslands extend into OK, TX)	Cibola National Forest (NM) and Black Kettle (OK), McClellan Creek (TX), Kiowa (NM) and Rita Blanca (NM, OK, TX) National Grasslands
AZ	Coconino National Forest
AZ	Coronado National Forest
NM	Gila National Forest
AZ	Kaibab National Forest
NM	Lincoln National Forest
AZ	Prescott National Forest
NM	Santa Fe National Forest
AZ	Tonto National Forest

## Intermountain Region (Region 4)

The [Intermountain Region](#) is comprised of 12 National Forests and one National Grassland across Utah, Nevada, western Wyoming, southern Idaho, and a small portion of California.

**Yellow highlight** indicates corrections. These will not show on the version of appendices filed with the EPA.

**Table 4: Intermountain Region (Region 4) National Forests and National Grasslands by State**

State	National Forest/Grassland
UT/ <b>WY</b>	Ashley National Forest
ID	Boise National Forest
WY	Bridger-Teton National Forest
ID/ <b>WY/UT</b>	Caribou-Targhee National Forest and Curlew National Grassland
UT	Dixie National Forest
UT	Fishlake National Forest
NV/CA	Humboldt-Toiyabe National Forest
UT/ <b>CO</b>	Manti-La Sal National Forest
ID	Payette National Forest
ID	Salmon-Challis National Forest
ID/ <b>UT</b>	Sawtooth National Forest
UT/ <b>WY</b>	Uinta-Wasatch-Cache National Forest

## Pacific Southwest (Region 5)

The [Pacific Southwest Region](#) is comprised of 18 National Forests and one National Monument in California.

**Table 5: Pacific Southwest Region (Region 5) National Forests by State**

State	National Forest/Grassland
CA	Angeles National Forest
CA	Cleveland National Forest
CA	Eldorado National Forest
CA	Inyo National Forest
CA	Klamath National Forest
CA	Lake Tahoe Basin Management Unit
CA	Lassen National Forest
CA	Los Padres National Forest
CA	Mendocino National Forest
CA	Modoc National Forest
CA	Plumas National Forest
CA	San Bernadino National Forest
CA	Sequoia National Forest and Giant Sequoia National Monument
CA	Shasta-Trinity National Forest
CA	Sierra National Forest
CA	Six Rivers National Forest
CA	Stanislaus National Forest
CA	Tahoe National Forest

## Pacific Northwest (Region 6)

The [Pacific Northwest Region](#) of is comprised of 16 National Forests and one National Grassland within the states of Washington and Oregon.

**Table 6: Pacific Northwest Region (Region 6) National Forests and National Grasslands by State**

State	National Forest/Grassland
WA	Colville National Forest
OR	Deschutes National Forest
OR	Fremont-Winema National Forest
WA	Gifford Pinchot National Forest
OR	Malheur National Forest
WA	Mt. Baker-Snoqualmie National Forest
OR	Mt. Hood National Forest
OR	Ochoco National Forest and Crooked River National Grassland
WA	Okanogan-Wenatchee National Forests
WA	Olympic National Forest
OR	Rogue River-Siskiyou National Forest

State	National Forest/Grassland
OR	Siuslaw National Forest
OR/WA	Umatilla National Forest
OR	Umpqua National Forest
OR	Wallowa-Whitman National Forest
OR	Willamette National Forest

## Southern Region (Region 8)

The [Southern Region](#) is comprised of 14 National Forests and one National Recreation Area across 13 states and Puerto Rico.

**Table 7: Southern Region (Region 8) National Forests and National Recreation Area by State**

State	National Forest/Grassland
GA	Chattahoochee-Oconee National Forest
TN	Cherokee National Forest
KY	Daniel Boone National Forest
PR	El Yunque National Forest
SC	Francis Marion and Sumter National Forests
VA	George Washington and Jefferson National Forests
LA	Kisatchie National Forest
KY/TN	Land Between the Lakes National Recreation Area
AL	National Forests in Alabama
FL	National Forests in Florida
MS	National Forests in Mississippi
NC	National Forests in North Carolina
TX	National Forests and Grasslands in Texas
AR/OK	Ouachita National Forest
AR	Ozark-St. Francis National Forest

## Eastern Region (Region 9)

The [Eastern Region](#) is comprised of 17 National Forests and one National Tallgrass Prairie across 13 states.

**Table 8: Eastern Region (Region 9) National Forests and National Tall Grass Prairie by State**

State	National Forest/Tall Grass Prairie
PA	Allegheny National Forest
WI	Chequamegon-Nicolet National Forest
VT/NY	Green Mountain and Finger Lakes National Forests
MI	Hiawatha National Forest
IN	Hoosier National Forest
MI	Huron-Manistee National Forests
MO	Mark Twain National Forest
IL	Midewin National Tallgrass Prairie
WV	Monongahela National Forest
MI	Ottawa National Forest
MN	Chippewa National Forest
IL	Shawnee National Forest
MN	Superior National Forest
OH	Wayne National Forest
NH/ME	White Mountain National Forest

## Alaska Region (10)

The [Alaska Region](#) is comprised of two National Forests in Alaska.

**Table 9. Alaska Region (Region 10) National Forests**

State	National Forest/Grassland
AK	Chugach National Forest
AK	Tongass National Forest

## Appendix C. Comparison of Current Management of Old Growth to Amendment

[Appendix B, State, Forest and Region Crosswalk](#) for the Draft EIS provides helpful information for understanding spatial distribution and location of the national forests and grasslands. There are nine Forest Service regions. The regions are broad geographic areas, usually including several states, encompassing 155 National Forests and 20 National Grasslands. Note that some national forests and national grasslands are combined into administrative units for management, which can also include a land management plan that covers multiple units.

Current land management plans (LMPs) for all units of the National Forest System were reviewed to ascertain existing old growth management direction. This document captures the process used to compare existing LMPs with the proposed old-growth amendment plan components/content (for the Modified Proposed Action, Alternative 2) and the subsequent development of categories to group units with similar levels of current old growth direction. Under consideration was whether all LMPs should be amended or if some units should be exempt and whether some plans might be selectively amended with a subset of the NOGA management direction.

### Questions on Current Management of Old Growth

The following questions were developed to better understand: 1) the scope and scale of old-growth or potential old-growth occurring within a planning area; and 2) existing direction for old-growth already provided in most recent versions of each LMP.

1. Is this a grassland that is predominantly unforested and limited vegetation management actions occur in areas that are forested?
2. Does the existing LMP contain any old growth components?
3. Does the existing LMP contain a desired condition/conditions for old growth?
4. Do the old growth desired conditions emphasize the resilience/adaptability, abundance/distribution and/or the ecological/ecosystem service contributions of old growth?
5. Do the desired conditions apply forest-wide?
6. Does the existing LMP contain standards for old growth?
7. Do the old growth standards apply forest-wide?
8. Does the existing LMP contain standards or guidelines for future old growth?
9. Do the future old growth standards/guidelines apply forest-wide?
10. Are the standards and/or guidelines as restrictive as the NOGA language?
11. Do the old growth standards/guidelines preclude any proactive stewardship activities?
12. Is old growth defined in the LMP and if yes, does it align w/ the regional definition?

Refer to the [Ecological Impacts Analysis Report](#), Section 8, for a synopsis of responses by region and unit.

## Categories Based on Existing Direction

Based on the responses to the questions on current management of old growth, LMPs were grouped in one of four categories:

- **Category 1**—The unit is a grassland that is predominantly unforested and limited management actions occur in areas that are forested.
- **Category 2**—If the unit’s plan components are already considered to be functionally meeting the intent of NOGA (e.g. recently revised or amended plans that already include desired conditions, standards and guidelines that align with NOGA) or the unit has standards/guidelines that apply forest-wide and are perceived to be as restrictive as those proposed for NOGA, this unit is not likely to experience overly noticeable change in terms of old growth plan direction, though there could be slight nuances that need attention when proposing project-level activities.
- **Category 3**—If the unit has some plan components (e.g. desired conditions, objectives) but does not have standards/guidelines that constrain management activities in old growth – or these do not apply forest-wide or are not as restrictive as the proposed NOGA standards – this unit is anticipated to experience noticeable change in terms of old growth plan direction.
- **Category 4**—If the unit has old growth or the potential for old growth but has no existing plan components regarding old growth, this unit is anticipated to experience very noticeable change in terms of old growth plan direction.

Table 1 lists how the units are grouped by category.

**Table 1. Units by category**

Planning Area	Region	Category
Cibola National Grasslands	R03	1
Crooked River National Grassland	R06	1
Curlew National Grassland	R04	1
Dakota Prairie National Grassland	R01	1
Midewin National Tallgrass Prairie	R09	1
Nebraska National Forest	R02	1
Thunder Basin National Grassland	R02	1
Bitterroot National Forest	R01	2
Cherokee National Forest	R08	2
Croatan National Forest	R08	2
Daniel Boone National Forest	R08	2
Flathead National Forest	R01	2
Francis Marion National Forest	R08	2
George Washington National Forest	R08	2
Giant Sequoia National Monument	R05	2

Planning Area	Region	Category
Helena-Lewis & Clark National Forests	R01	2
Idaho Panhandle National Forests	R01	2
Jefferson National Forest	R08	2
Kootenai National Forest	R01	2
Lake Tahoe Basin Management Unit	R05	2
National Forests in Alabama	R08	2
National Forests in Florida	R08	2
Ouachita National Forest	R08	2
Sumter National Forest	R08	2
Tongass National Forest	R10	2
Allegheny National Forest	R09	3
Apache-Sitgreaves National Forests	R03	3
Arapaho and Roosevelt National Forests	R02	3
Ashley National Forest	R04	3
Beaverhead-Deerlodge National Forest	R01	3
Bighorn National Forest	R02	3
Black Hills National Forest	R02	3



Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

Planning Area	Region	Category
Boise National Forest	R04	3
Bridger-Teton National Forest	R04	3
Caribou National Forest	R04	3
Carson National Forest	R03	3
Challis National Forest	R04	3
Chattahoochee-Oconee National Forests	R08	3
Chequamegon-Nicolet National Forest	R09	3
Chippewa National Forest	R09	3
Cibola National Forest	R03	3
Clearwater National Forest	R01	3
Coconino National Forest	R03	3
Colville National Forest	R06	3
Coronado National Forest	R03	3
Custer-Gallatin National Forest	R01	3
<i>Deschutes National Forest (NWFP and ES)</i>	R06	3
Dixie National Forest	R04	3
Eldorado National Forest	R05	3
Finger Lakes National Forest	R09	3
Fishlake National Forest	R04	3
Fremont National Forest	R06	3
Gifford Pinchot National Forest	R06	3
Gila National Forest	R03	3
Grand Mesa, Uncompahgre and Gunnison National Forests	R02	3
Green Mountain National Forest	R09	3
Hiawatha National Forest	R09	3
Hoosier National Forest	R09	3
Humboldt National Forest	R04	3
Huron-Manistee National Forest	R09	3
Inyo National Forest	R05	3
Kaibab National Forest	R03	3
Kisatchie National Forest	R08	3
Klamath National Forest	R05	3
Land Between the Lakes National Recreation Area	R08	3
Lassen National Forest	R05	3

Planning Area	Region	Category
Lincoln National Forest (current plan)	R03	3
Lolo National Forest	R01	3
Los Padres National Forest	R05	3
Malheur National Forest	R06	3
Mark Twain National Forest	R09	3
Medicine Bow National Forest	R02	3
Mendocino National Forest	R05	3
<i>Modoc National Forest (NWFP)</i>	R05	3
Monongahela National Forest	R09	3
Mt. Baker-Snoqualmie National Forest	R06	3
Mt. Hood National Forest	R06	3
Nantahala and Pisgah National Forests	R08	3
National Forests in Mississippi	R08	3
National Forests in Texas	R08	3
Nez Perce National Forest	R01	3
Ochoco National Forest	R06	3
<i>Okanogan National Forest</i>	R06	3
Olympic National Forest	R06	3
Ottawa National Forest	R09	3
Ozark-St. Francis National Forest	R08	3
Pike and San Isabel National Forests	R02	3
Plumas National Forest	R05	3
Prescott National Forest	R03	3
Rio Grande National Forest	R02	3
Rogue River National Forest	R06	3
Routt National Forest	R02	3
Salmon National Forest	R04	3
San Juan National Forest	R02	3
Santa Fe National Forest	R03	3
Sawtooth National Forest	R04	3
Sequoia National Forest	R05	3
Shasta-Trinity National Forest	R05	3
Shawnee National Forest	R09	3
Shoshone National Forest	R02	3

Planning Area	Region	Category
Sierra National Forest	R05	3
Siskiyou National Forest	R06	3
Siuslaw National Forest	R06	3
Six Rivers National Forest	R05	3
Stanislaus National Forest	R05	3
Superior National Forest	R09	3
Tahoe National Forest	R05	3
Targhee National Forest	R04	3
Toiyabe National Forest	R04	3
Tonto National Forest	R03	3
Uinta National Forest	R04	3
Umatilla National Forest	R06	3
Umpqua National Forest	R06	3
Wallowa-Whitman National Forest	R06	3
Wasatch-Cache National Forest	R04	3

Planning Area	Region	Category
Wayne National Forest	R09	3
Wenatchee National Forest	R06	3
White Mountain National Forest	R09	3
White River National Forest	R02	3
Willamette National Forest	R06	3
Winema National Forest	R06	3
Angeles National Forest	R05	4
Chugach National Forest	R10	4
Cleveland National Forest	R05	4
El Yunque National Forest	R08	4
Manti-La Sal National Forest (current)	R04	4
Payette National Forest	R04	4
San Bernardino National Forest	R05	4
Uwharrie National Forest	R08	4

## Level of Amendment

To achieve a consistent framework for old-growth forest management across the National Forest System it was determined that the full amendment should be applied to all LMPs except those units in Category 1.

Category 1 primarily includes grasslands with a stand-alone grassland LMP. Grasslands are predominantly unforested and limited management actions occur in areas that are forested. LMPs will be exempted from the amendment unless there are unique circumstances presented that would justify amending them with a sub-set or full suite of plan components. If the grassland falls under a national forest LMP, it will be subject to the amendment that applies to the NF LMP.

Categories 2, 3 and 4 LMPs will be amended with the full suite of proposed plan components (goal, objective, management approach, and plan monitoring PLUS desired conditions, standards and guidelines) unless there are unique circumstances presented that would justify not amending them with the full suite of proposed plan components. While all of these LMPs will be amended the same, there will be different levels of noticeable change, as previously discussed and as shown in Table 2.

**Table 2. Number of units by category**

Category	Category Description	Number of Units
1	No Change (exempt from NOGA)	7
2	Not likely to experience noticeable change	18
3	Likely to experience noticeable change	96
4	Likely to experience very noticeable change	8
	<b>TOTAL</b>	129

## Current Management of Old Growth

Current management of old-growth is determined primarily by plan components in land management plans (referred to as an LMP or plan). A full discussion of current management of old growth in in the Ecology Report. Every LMP for 129 NFS units (national forests and national grasslands) were reviewed to determine how old growth is currently management. To provide an overview of how units are management old growth the following tables detail whether LMPs have desired conditions and standards, and whether the direction applies forest-wide or to a specific management area. Table 3 provides an overview by region.

**Table 3. Overview of old growth direction by region**

Old-growth management direction	R1 Yes	R1 No/NA	R2 Yes	R2 No	R3 Yes	R3 No	R4 Yes	R4 No	R5 Yes	R5 No	R6 Yes	R6 No	R8 Yes	R8 No/NA	R9 Yes	R9 No	R10 Yes	R10 No
Does the LMP include any old-growth plan direction?	10	0	12	0	10	1	14	2	16	3	19	0	17	2	15	0	1	1
Of the LMPs with old-growth direction, are there any desired conditions?	9	1	8	4	9	1	6	8	15	1	19	0	17	0	8	7	1	0
Of the LMPs with desired conditions for old growth, does the direction apply forest-wide?	8	1	4	4	9	0	5	1	4	11	0	19	17	0	4	4	0	1
Of the LMPs with old-growth direction, are there any standards for old growth?	8	2	2	10	1	9	10	4	14	2	15	4	16	1	7	8	1	0
Of the LMPs with standards, do they apply forest-wide?	7	1	2	0	1	0	10	0	9	5	1	14	14	2	5	2	1	0

Table 4 indicates responses by unit for a subset of the questions posed.

**Table 4. Overview of unit management direction for old growth**

Unit	Region	Category	Is this a grassland (predominantly unforested and limited management in forested areas)?	Does the existing LMP contain any old growth components?	Does the existing LMP contain a DC/DCs for old growth?	Do the DCs apply forest-wide?	Does the existing LMP contain standards for old growth?	Do the old growth standards apply forest-wide?	Do existing plan components functionally meet intent of NOGA?
Beaverhead-Deerlodge NF	R01	3	No	Yes	No	NA	Yes	Yes	No

Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

Unit	Region	Category	Is this a grassland (predominantly unforested and limited management in forested areas)?	Does the existing LMP contain any old growth components?	Does the existing LMP contain a DC/DCs for old growth?	Do the DCs apply forest-wide?	Does the existing LMP contain standards for old growth?	Do the old growth standards apply forest-wide?	Do existing plan components functionally meet intent of NOGA?
Bitterroot NF	R01	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Clearwater NF	R01	3	No	Yes	Yes	Yes	Yes	Yes	No
Custer-Gallatin NF	R01	3	No	Yes	Yes	Yes	No	NA	No
Dakota Prairie NG	R01	1	Yes	No	No	NA	No	NA	No
Flathead NF	R01	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Helena-Lewis & Clark NFs	R01	2	No	Yes	Yes	Yes	No	NA	Yes
Idaho Panhandle NFs	R01	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Kootenai NF	R01	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Lolo NF	R01	3	No	Yes	Yes	No	Yes	No	No
Nez Perce NF	R01	3	No	Yes	Yes	Yes	Yes	Yes	No
Arapaho and Roosevelt NFs	R02	3	No	Yes	No	NA	No	NA	No
Bighorn NF	R02	3	No	Yes	Yes	Yes	No	NA	No
Black Hills NF	R02	3	No	Yes	Yes	No	No	NA	No
Grand Mesa, Uncompahgre and Gunnison NFs	R02	3	No	Yes	Yes	Yes	No	NA	No
Medicine Bow NF	R02	3	No	Yes	No	NA	Yes	Yes	No
Nebraska NF and NGs	R02	1	Yes	Yes	Yes	No	No	NA	No
Pike and San Isabel NFs	R02	3	No	Yes	No	NA	No	NA	No
Rio Grande NF	R02	3	No	Yes	Yes	No	No	NA	No
Routt NF	R02	3	No	Yes	Yes	No	No	NA	No
San Juan NF	R02	3	No	Yes	Yes	Yes	No	NA	No
Shoshone NF	R02	3	No	Yes	Yes	Yes	No	NA	No
Thunder Basin NG	R02	1	Yes	No	No	NA	Yes	No	No
White River NF	R02	3	No	Yes	No	NA	Yes	Yes	No
Apache-Sitgreaves NFs	R03	3	No	Yes	Yes	Yes	No	NA	No

Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

Unit	Region	Category	Is this a grassland (predominantly unforested and limited management in forested areas)?	Does the existing LMP contain any old growth components?	Does the existing LMP contain a DC/DCs for old growth?	Do the DCs apply forest-wide?	Does the existing LMP contain standards for old growth?	Do the old growth standards apply forest-wide?	Do existing plan components functionally meet intent of NOGA?
Carson NF	R03	3	No	Yes	Yes	Yes	No	NA	No
Cibola NF	R03	3	No	Yes	Yes	Yes	No	NA	No
Cibola NGs	R03	1	Yes	Yes	Yes	No	No	No	No
Coconino NF	R03	3	No	Yes	Yes	Yes	No	NA	No
Coronado NF	R03	3	No	Yes	Yes	Yes	No	NA	No
Gila NF	R03	3	No	Yes	Yes	Yes	No	NA	No
Kaibab NF	R03	3	No	Yes	Yes	Yes	No	NA	No
Lincoln NF	R03	3	No	Yes	No	NA	Yes	Yes	No
Prescott NF	R03	3	No	Yes	Yes	Yes	No	NA	No
Santa Fe NF	R03	3	No	Yes	Yes	Yes	No	NA	No
Tonto NF	R03	3	No	Yes	Yes	Yes	No	NA	No
Ashley NF	R04	3	No	Yes	Yes	Yes	No	NA	No
Boise NF	R04	3	No	Yes	No	NA	Yes	Yes	No
Bridger-Teton NF	R04	3	No	Yes	No	NA	Yes	Yes	No
Caribou NF	R04	3	No	Yes	Yes	Yes	Yes	Yes	No
Challis NF	R04	3	No	Yes	No	NA	Yes	Yes	No
Curlew NG	R04	1	Yes	No	No	NA	No	NA	No
Dixie NF	R04	3	No	Yes	No	NA	Yes	Yes	No
Fishlake NF	R04	3	No	Yes	No	NA	Yes	Yes	No
Humboldt NF	R04	3	No	Yes	Yes	No	No	NA	No
Manti-La Sal NF (current)	R04	4	No	No	No	NA	No	NA	No
Payette NF	R04	4	No	No	No	NA	No	NA	No
Salmon NF	R04	3	No	Yes	Yes	Yes	Yes	Yes	No
Sawtooth NF	R04	3	No	Yes	No	No	Yes	Yes	No
Targhee NF	R04	3	No	Yes	No	NA	No	NA	No

Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

Unit	Region	Category	Is this a grassland (predominantly unforested and limited management in forested areas)?	Does the existing LMP contain any old growth components?	Does the existing LMP contain a DC/DCs for old growth?	Do the DCs apply forest-wide?	Does the existing LMP contain standards for old growth?	Do the old growth standards apply forest-wide?	Do existing plan components functionally meet intent of NOGA?
Toiyabe NF	R04	3	No	Yes	Yes	Yes	Yes	Yes	No
Uinta NF	R04	3	No	Yes	Yes	Yes	No	NA	No
Wasatch-Cache NF	R04	3	No	Yes	No	NA	Yes	Yes	No
Angeles NF	R05	4	No	No	NA	NA	NA	NA	No
Cleveland NF	R05	4	No	No	NA	NA	NA	NA	No
Eldorado NF	R05	3	No	Yes	Yes	No	Yes	Yes	No
Giant Sequoia National Monument	R05	2	No	Yes	Yes	Yes	No	NA	Yes
Inyo NF	R05	3	No	Yes	Yes	No	Yes	Yes	No
Klamath NF	R05	3	No	Yes	Yes	No	Yes	No	No
Lake Tahoe Basin Management Unit	R05	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Lassen NF	R05	3	No	Yes	Yes	No	Yes	Yes	No
Los Padres NF	R05	3	No	Yes	No	NA	No	NA	No
Mendocino NF	R05	3	No	Yes	Yes	No	Yes	No	No
Modoc NF (NWFP)	R05	3	No	Yes	Yes	No	Yes	No	No
Plumas NF	R05	3	No	Yes	Yes	No	Yes	Yes	No
San Bernardino NF	R05	4	No	No	NA	NA	NA	NA	No
Sequoia NF	R05	3	No	Yes	Yes	Yes	Yes	Yes	No
Shasta-Trinity NF	R05	3	No	Yes	Yes	No	Yes	No	No
Sierra NF	R05	3	No	Yes	Yes	Yes	Yes	Yes	No
Six Rivers NF	R05	3	No	Yes	Yes	No	Yes	No	No
Stanislaus NF	R05	3	No	Yes	Yes	No	Yes	Yes	No
Tahoe NF	R05	3	No	Yes	Yes	No	Yes	Yes	No
Colville NF	R06	3	No	Yes	Yes	No	Yes	Yes	No
Crooked River NG	R06	1	Yes	Yes	Yes	No	No	NA	No

Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

Unit	Region	Category	Is this a grassland (predominantly unforested and limited management in forested areas)?	Does the existing LMP contain any old growth components?	Does the existing LMP contain a DC/DCs for old growth?	Do the DCs apply forest-wide?	Does the existing LMP contain standards for old growth?	Do the old growth standards apply forest-wide?	Do existing plan components functionally meet intent of NOGA?
Deschutes NF (NWFP and ES)	R06	3	No	Yes	Yes	No	Yes	No	No
Fremont NF	R06	3	No	Yes	Yes	No	No	NA	No
Gifford Pinchot NF	R06	3	No	Yes	Yes	No	Yes	No	No
Malheur NF	R06	3	No	Yes	Yes	No	No	NA	No
Mt. Baker-Snoqualmie NF	R06	3	No	Yes	Yes	No	Yes	No	No
Mt. Hood NF	R06	3	No	Yes	Yes	No	Yes	No	No
Ochoco NF	R06	3	No	Yes	Yes	No	No	NA	No
Okanogan NF	R06	3	No	Yes	Yes	No	Yes	No	No
Olympic NF	R06	3	No	Yes	Yes	No	Yes	No	No
Rogue River NF	R06	3	No	Yes	Yes	No	Yes	No	No
Siskiyou NF	R06	3	No	Yes	Yes	No	Yes	No	No
Siuslaw NF	R06	3	No	Yes	Yes	No	Yes	No	No
Umatilla NF	R06	3	No	Yes	Yes	No	Yes	No	No
Umpqua NF	R06	3	No	Yes	Yes	No	Yes	No	No
Wallowa-Whitman NF	R06	3	No	Yes	Yes	No	No	NA	No
Wenatchee NF	R06	3	No	Yes	Yes	No	Yes	No	No
Willamette NF	R06	3	No	Yes	Yes	No	Yes	No	No
Winema NF	R06	3	No	Yes	Yes	No	Yes	No	No
Chattahoochee-Oconee NFs	R08	3	No	Yes	Yes	Yes	Yes	Yes	No
Cherokee NF	R08	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Croatan NF	R08	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Daniel Boone NF	R08	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Ei Yunque NF	R08	4	No	No	NA	NA	NA	NA	No
Francis Marion NF	R08	2	No	Yes	Yes	Yes	Yes	Yes	Yes

Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

Unit	Region	Category	Is this a grassland (predominantly unforested and limited management in forested areas)?	Does the existing LMP contain any old growth components?	Does the existing LMP contain a DC/DCs for old growth?	Do the DCs apply forest-wide?	Does the existing LMP contain standards for old growth?	Do the old growth standards apply forest-wide?	Do existing plan components functionally meet intent of NOGA?
George Washington NF	R08	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Jefferson NF	R08	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Kisatchie NF	R08	3	No	Yes	Yes	Yes	Yes	Yes	No
Land Between the Lakes National Recreation Area	R08	3	No	Yes	Yes	Yes	No	NA	No
Nantahala and Pisgah NFs	R08	3	No	Yes	Yes	Yes	Yes	No	No
NFs in Alabama	R08	2	No	Yes	Yes	Yes	Yes	Yes	Yes
NFs in Florida	R08	2	No	Yes	Yes	Yes	Yes	Yes	Yes
NFs in Mississippi	R08	3	No	Yes	Yes	Yes	Yes	NA	No
NFs in Texas	R08	3	No	Yes	Yes	Yes	Yes	Yes	No
Ouachita NF	R08	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Ozark-St. Francis NF	R08	3	No	Yes	Yes	Yes	Yes	Yes	No
Sumter NF	R08	2	No	Yes	Yes	Yes	Yes	Yes	Yes
Uwharrie NF	R08	4	No	No	No	NA	No	NA	No
Allegheny NF	R09	3	No	Yes	Yes	No	No	NA	No
Chequamegon-Nicolet NF	R09	3	No	Yes	Yes	No	Yes	No	No
Chippewa NF	R09	3	No	Yes	No	NA	Yes	No	No
Finger Lakes NF	R09	3	No	Yes	No	NA	No	NA	No
Green Mountain NF	R09	3	No	Yes	No	NA	No	NA	No
Hiawatha NF	R09	3	No	Yes	Yes	Yes	Yes	Yes	No
Hoosier NF	R09	3	No	Yes	Yes	No	No	NA	No
Huron-Manistee NF	R09	3	No	Yes	Yes	Yes	Yes	Yes	No
Mark Twain NF	R09	3	No	Yes	Yes	No	Yes	Yes	No
Midwin National Tallgrass Prairie	R09	1	Yes	NA	NA	NA	NA	NA	No
Monongahela NF	R09	3	No	Yes	No	NA	No	NA	No



Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

Unit	Region	Category	Is this a grassland (predominantly unforested and limited management in forested areas)?	Does the existing LMP contain any old growth components?	Does the existing LMP contain a DC/DCs for old growth?	Do the DCs apply forest-wide?	Does the existing LMP contain standards for old growth?	Do the old growth standards apply forest-wide?	Do existing plan components functionally meet intent of NOGA?
Ottawa NF	R09	3	No	Yes	No	NA	No	NA	No
Shawnee NF	R09	3	No	Yes	Yes	Yes	No	NA	No
Superior NF	R09	3	No	Yes	Yes	Yes	Yes	Yes	No
Wayne NF	R09	3	No	Yes	No	NA	No	NA	No
White Mountain NF	R09	3	No	Yes	No	NA	Yes	Yes	No
Chugach NF	R10	4	No	No	NA	NA	NA	NA	No
Tongass NF	R10	2	No	Yes	Yes	No	Yes	Yes	Yes

## Old-growth definitions in LMPs

Old-growth plan direction is applicable to unit areas as defined in the LMP. Old-growth definitions are found in either a plan component, the plan’s glossary, or in the LMP FEIS. Old-growth definitions can be a qualitative definition that describes common old-growth features, a definition with some criteria for stand age or diameter of a trunk or bole of a standing tree at breast height (DBH), or a complete set of criteria that allows for reliable identification of old-growth on the landscape. There are also plans with old-growth plan components that do not have a definition or criteria for old-growth in the text of the LMP. Some plans do not refer to old-growth, but instead refer to old forest or late successional stage, concepts that intersect, or overlap with, old-growth, but that are not always interchangeable. How responses are determined in Table 5:

1. Does the LMP have a definition of old growth?

Yes, if old growth is defined anywhere in the text of the LMP e.g. in the glossary, describing features of old growth but not providing quantitative criteria for determining whether an area is old growth. Example: “Old-growth forests contain large, old trees with signs of decadence and a closed canopy”. Answer no if no description of old growth is given. Note that if the source documents for the regional definition are cited, the answer to this column is yes. In general, if a different term is used (old forest, late successional, etc.) the answer to this question should be no, but discretion is appropriate if other materials indicate the unit considers the terms interchangeable.

2. Does the LMP have criteria for old growth?

Yes, if criteria for identifying old growth in the field is provided. This could be simple (average age of old growth stands) or complex (multiple factors and different ecotypes). Could be presented in text, tables, or a citation to a set of regional criteria.

3. Does the LMP explicitly use regional criteria to identify old growth?

Plans directly say in the text that they use regional criteria to identify old growth on the landscape. Example: “Use Green et al. 2011 to identify old growth”. Say no if the regional criteria are not reproduced or cited as what is used to identify old growth.

**Table 5. Unit old growth definitions**

National Forest or National Grassland*	Region	Has definition of old growth (narrative)	Has criteria for old growth (quantitative)	Explicitly uses regional criteria to ID old growth
Beaverhead-Deerlodge National Forest	R01	Yes	Yes	Yes
Bitterroot National Forest	R01	Yes	Yes	Yes
Custer Gallatin National Forest	R01	Yes	Yes	Yes
Dakota Prairie National Grassland	R01	Yes	Yes	No
Flathead National Forest	R01	Yes	Yes	Yes
Helena-Lewis & Clark National Forests	R01	Yes	Yes	Yes
Idaho Panhandle National Forests	R01	Yes	Yes	Yes

Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

National Forest or National Grassland*	Region	Has definition of old growth (narrative)	Has criteria for old growth (quantitative)	Explicitly uses regional criteria to ID old growth
Kootenai National Forest	R01	Yes	Yes	Yes
Lolo National Forest	R01	Yes	Yes	No
Nez Perce	R01	Yes	Yes	No
Clearwater	R01	Yes	Yes	No
Arapaho and Roosevelt National Forests	R02	No	No	No
Bighorn National Forest	R02	Yes	Yes	Yes
Black Hills National Forest	R02	No	Yes	No
Grand Mesa, Uncompahgre and Gunnison National Forests	R02	Yes	Yes	No
Medicine Bow National Forest	R02	Yes	No	No
Nebraska National Forest	R02	Yes	Yes	No
Pike and San Isabel National Forests	R02	Yes	Yes	No
Rio Grande National Forest	R02	Yes	Yes	No
Routt National Forest	R02	No	No	No
San Juan National Forest	R02	No	No	No
Shoshone National Forest	R02	No	Yes	No
Thunder Basin National Grasslands	R02	Yes	Yes	No
White River National Forest	R02	Yes	Yes	No
Apache-Sitgreaves National Forests	R03	Yes	Yes	No
Carson National Forest	R03	Yes	No	No
Cibola National Forest	R03	Yes	No	No
Cibola National Grasslands	R03	No	No	No
Coconino National Forest	R03	Yes	No	No
Coronado National Forest	R03	Yes	No	No
Gila National Forest	R03	Yes	Yes	No
Kaibab National Forest	R03	Yes	No	No
Lincoln National Forest	R03	Yes	Yes	No
Prescott National Forest	R03	Yes	No	No
Santa Fe National Forest	R03	Yes	No	No
Tonto National Forest	R03	Yes	No	No
Ashley National Forest	R04	Yes	Yes	No
Boise National Forest	R04	Yes	No	No
Bridger-Teton National Forest	R04	Yes	No	No
Caribou National Forest	R04	Yes	Yes	Yes
Challis National Forest	R04	No	No	No
Curlew National Grassland	R04	No	No	No

Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

National Forest or National Grassland*	Region	Has definition of old growth (narrative)	Has criteria for old growth (quantitative)	Explicitly uses regional criteria to ID old growth
Dixie National Forest	R04	No	No	No
Fishlake National Forest	R04	Yes	No	No
Humboldt National Forest	R04	No	No	No
Manti-La Sal National Forest	R04	Yes	No	No
Payette National Forest	R04	Yes	No	No
Salmon National Forest	R04	No	No	No
Sawtooth National Forest	R04	Yes	No	No
Targhee National Forest	R04	Yes	Yes	Yes
Toiyabe National Forest	R04	Yes	No	No
Uinta National Forest	R04	Yes	Yes	Yes
Wasatch-Cache National Forest	R04	Yes	No	No
Angeles National Forest	R05	No	No	No
Cleveland National Forest	R05	No	No	No
Eldorado National Forest (SNFPA)	R05	No	No	No
Giant Sequoia National Monument	R05	No	No	No
Inyo National Forest (SNFPA)	R05	No	No	No
Klamath National Forest	R05	No	No	No
Lake Tahoe Basin Management Unit	R05	No	No	No
Lassen National Forest (SNFPA, NWFP)	R05	No	No	No
Los Padres National Forest	R05	No	No	No
Mendocino National Forest	R05	No	No	No
Modoc National Forest	R05	No	No	No
Plumas National Forest (SNFPA)	R05	No	No	No
San Bernadino National Forest	R05	No	No	No
Sequoia National Forest (SNFPA)	R05	No	No	No
Shasta-Trinity National Forest (NWFP)	R05	No	No	No
Sierra National Forest (SNFPA)	R05	No	No	No
Six Rivers National Forest (NWFP)	R05	No	No	No
Stanislaus National Forest (SNFPA)	R05	No	No	No
Tahoe National Forest (SNFPA)	R05	No	No	No
Colville National Forest (ES)	R06	No	Yes	No

Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

National Forest or National Grassland*	Region	Has definition of old growth (narrative)	Has criteria for old growth (quantitative)	Explicitly uses regional criteria to ID old growth
Crooked River National Grassland	R06	Yes	No	No
Deschutes National Forest (NWFP)	R06	Yes	No	No
Fremont National Forest (ES)	R06	Yes	No	No
Gifford Pinchot National Forest (NWFP)	R06	Yes	No	No
Malheur National Forest (ES)	R06	Yes	No	No
Mt. Baker-Snoqualmie National Forest	R06	Yes	No	No
Mt. Hood National Forest (NWFP)	R06	Yes	No	No
Ochoco National Forest (ES)	R06	Yes	No	No
Okanogan National Forest (NWFP)	R06	Yes	No	No
Oregon Dunes NRA	R05	No	No	No
Olympic National Forest (NWFP)	R06	Yes	No	No
Rogue River National Forest (NWFP)	R06	Yes	No	No
Siskiyou National Forest (NWFP)	R06	Yes	No	No
Siuslaw National Forest (NWFP)	R06	Yes	No	No
Umatilla National Forest (ES)	R06	Yes	No	No
Umpqua National Forest (NWFP)	R06	Yes	No	No
Wallowa-Whitman National Forest (ES)	R06	Yes	No	No
Wenatchee National Forest (NWFP)	R06	Yes	No	No
Willamette National Forest (NWFP)	R06	Yes	No	No
Winema National Forest (NWFP)	R06	Yes	No	No
Chattahoochee-Oconee National Forests	R08	Yes	Yes	Yes
Cherokee National Forest	R08	Yes	Yes	Yes
Croatan National Forest	R08	Yes	Yes	Yes
Daniel Boone National Forest	R08	Yes	Yes	Yes
El Yunque National Forest	R08	No	No	No
Francis Marion National Forest	R08	Yes	Yes	Yes
George Washington National Forest	R08	Yes	Yes	Yes
Jefferson National Forest	R08	Yes	Yes	Yes

Draft EIS – Amendments to LMPs to Address Old-growth Forests Across the NFS

National Forest or National Grassland*	Region	Has definition of old growth (narrative)	Has criteria for old growth (quantitative)	Explicitly uses regional criteria to ID old growth
Kisatchie National Forest	R08	Yes	Yes	Yes
Land Between the Lakes National Recreation Area	R08	Yes	Yes	Yes
Nantahala and Pisgah National Forests	R08	Yes	Yes	Yes
National Forests in Alabama	R08	Yes	Yes	Yes
National Forests in Florida	R08	Yes	Yes	Yes
National Forests in Mississippi	R08	Yes	Yes	Yes
National Forests in Texas	R08	Yes	Yes	Yes
Ouachita National Forest	R08	Yes	Yes	Yes
Ozark-St. Francis National Forest	R08	Yes	Yes	Yes
Sumter National Forest	R08	Yes	Yes	Yes
Uwharrie National Forest	R08	No	No	No
Allegheny National Forest	R09	Yes	No	
Chequamegon-Nicolet National Forest	R09	Yes	No	
Chippewa National Forest	R09	Yes	No	
Finger Lakes National Forest	R09	Yes	No	
Green Mountain National Forest	R09	Yes	No	
Hiawatha National Forest	R09	Yes	No	
Hoosier National Forest	R09	Yes	No	
Huron-Manistee National Forest	R09	Yes	No	
Mark Twain National Forest	R09	Yes	No	
Monongahela National Forest	R09	Yes	No	
Ottawa National Forest	R09	Yes	Yes	
Shawnee National Forest	R09	Yes	No	
Superior National Forest	R09	Yes	No	
Wayne National Forest	R09	Yes	No	
White Mountain National Forest	R09	No	No	
Tongass National Forest	R10	No	Yes	Yes
Chugach National Forest	R10	Yes	No	No

\*Note that some of the units that have been amended have old growth plan direction and definitions associated with a programmatic amendment; abbreviations for those amendments are ES=Eastside Screens, SNFPA=Sierra Nevada Forest Plan Amendment, NWFP=Northwest Forest Plan Amendment

## Appendix D: Framework for Adaptive Strategy for Old-Growth Forest Conservation

The Old Growth Amendment Objectives require the creation or adoption of an *Adaptive Strategy for Old Growth Forest Conservation* (Adaptive Strategy) and the Management Approach outlines required Adaptive Strategy components. Adaptive Strategies must be developed or adopted in consultation with Tribes and Alaska Native Corporations and integrate Indigenous Knowledge as a source of best available science. Collaboration with states, local governments, public stakeholders, and industry and non-governmental partners must occur to allow for the consideration of a variety of viewpoints that will foster support for implementation of Adaptive Strategies. Developing and monitoring these strategies will be supported by the National Forest System (NFS) Washington Office Ecosystem Management Coordination - Adaptive Management, Monitoring, and Analysis (AMMA) staff, who collaboratively innovates and maintains forest structure, inventory, and threat information.

The framework below addresses all elements of the Old-Growth Amendment Management Approach and Objectives and provides an outline to assist forest and grassland supervisors with the development of Adaptive Strategies. It provides a structured approach to:

- setting quantitative goals for old growth forest conservation that align with the Old-Growth Amendment;
- measuring progress toward reaching those goals through the evaluation of implementation<sup>1</sup>, effectiveness<sup>2</sup>, and surveillance<sup>3</sup> monitoring; and
- determining when or if the measurements indicate a need for a change in management actions.

Many required components of Adaptive Strategies may already be developed through other programs of work, in part or in whole, and can be incorporated into the corresponding sections of this framework. This framework can be used in its entirety, partially to cover the sections that have not yet been completed through another effort, or as a checklist to communicate how existing strategies cover the components of the framework, ensuring the intent of the Old-Growth Amendment Management Approach and Objectives. If using existing strategies, either completely or partially, the forest or grassland supervisor must document alignment with the framework components. For example, describe how Tribes and Alaska Native Corporations were consulted in the development of the strategy and describe the collaboration with States, local governments, public stakeholders, and industry and non-governmental partners.

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<sup>1</sup> **Implementation Monitoring.** Monitoring actions implemented to address if planned management activities occurred and if the activities occurred in the planned location, time, and extent.

<sup>2</sup> **Effectiveness Monitoring.** Monitoring to determine whether resource objectives were met. Effectiveness monitoring, alongside implementation monitoring, is a critical component of an adaptive management approach to land and resource management. Comparing monitoring results with expected results might indicate a need to initiate, intensify, or alter management actions.

<sup>3</sup> **Surveillance Monitoring.** Designed to document resource change through time. This type of monitoring is not tied to specific predictions of how a natural resource will respond to management or environmental stressors.

## Adaptive Strategy for Old Growth Forest Conservation Framework:

1. **Identify Appropriate Scale for the Old Growth Amendment Desired Conditions and Develop Corresponding Goals:** Applying criteria from existing land management plan(s) that describe old growth vegetation types and their corresponding locations and acreage (when possible), and the role of other successional states that are important for ecological integrity, identify the appropriate geographic scale(s) to track an Adaptive Strategy. For each geographic scale option, **develop old growth goals** that align with all Old-Growth Amendment Desired Conditions.
2. **Assessment of Current Information:**
  - **Assess the known information** about the vegetation community and its requirements, ranges of variation, and stressors along with corresponding landscape and socioeconomic data, and information on Tribal priorities and opportunities to support cultural, medicinal, food, and ceremonial values, practices and uses.
  - **Identify the critical uncertainties** about the vegetation community and its requirements, ranges of variation, and stressors along with corresponding landscape and socioeconomic data, and information on Tribal priorities and opportunities to support cultural, medicinal, food, and ceremonial values, practices and uses.
  - **Identify and prioritize** areas for the retention and promotion of old-growth forest based on purposes listed in Old-Growth Amendment Management Approach 1b.
  - **Evaluate and forecast** how options of management actions or lack of actions may impact the resource, acknowledging uncertainties. Depending on capabilities, quantitative modelling, scenario planning, and/or other methods can be employed to assist with this step.
3. **Development of Management Strategies:** Applying the prioritization, evaluation, and forecasting results from Step 2 and acknowledging any corresponding assumptions, develop an approach to achieve or modify the goals developed in Step 1. Provide quantitative objectives of the amounts, representativeness, redundancy, and connectivity of old-growth forest areas for the vegetation type and its corresponding locations and acreage. Incorporate climate adaptation measures using resistance, resilience, or transition approaches that address climate risks or intentionally accept alternative climate-driven outcomes.
4. **Implementation Plan for Selected Management Options:** Develop an action plan that describes the projects and implementation efforts to put the chosen management strategy on the ground, considering the appropriate location and timing.
5. **Evaluate and Learn:** Determine indicators to use as performance measures to learn if an adaptive management action is needed. Indicators should include data collected through implementation, effectiveness, and surveillance monitoring.

Through the Monitoring, Analysis and Support Tool (MAST) effort, NFS AMMA staff, along with highly skilled analysts, and in collaboration across all Forest Service deputy areas and organizational levels, will compile, analyze, and help evaluate the following monitoring indicators for the Adaptive Strategy:

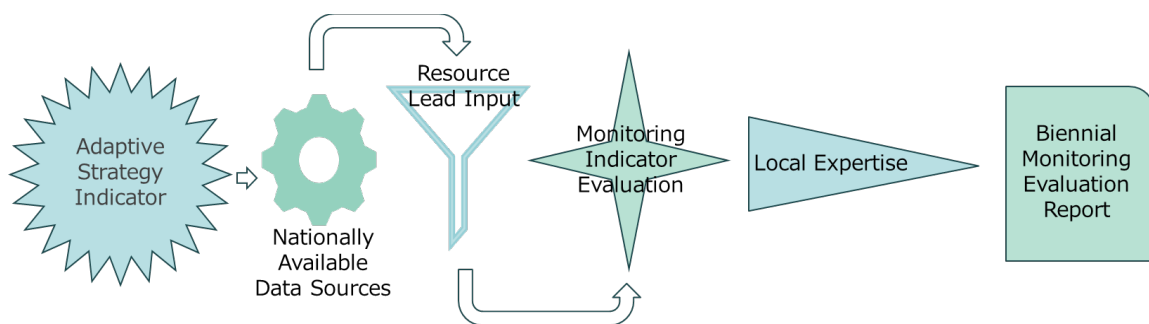
- ◆ **Implementation monitoring:** May include, but is not limited to, proactive stewardship activities tagged in Forest Service Activity Tracking System (FACTS) for a) retention, b) recruitment, and c) actions designed for resiliency.
- ◆ **Effectiveness monitoring:** May include, but is not limited to, tracking metrics that measure representativeness, redundancy, and connectivity (e.g., monitoring the abundance of young,



mature, and old-growth forests by vegetation type using forest structural criteria from the Forest Service Research and Development’s Forest Inventory and Analysis (FIA) program as defined in the *Mature and Old-Growth Forests: Definition, Identification, and Initial Inventory on Lands Managed by the Forest Service and Bureau of Land Management* technical report (in conjunction with other geospatial and remote sensing products).

- ◆ **Surveillance monitoring:** May include, but is not limited to, monitoring probable forest stressors such as wildfire severity and extent, insect and disease damage, terrestrial invasive species, and multiple climate variables; as well as carbon; water quality; soil stability; and recreation and visitor use.

These monitoring indicator evaluations will utilize nationally available datasets and include descriptions of the data sources, data analyses for the appropriate scale and extent, results, methodology, and caveats to consider. They will highlight where the incorporation of local knowledge about the resource provides needed context. These evaluations will be provided for all NFS forests and grasslands and are optional-use resources to use as performance measures and assist with developing Biennial Monitoring Evaluation Reports (Figure 1).



**Figure 1. Flow chart depicting the production of monitoring indicators evaluations and their connections to Biennial Monitoring Evaluation Reports to support the Adaptive Strategy information needs.**

To support finer scale information needs, identify internal and external partnerships along with a program of work for additional monitoring that can contribute localized information to the effectiveness and surveillance monitoring resources listed above.

Modify the existing land management plan monitoring program as necessary to reflect the identified performance measures.

**Establish how the monitoring data will be evaluated** to determine if the efforts, within a ten-year period, successfully led to the old-growth forest areas prioritized in the Adaptive Strategies exhibiting an increasing trend towards amounts, representativeness, redundancy, and connectivity. Consider the spatial distribution, patch size, and temporal boundary needed for meaningful evaluations. Consider how changes in forest structure as determined by effectiveness monitoring and its correlation with implementation monitoring may necessitate management alternatives. Consider how changes in the system as determined through surveillance monitoring may necessitate management alternatives. Include these analyses and evaluations of monitoring data in corresponding Biennial Monitoring Evaluation Reports.

**Adjust management actions** based on the results, continuing this effort to continually improve our management decisions. If adaptive management is warranted, follow the above steps beginning at Step 2. Assessment of Current Information to adjust the assessment, management strategy, implementation plan, and/or the land management plan monitoring program.