

Region 6 No Activities Within Old Growth form

Black text is Region 6 template language. Forests add project-specific details in blue text.

SUMMARY	
Project Name:	Gibson Insect and Disease CE
Forest:	Mt. Hood National Forest; Hood River Ranger District

On December 18, 2023, National Forest System (NFS) Deputy Chief Chris French sent a letter of direction to all Regional Foresters. The letter reserved to the NFS Deputy Chief the decision-making authority over management of Old Growth forest conditions on NFS lands during the National Old Growth Amendment process. This direction applies to any projects signed on December 19, 2023, or later. Any project proposing management activities that will occur **where** Old Growth forest conditions (based on **regional Old Growth definitions**) exist on NFS lands shall be submitted to the NFS Deputy Chief for review and approval.

This form documents that an Old Growth forest conditions evaluation has occurred for project areas that do not contain Old Growth forest conditions or that do not propose management in Old Growth forest conditions.

Defining Old Growth Forest Conditions in the Project Area

Mature and Old Growth forests are holistically defined not just by ecology, but by policy and values as well. Practical application of mature and Old Growth definitions requires selection of primary attributes of interest, and then compromise to select a subset of those attributes that are meaningful, practical to measure, and, ideally, able to be mapped. This practice typically results in some minimum criteria that are established for determining whether stands qualify as Old Growth; for example, at least six live trees per acre >29.5 inches in diameter at breast height in the grand fir vegetation zone (USDA and USDI 2023).

In fulfillment of EO 14072, section 2b, existing Old Growth definitions for each Forest Service region were applied to Forest Inventory Analysis (FIA) data to produce a national-scale inventory. A similar process was completed to spatially represent mature forest working definitions using FIA data. In areas managed under the Northwest Forest Plan in the Pacific Northwest Region, an Old Growth structure index score for stand age 80 (OGSI 80) was used to identify mature forest and an Old Growth structure index score for stand age 200 (OGSI 200) was used to identify Old Growth forest conditions (Davis et al. 2022). Minimum thresholds for Old Growth conditions were specified for each potential natural vegetation (PNV) zone based on large tree diameter and density, snag diameter and density, coarse woody debris cover, and diameter diversity. For the remaining lands in the Pacific Northwest Region (eastern Oregon and Washington), use the 1993 “interim definitions” for the Eastside Screens (ESS) forests (<https://ecoshare.info/2009/12/16/r6-Old-Growth-interim-definitions/>, Table 14).

DEFINITION OF OLD GROWTH CONDITIONS USED
Definition of Old Growth Used: The Mt. Hood used the Old Growth Structure Index modeling (FS- 1215a) to help identify stands potentially containing Old Growth at a landscape-level, but all stand-level determinations used the Region 6 Interim Old Growth standards. The 1993 standards provide a more accurate representation of drier East Cascades stand conditions found in the project area, as well as quantitative structural features to classify stands as Old Growth according to vegetation series and site productivity. In order to classify as Old Growth under 1993 definitions, a stand must meet all three of the following minimum

attributes: minimum diameter, minimum number of large trees per acre, and minimum age (Hopkins 1993 p. 3). If the stands meets all three minimum requirements, then other stand attributes should be considered.

Step one: Site-specific quantitative data are needed to determine whether a stand meets the Old Growth definition described in Table 1. These data can be collected at the stand-level through Common Stand Exams (USDA 2015). For the Gibson Insect and Disease Project, potential Old Growth areas are classified as a grand fir plant community.

Table 1. Minimum metrics for stand-level Old Growth classification, by forest plant association zone and site productivity from the Region 6 Interim Old Growth standards.

Forest plant association zones	Site Productivity	Live trees DBH*	TPA*	Main Canopy Tree Age*	Variation in Tree Diameter	Tree decadence (TPA)	Tree canopy layers	Standing dead trees (DBH"/TPA)	Down dead trees (DBH"/LPA ^b)
Grand/White fir	H (>100ft ³ /ac/yr)	21"	15	150	Yes	Yes	2	14"/1	12"/5

*Minimum stand attributes to be considered.

Step two: If stands are found to meet the minimum requirements in step one, further stand level data collection efforts may also include but are not limited to: walkthroughs, qualitative visual assessments for other attributes including tree decadence, structural stage, canopy layers, and stand history investigations. Identifying stand boundaries is a critical step in the process and must meet the narrative description for each forest type as well. Based on definitions for each type a determination can then be made.

Mapping Old Growth Forest Conditions in the Project Area

FS-1215a recognizes that although there is interest in a high-resolution spatial representation of Old Growth and mature forest conditions, that was not achievable as part of the rapid, national-scale inventory effort associated with EO 14072. The Pacific Northwest Region still lacks a readily available method to delineate mature and Old Growth forests at fine spatial scales with a high degree of accuracy over large areas. Per FS-1215a, forests managed under the Northwest Forest Plan in the Pacific Northwest Region can use OGSi 200 (Davis et al. 2022) to identify minimum thresholds for Old Growth status.

Application of the national inventory results (based on remote sensing and FIA data) at fine spatial extents must be refined by local investigation and clarification. Per FS-1215a, the remaining forests can use Old Growth of the Pacific Northwest Outside the Northwest Forest Plan as defined by FS-1215a, the new GNN-based ESS Old Growth product developed using the OG Inventory definitions for Old Growth. Use of the national inventory results is best seen as a coarse scale estimate.

Spatially identifying Old Growth forest in a stand management context will require additional investigation, assessment of data applicability at local scales, and adjustments to criteria/attributes of interest at local scales.

Methods to Consider for Mapping Old Growth Forest Conditions in the Project Area

- **Using OGSi 200 as the regional and national definition and inventory of Old Growth forest conditions on Westside forests.** This method is appropriate for assessing characteristics across large landscapes. Available maps help to visualize and understand the distribution of important characteristics: density of large live trees, density of large snags, coarse woody debris cover, and diameter diversity. Because of known discrepancies between the OGSi 200 layer and actual on-the-ground conditions, OGSi 200 alone at the project area scale may not suffice to delineate stands.
- **Old Growth of the Pacific Northwest Outside the Northwest Forest Plan as defined by FS-1215A in fulfillment of EO 14072 (Eastside Interim OG Definitions) map.** This is a GNN-derived map, similar to OGSi 200, that provides a geospatial representation of the Old Growth definitions as defined by FS-1215A. This map is most appropriate at broad scale, but can inform large project areas and is the regionally supported map for Eastside Old Growth forests. Similar to OGSi 200, this map has known discrepancies with on-the-ground conditions, so use of this method alone will not suffice to delineate stands.
- **Succession Classes (SClass).** The SClass layer is another geospatial representation of mature and Old Growth, and has been used to represent late successional areas on Eastside forests. This layer uses late seral open and late seral closed seral stages, which include but are not limited to Old Growth. Late seral is a broader category than Old Growth.
- **LiDAR- or DAP-derived tree approximate objects (TAOs).** Also known as tree maps, may be used to analyze individual tree heights and derive the density of large live trees. However, this data source represents dominant and co-dominant trees, and species composition must come from another data source such as potential natural vegetation zones. Diameters associated with TAOs are produced from height-diameter equations, which also introduce error. Lack of data on understory canopy layers, snags, and coarse woody debris remains a limitation.
- **Using stand age from the existing vegetation database to identify mature and Old Growth forest conditions.** Age estimates may be outdated and may vary considerably outside plantations.
- **Using the northern spotted owl cover type map as a predictor for mature and Old Growth forest.** Mature and Old Growth forests often provide suitable owl habitat, but the two are not synonymous. Suitable owl habitat may not be mature or Old Growth forest just as mature and Old Growth forest may not be suitable northern spotted owl habitat.
- **Using common stand exam or walk-through data collected in the field.**
- **Other.** Other strategies may be used if they are sufficiently robust and thoroughly documented.

METHODS USED FOR MAPPING OLD GROWTH FOREST CONDITIONS

Does the Climate Risk Viewer Show Old Growth Forest Conditions in the Project Area:
 Yes.
 The Old Growth firehatched layer from the Climate Risk Viewer is too coarse in scale to identify Old Growth forest conditions at the stand or project-level. Instead, the more spatially accurate R6 Old Growth Geospatial Reference and/or local information were used as described below.

Does R6 Old Growth Geospatial Reference Show Old Growth Forest Conditions in Project Area:
 Yes.
In Treatment Units:
 Yes.

Methods Used for Mapping Old Growth Forest Conditions:
 OGSi 200 or Old Growth of the Pacific Northwest Outside the Northwest Forest Plan maps as defined by FS-1215a was used as the starting point. The OGSi 200 model layer was used to determine if there were treatment units that had the potential of having Old Growth Structural characteristics. This modelling estimated that four proposed treatment units had Old Growth structure (Units 303, 306, 308, and 311). Further stand level data collection efforts occurred to validate if Old Growth structural conditions were present in the identified stands along with all the other proposed treatment units. Stand-level data were collected using Common Stand Exam protocol to assess stand attributes including tree decadence, structural stage, canopy layers, and stand history investigations.

Site-Specific Local Information Used to Determine Presence of Old Growth Forest Conditions:
 See tables below for stand-specific data collected compared to Hopkins 1993 Old Growth definition criteria. These stand data collected show that none of the four units meet the minimum attributes needed to meet Old Growth definitions for grand fir plant communities. Units 306, 308, and 311 do not meet any of the three criteria (minimum diameter, minimum number of large trees per acre, and minimum age). Therefore none of these units contain Old Growth. Unit 303 meets two of the three criteria, but does not meet the age criterion because the stand age is 129 which is below the requirement of 150. Therefore this unit does not contain Old Growth.

Review Required	Date Review Complete
Project Silviculturist Whitney Olsker	
Project Team Leader/Environmental Coordinator Ashley Popham	
Project Line Officer Kameron Sam	

Old Growth potential identified within the OGSi 200 Layer within Proposed Gibson Treatment Units.

Individual Stand Data Collected Fall 2023

Unit No.	Acres	Plant Association	BA (Ft^2/ac)	TPA	Avg Dominant Tree Age	TPA with DBH of ≥21"	TPA with DBH of ≥29.5"	QMD (in)	Canopy Cover	Snags/Acre (>10" DBH)	Snags/Acre (>14" DBH)	Snags/Acre (>19.7" DBH)
303	19	Grand Fir/vine maple/vanilla leaf	160	60	129	27	15	23.1	40	7	5	2
306	17	Grand Fir/vine maple/vanilla leaf	134	116	72	20	5	14.5	40	7	5	3
308	138	Grand Fir/Oregon Grape	125	500	86	15	2	6.7	50	12	6	3
311	388	Grand Fir/vine maple/vanilla leaf	160	330	90	19	3	9.3	60	8	5	2

Unit No.	Acres	Down wood Logs/Acre (>10" Mid point)	Down wood Logs/Acre (>12" Mid point)	Down wood Logs/Acre (>9.8" Mid point)	Treatment Notes (Draft)	Known Past Sale History
303	19	15	15	15		N/A
306	17	6	5	6		N/A
308	138	6	4	6	Southern Portion in B5 maintain cover	N/A
311	388	6	4	6		N/A

Hopkins 1993 Guide Minimum needs** For Both Identified Plant Association Definitions

Live Tree						Dead Trees			
Main Canopy			Variation in Tree Diameter	Tree Decadence	Tree Canopy Layer	Standing		Down	
DBH*	TPA*	Age*	Yes or No	TPA	Number	DBH	TPA	Diameter	Pieces
21"	15	150	Yes	Yes	2	14"	1	12"	5

*Required minimums

**For full stand description needed to meet Old Growth standards for these plant communities refer to the full written description for grand fir High productivity site.

Comparison/Validation of Stand Level Data to Required Old Growth Characteristics

Unit	Current Live TPA 21"+	Hopkins Required Live TPA 21"+	Current Live TPA 29.5"+	2023 Guide Required Live TPA 29.5"+	Is the Stand Meeting Requirements
303	27	15	15	4	Yes
306	20	15	5	4	No
308	15	15	2	4	No
311	19	15	3	4	No

Unit	Current Dominant Tree Age	Hopkins Required Live Age	Is the Stand Meeting Requirements?
303	129	150	No
306	72	150	No
308	86	150	No
311	90	150	No

Unit No.	Acres	Stand Structural Stage
303	19	Mature Stem Exclusion
306	17	Understory Reinitiation
308	138	Stem Exclusion
311	388	Stem Exclusion/ Understory Reinitiation