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February 2, 2024



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6 **Wild Heritage Comments on the Notice of Intent to Prepare an Environmental Impact**
7 **Statement for Land Management Plan Direction for Old-Growth Forest Conditions**
8 **Across the National Forest System^{1,2}**
9

10 Wild Heritage, a Project of the Earth Island Institute, is a science-based conservation
11 organization dedicated to protecting the Earth’s primary (unlogged) forests, including our
12 nation’s exceptionally important and imperiled mature and old-growth forests (herein
13 MOG). We appreciate the opportunity to submit these comments to the public record
14 regarding conservation options for MOG based on best available science as it pertains to the
15 relevant presidential executive orders (cited herein) and forest-climate policies (national
16 and international, cited herein).
17

18 And we applaud the decision by the Forest Service to establish a National Old-Growth
19 Monitoring Network (NOGMN). We request that you open that up to scientists that can
20 contribute to monitoring and evaluation procedures using the latest remote sensing
21 technologies and that you include mature in the network and not just old growth. The
22 NOGMN will need to be budgeted for ensuring that it has the necessary resources and
23 attention within USDA and is sustainable. Monitoring MOG nationwide should be based on
24 a network of permanent plots at long-term ecological sites (newly established plots and
25 paired up with the [LTER Network](#)) that collectively build on the Forest Inventory and
26 Assessment (FIA) distribution by increasing plot sampling and coverage as a means for
27 validating remote sensing monitoring. We request that you include in the old growth EIS a
28 specific budget and plan for creating and supporting the NOGMN collaboratively through
29 an inclusive and transparent process that assures the use of best available science from
30 independently published scientists as well. The NOGMN also needs to include levels of
31 protection and representation of MOG within protected areas using standard GAP analysis
32 procedures inherent in conservation biology approaches (e.g., how much (%) of MOG is

¹Submitted via <https://cara.fs2c.usda.gov/Public//CommentInput?Project=65356>.

² Given restrictions on the number and size of files via the Forest Service comment portal, we request that you include in the public record all the links to publications cited herein. In a related submission of our comments on the Northwest Forest Plan amendment, we received this email on January 25, 2024 regarding pdf links in comments: “*Schlichting, Dean - FS, OR: Good morning, I did get some additional guidance on this; links are fine as long as they are not to personal data servers. Public websites only.*” We note that the Forest Service technically cannot post pdfs on its comments server without violating copyright laws with the journals that own the rights to the publications and therefore we submit the links to the pdfs as the only means for supplying the necessary source materials given file size restrictions in your portal, copyright issues, and limitations of splitting our comments into separate submissions to clear the file size problem.

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33 within GAP 1 and 2 vs GAP 3 and 4, see [DellaSala et al. 2022a](#)) as well as rates of logging
34 and other land-use impacts within MOG in comparison to an historical baseline of when
35 MOG was abundant before European colonization and expansive development. That
36 baseline is essential for determining how long it will take to grow MOG back within a
37 network of conservation reserves to make the system more functional and restore ecosystem
38 integrity.

39
40 Throughout our comments, we underscore the main reason that MOG is at all-time lows in
41 distribution and abundance is because of historic and ongoing logging, and related
42 cumulative land-management stressors that have pushed them to the brink of systemic
43 collapse. We are concerned that the agency has lost sight of these causal mechanisms and is
44 instead overly focused on futile attempts to ameliorate large-scale natural disturbances like
45 wildfires and insects that are beyond management control. We provide evidence-based
46 science that MOG ecosystems are dynamic with built in adaptive features that confer
47 resistance (e.g., large, thick bark trees for fire resistance) and resilience (e.g., “seed-rains,”
48 epicormic branching, and sprouting following fire mortality) to natural disturbances that
49 clearly differ from areas where anthropogenic stressors amplify and accumulate
50 disturbances that exceed thresholds/tolerances (i.e., the main reason why hundreds of
51 species and ecosystem types are listed under the Endangered Species Act and/or the IUCN
52 Red List is logging and related actions, DellaSala et al. 2022a). Therefore, we request that
53 you recognize the hundreds of species listed in MOG due to land-use disturbances as in
54 DellaSala et al. 2022a.

55
56 While we acknowledge that climate change is amplifying natural disturbance effects in
57 MOG, the only control you have over any disturbance at meaningful scales is to **reduce**
58 **anthropogenic stressors from logging (e.g., clearcutting, selective removals, large-tree**
59 **thinning, shelterwood, biomass extraction for energy, post-disturbance logging,**
60 **“forest health” logging, “restoration” and “resilience” logging, logging for early seral**
61 **forests). Additional stressors that compromise and degrade ecosystem integrity under**
62 **your control include road building, mining, ORVs, livestock grazing, and invasive**
63 **species that accumulate across spatial and temporal gradients with the combined**
64 **effect of forest degradation and greatly diminished ecosystem integrity.** Clearly,
65 treating natural disturbances as the main “threat” to forests, while downplaying
66 anthropogenic stressors as the principal threat, whether historic or ongoing, runs counter to
67 developing conservation options rooted in principles of conservation biology and ecosystem
68 integrity.

69
70 The Forest Service has a unique responsibility to steward the nation’s MOG as the main
71 management agency of this biodiverse, carbon rich, natural climate solution that is
72 otherwise exceptionally rare on nonfederal lands (DellaSala et al. 2022a). We note that
73 based on an independent inventory of MOG, >50 million acres (76% of the total) of federal
74 MOG are vulnerable to logging, as they are not within formally protected areas (DellaSala
75 et al. 2022a). That is, the Forest Service has only protected 24% of its MOG, which is
76 below the minimum 30 x 30 target. A GAP status analysis would demonstrate that and

77 should be done using the agencies’ MOG dataset along with published MOG datasets (e.g.,
78 DellaSala et al. 2022a) and entered into the NOGMN as the current condition.

79
80 There is also concern that the agency has increased timber sales within MOG recently in
81 anticipation of potential restraints via this EIS process. This is why over 200 NGOs and 200
82 scientists (attached as an appendix) are requesting a moratorium on timber sales within
83 MOG on all the national forests, including the Tongass, to allow the development of
84 conservation options without further MOG losses. This request also includes removing the
85 Tongass exemption to MOG logging as the exemption is clearly inconsistent with the
86 transition underway. Both the exemplary transition of the Siuslaw National Forest in
87 Oregon, an early adopter of the Northwest Forest Plan, and the transition out of old-growth
88 logging underway on the Tongass, should be expanded to all national forests with sufficient
89 resources/assistance provided to help rural communities diversify.

91 **Link the Old Growth EIS to Executive Order 14008 (30 x 30) and International** 92 **Forest-Climate Policies and Pledges**

93
94 While the NOI cites Executive Order (EO) 14072 (“Strengthening the Nation’s forests,
95 communities, and local Economies”- i.e., the national MOG inventory for “conservation
96 purposes”), the NOI did not mention EO 14008 (“Tackling the Climate Crisis at Home and
97 Abroad” - i.e., 30 x 30). In EO 14008, the president specifically directed federal agencies to
98 begin setting-aside up to 30% of the nation’s lands and waters by 2030; thus, the EIS
99 should include such a conservation alternative. Additionally, there is no mention in the NOI
100 of US commitments to nationally determined contributions (NDCs) to the Paris Climate
101 Agreement via carbon sinks and reservoirs (Article 5), and the Glasgow Forest Pledge to
102 end deforestation and **forest degradation** by 2030 signed by the president. Managing MOG
103 as natural climate solutions by ceasing logging within them would be exemplary of the
104 Glasgow Forest Pledge and is consistent with the White House “[roadmap for nature-based](#)
105 [solutions.](#)” Additionally, the NOI appears to downplay the importance of mature forests that
106 need protection as well from logging to begin making the old-growth ecosystem whole
107 again.

108 109 **Develop a Conservation Alternative for MOG that Prohibits Logging and Related** 110 **Actions**

111
112 As requested by the scientists and NGOs (below), a recent moratorium requested by top
113 scientists in the [Conversation](#), and related science herein, we request a conservation
114 alternative for MOG with the following issues analyzed.

- 115
116 (1) Protect from **logging and related anthropogenic threats (as noted above) all remaining**
117 **mature and old-growth forests and large trees** on all Forest Service land designations to
118 better comply with EO 14008 (30 x 30), the Glasgow Forest Pledge, and the Paris Climate
119 Agreement Article 5. This alternative should include a GAP status analysis of MOG in
120 terms of what actually is protected using GAP status codes 1 and 2 to define protection (or
121 in this case “conservation”). The conservation alternative should include how best to

122 elevate the protection of MOG to contribute to the 30 x 30 targets (GAP 1 and 2 level).
123 Importantly, while Late-Successional Reserves (LSRs, Northwest Forest Plan) and
124 Inventoried Roadless Areas (IRAs) offer some protections, they do not qualify as GAP 1 or
125 2 (or IUCN protection equivalents) given that there are exemptions for some forms of
126 logging and mining within these designations. However, by prohibiting logging of live and
127 dead trees ≥ 80 years old, a MOG protection status may warrant GAP 2.5 designation such
128 as the case of inventoried roadless areas (DellaSala et al. 2022a, [DellaSala et al. 2023](#)). This
129 protection standard should carry through all plan revisions and all forest types be they in
130 wet or dry forests given their unique biodiversity, clean water (DellaSala et al. 2022a), and
131 superior carbon accumulation rates in large trees ([Birdsey et al. 2023](#)). Once properly
132 analyzed for GAP status 1 and 2, the Forest Service can look to ways to elevate GAP2.5 to
133 a higher protection status so it can be assessed relative to 30 x 30.

134 (2) Prioritize fire-risk reduction nearest homes (see [Cohen 2000](#), [Schoennagel et al. 2017](#),
135 [Calkin et al. 2023](#), [Law et al. 2023](#)) and in flammable young tree plantations (see [Bradley et](#)
136 [al. 2016](#), [Zald and Dunn 2018](#) for high flammability of plantations) where risks are highest.
137 MOG should be the lowest priority for mechanical treatment (“thinning”) as they serve as
138 irreplaceable climate and wildfire refugia (“resilience” and “resistance” to fires) (see
139 [Lesmeister et al. 2019](#), [Lesmeister 2021](#) for spotted owl habitat as fire refugia).

140 (3) The focus of treatments within dry MOG should be on prescribed and cultural burning
141 practices (not pile burning, which is damaging to soils and below-ground processes).
142 Removing large trees is not necessary prior to conducting burning, which can be introduced
143 under low fire weather to minimize escaped fires ([Knapp et al. 2005](#), [Knapp et al. 2006](#),
144 [Knapp et al. 2007](#) - only the abstract is available online given paywall restrictions - [van](#)
145 [Mantagem et al. 2011](#), [van Mantagem et al. 2016](#)).

146 (4) Increase natural wildland fire use for ecosystem benefits under safe conditions ([DellaSala et](#)
147 [al. 2022b](#), [Baker et al. 2023a](#)). Wildland fire use can accomplish substantially more and
148 faster fuel reduction with myriad ecosystem benefits and carbon storage largely intact
149 ([DellaSala et al. 2017](#), [Harmon et al. 2022](#)), as compared to expansive mechanical
150 treatments that accomplish little to alter fire behavior in severe fire weather and if scaled-up
151 would damage ecosystems and cause more emissions than the fires (e.g., see [Harris et al.](#)
152 [2016](#), [Law et al. 2018](#), DellaSala et al. 2022b).

153 (5) Close and obliterate roads to reduce unwanted ignitions in transportation planning for fire
154 risk reduction (see [Balch et al. 2017](#) for highest fire risks closest to populated areas).
155 Nationwide, more than 80% of wildfires are human-caused with greatest risks of unwanted
156 ignitions in areas with dense populations and high road densities (Balch et al. 2017). This
157 ignition factor is something you can control through effective transportation planning
158 involving road closures, road obliteration, closing the national forests during extreme fire
159 weather conditions, as for example, during heat domes and droughts. Thus far, the Forest
160 Service has focused on fuels and not human-caused ignitions, a much bigger problem you
161 can limit.

162 (6) Expand the restoration objectives of the Aquatic Conservation Strategy (ACS, watershed
163 analysis) under the Northwest Forest Plan to all national forests. This should include road
164 obliteration of failing and degrading roads, restrictions on logging out to at least two-
165 dominant tree heights within riparian areas; designate beavers as a keystone species of
166 conservation concern for water storage, flood abatement, riparian restoration; remove

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167 livestock near streams, springs, wetlands, and seeps; expand culvert repair and culvert
168 enlargement for flood abatement; and prohibit post-disturbance “salvage” logging. Logging
169 needs to be reduced at watershed scales - and not just riparian buffers. Mass wasting events,
170 fire intensities, and ambient temperatures all increase with logging and road building, and
171 this should be acknowledged³, along with livestock grazing, as the top threats to aquatic
172 systems with and without MOG.

173 (7) Analyze and reduce cumulative impacts from ineffective and damaging wildfire
174 suppression tactics ([DellaSala et al. 2022b](#)), mining, livestock grazing ([Beschta et al. 2012](#),
175 [Kauffman et al. 2022](#)), ORVs, biomass utilization, and energy development affecting MOG
176 regionally and nationally. The agencies’ “Introductory Report” on MOG threats downplays
177 these cumulative factors by instead focusing on severe natural disturbances you cannot
178 control.

179 (8) Reject any proposal to use the national forests as repositories for pumping carbon
180 underground that would create substantial infrastructure impacts.

181
182 Overall, we anticipate that this alternative would have far lower cumulative impacts than all
183 other alternatives that emphasize intensive “active management” that otherwise lead to
184 forest degradation (and damaged ecological integrity) ([DellaSala et al. 2022b](#)). In this
185 context, natural disturbances are not treated as a “threat” per se but rather are monitored as
186 part of the NOGMN while shifting approaches toward working with natural disturbances
187 like wildfires for ecosystem benefits. Any thinning in MOG should prohibit logging of
188 economically valued trees as this incentivizes forest degradation. Instead, large trees could
189 have lower branches pruned or trees killed and left on site - or tipped into streams - to
190 promote structural development (see below).

191
192 For all alternatives, we request that the Forest Service take a “**hard look**” at direct, indirect,
193 and cumulative impacts of anthropogenic disturbances (threats), including within the
194 surroundings where logging is much greater for contextual purposes. The agencies’ threat
195 assessment is inadequate and not based on best available science for the reasons noted.
196

³PNW old-growth forests maintain water balance in forested watersheds. [Jjang et al. 2019](#). Also see [Perry and Jones 2016](#). Analysis of 60-year records of daily streamflow from eight paired-basin experiments in the Pacific Northwest (Oregon) revealed conversion of old-growth to Douglas-fir plantations had a major effect on summer streamflow (abstract only due to paywall restriction). Average daily streamflow in summer (July through September) in basins with 34- to 43-year-old plantations of Douglas-fir was 50% lower than streamflow from reference basins with 150- to 500-year-old forests. Young Douglas-fir, which have higher sapwood area, higher sapflow per unit of sapwood area, higher concentration of leaf area in the upper canopy, and less ability to limit transpiration, appear to have higher rates of evapotranspiration than old trees of conifer species, especially during dry summers. Reduced summer streamflow in headwater basins with forest plantations may limit aquatic habitat and exacerbate stream warming, and it may also alter water yield and timing in much larger basins. (abstract only due to paywall). Also see [Frissell in Williams et al. 1997](#). In general, uncut watersheds with older forests are more functional and with higher levels of biodiversity (paywall restricted). Also see [Ham 1982](#). Net precipitation under old growth Douglas-fir in the Bull Run Municipal Watershed (Portland, Oregon) totaled 1739 mm during a 4-week period, 387 mm more than in adjacent clearcut areas. Expressing data on a full water year basis and adjusting gross precipitation for losses due to rainfall interception suggest fog drip could have added 882 mm (35 in) of water to total precipitation during a year when precipitation measured 2160 mm in a rain gage in a nearby clearing. Standard rain gages installed in open areas where fog is common may be collecting up to 30 percent less precipitation than would be collected in the forest. Long term forest management (Le., timber harvest) in the watershed could reduce annual water yield and, more importantly, summer stream flow by reducing fog drip (paywall restricted).

197 **Provide Greater Transparency on the MOG Inventory**

198
199 We are generally supportive of your MOG inventory of 200 regional vegetation types. This
200 is a good first step toward establishing a current timeline of existing conditions for the
201 NOGMN. It should also include potential or historic MOG distribution as a baseline and
202 means for tracking progress or departures in restoring ecosystem integrity nationally and
203 regionally on federal lands. A proper baseline would include estimating potential MOG
204 from back-casting techniques (e.g., historical accounts, potential vegetation and disturbance
205 dynamics) to compare with current and potential future conditions with and without MOG
206 protections (run simulations on MOG conservation status by 2030 to determine current
207 protection levels and what’s needed by 2030 to comply with EO 14008).

208
209 Importantly, the agency inventoried 24.7M acres of “old-growth forest conditions” and
210 68.1M acres of “mature forest conditions,” representing 17 and 47 percent, respectively, of
211 144.3M acres. In contrast, DellaSala et al. (2022a) report 53.8M acres of combined MOG
212 on national forests. The DellaSala inventory was based on LiDAR mapping of the relative
213 structural scorings derived from three proxies related to canopy height, canopy density, and
214 biomass at 30-m resolution. Importantly, their remote sensing MOG estimates included
215 validation of remote sensing mapping by using overlapping FIA plot data. It is unclear why
216 the agencies’ combined MOG estimate (92.8M ac) is nearly twice that of DellaSala et al.
217 (2022a) and whether it included any validation of MOG structure classes. Thus, we request
218 that you provide the specific mapping methods and MOG thresholds and contrast that with
219 independent methods to determine levels of uncertainty and ensure that the agencies’
220 inventory is on par with rigorously established MOG inventory procedures that have gone
221 through peer-review. The metadata and datasets (including raster files) should be
222 immediately entered into a NOGMN database for open access to all published (peer-
223 reviewed) inventory approaches.

224
225 **The Threat Analysis Needs to Clearly Separate Out Natural Disturbances (i.e., “pulse**
226 **disturbances”) from Cumulative Land-Use Stressors (i.e., “press disturbances”) as**
227 **Distinctly Different Effects on Ecosystem Integrity**

228
229 We note that the NOI definition of a “threat” and the agencies’ “Introductory Report” are
230 far too simplistic as follows: “In the analysis, the term “threat” indicated a change in forest
231 structure resulting in a reclassification of the forest condition but not necessarily a loss of
232 ecological function and integrity.”

233
234 This definition lumps all disturbances together so long as they result in a reclassification of
235 forest condition. It is not based on best available science as noted herein.

236
237 Most importantly, logging nearly eliminated all (99%) of the MOG in the eastern US (north
238 to south) during the late 1800s-1900s, sweeping westward as timber supply in MOG areas
239 was exhausted. Logging accelerated in the Pacific NW (PNW) and across the West in
240 response to the post World War II housing boom and other factors, eliminating nearly all
241 MOG on nonfederal lands and in some regions (PNW) wiping out all but 20% of the MOG

242 on federal lands ([Strittholt and DellaSala 2006](#)). In the 1950s, logging picked up on the
243 Tongass rainforest in response to two 50-year pulp contracts that began targeting the most
244 productive, highest volume old growth stands where the biggest trees were selectively
245 removed ([Albert and Schoen 2013](#), [DellaSala et al. 2022c](#)). In the eastern Oregon and
246 Washington Cascades and Blue Mountains, most of the largest trees were high graded
247 during the 1960s ([Henjum et al. 1993](#)), necessitating the “eastside screens” in 1994 to
248 protect trees >21 inches dbh. In a rush to judgement (without a proper EIS), the screens
249 were removed in the final days of the Trump administration that redefined large trees as
250 >150 years old, up to which could be logged, even though large trees (>21 in dbh) of all
251 species remain at historic lows and are critically important for wildlife and as carbon
252 repositories (Mildrexler et al. [2020](#), [2023](#)). These protections need to be restored in the OG
253 amendment process.

254
255 Historic logging (and ongoing albeit at lower levels) is therefore the **main** threat and reason
256 for why MOG were nearly liquidated nationally (DellaSala et al. 2022a) and the threat
257 analysis needs to reflect this more than natural disturbances. In particular, even though rates
258 of MOG logging have dropped recently, the legacy effect of logging remains a major threat
259 to MOG ecosystems still responding to widespread losses. MOG remains largely in 8
260 regions in the conterminous US (see DellaSala et al. 2022a). The federal MOG distribution
261 within these regions is especially important as climate refugia ([Lesmeister et al. 2019](#),
262 [2021](#)) and carbon sinks ([DellaSala et al. 2015b](#)). We request that you acknowledge your
263 unique role in protecting and stewarding what’s left of the nation’s most biodiverse, carbon
264 dense MOG and how widespread forest degradation is a consequence of decades of logging
265 and road building even if those rates have slowed on federal lands. Every acre of MOG is
266 now irreplaceably important to the resilience and recovery of the entire ecosystem (i.e.,
267 **context and importance of the federal lands are magnified by high rates of logging in**
268 **the surroundings**).

269
270 There are clear differences in “forest reclassification” due to natural disturbances vs.
271 logging-related disturbances and this too needs to be properly acknowledged. Wildfire
272 dynamics and epizootics are part of the natural ecosystem processes that forests are
273 uniquely adapted to even as structure and reclassification changes in severe events. Severe
274 natural disturbances produce a critical pulse of biological legacies associated with high
275 levels of biodiversity and intact carbon stores within the ensuing underappreciated complex
276 early seral forests that are as diverse as old growth ([Swanson et al. 2011](#), [DellaSala et al.](#)
277 [2014](#), DellaSala et al. 2017). Natural disturbances in these forests jump start the trajectory
278 from pioneering stages toward MOG over decades via interconnected seral stages ([Donato](#)
279 [et al. 2012](#)). The Forest Service has not unequivocally established that natural disturbances
280 are currently or soon to be overriding recovery objectives of MOG as in fact the
281 Introduction Report indicates the opposite:

282
283 Figure on p. 2 of the Introduction Report shows fire, insects, disease together account for
284 2.8% OG loss, but losses are offset by a 3.8% gain OG, net +1%. Notably, the report states,
285 "despite the threats highlighted in this analysis, the RPA assessment predicted an increasing

286 trend in the amount of mature and old-growth forests on NFS and BLM lands until at least
 287 mid-century.

288
 289 We present published evidence that wildfire and beetle-drought severities are not increasing
 290 beyond historic bounds (Baker et al. 2023a,b), and thus we request that the Forest Service
 291 conduct a statistically robust analysis of MOG recruitment vs loss, including confidence
 292 intervals around any observed trends (these data should be made available to the public in a
 293 data portal complete with raster files for GIS analysis). To do otherwise, is not statistically
 294 valid nor best available science. Visual graphs of disturbance acreages by type are not
 295 validation in themselves nor should unrelated disturbances (anthropogenic vs. natural) be
 296 grouped on the same graph given clear differences.

297
 298 This Table from [DellaSala et al. \(2014\)](#) show that there are marked differences in forest
 299 conditions between logged areas (chronic disturbance) vs natural disturbances (press
 300 disturbances) that function as pulse disturbances important in the maintenance of ecological
 301 integrity.

Table 1. Differences between early seral systems produced by natural disturbance processes vs. logging. For natural disturbances, assume that a disturbance originates from within a late-successional forest as legacies are maintained throughout succession. For logged sites, assume site preparation includes conifer plantings but no herbicides, which, if also applied, would magnify noted differences.

Attribute	Regeneration Harvest or Postfire Logged	Natural Disturbance
Large trees	rare	abundant and widely distributed
Large snags/downed logs	rare	abundant and widely distributed
Understory	dense conifer plantings followed by sparse vegetation as conifer crowns close (usually within 15-20 years depending on site productivity)	varied and rich flora
Species composition	few species mostly commercially stocked, deer initially abundant then excluded as conifer crowns close	varied and rich flora, rich invertebrates and birds, abundant deer
Structural complexity	simplified	highly complex; many biological legacies
Soils and below-ground processes	compacted and reduced mycorrhizae	complex and functional below ground mats
Genetic diversity	low due to emphasis on commercial species and nursery genomes	complex and varied
Ecosystem processes (predation, pollination)	moderate initially then sparse as conifer crowns close; limited food web dynamics	rich pollinators and complex food web dynamics
Susceptibility to invasives	moderate to high depending on site preparation, soil disturbances, livestock, road densities (see McGinnis et al. 2010)	low due to resistance by diverse and abundant native species and low soil disturbances
Disturbance frequency	commercial rotations (40-100 years or so)	varied and complex
Landscape heterogeneity	low	high; shifting mosaics and disturbance dynamics
Resilience/resistance to climate change	low due to nursery stock genomes but conifer plantings can be adjusted for locally anticipated climate envelopes	varied and complex genomes allow for resilience and resistance to climate change

302
 303
 304 In sum, you should not place natural disturbances on the same graphs as human disturbances
 305 or treat natural disturbances similar to logging, road building, and related “active
 306 management” practices in terms of impacts to carbon storage, carbon sequestration, carbon
 307 flux (especially gross emissions from logging) wildlife habitat, water quality, and ecosystem
 308 processes. The pulse of biological legacies (particularly large live and dead trees, below-

309 ground processes, seed banks, mycorrhizae) are uniquely created or maintained by wildfires
310 and epizootics but removed by logging. Severe natural disturbances produce complex early
311 seral forests (Swanson et al. 2011, DellaSala et al. 2014) that are as biodiverse as MOG and
312 are interconnected from pioneering to old growth stage and back again. Logging breaks this
313 cycle (DellaSala et al. 2014, [DellaSala et al. 2022c](#)), leading to compounded disturbances and
314 widespread forest degradation ([Paine 1998](#), abstract only). The long-term persistence of
315 MOG depends mainly on the only disturbance factor you can control - logging and related
316 practices. The Forest Service’s Wildfire Crisis Strategy and threat assessment does not make
317 that proper distinction, blames natural disturbances mainly for MOG losses, and fails to
318 properly analyze cumulative impacts of its actions from widespread attempts to suppress,
319 contain, and minimize natural disturbances that are far beyond control, leading to type
320 conversions in places (forests to weed infested savannahs, collateral ecosystem damages, and
321 climate harmful actions (DellaSala et al. 2022c).

322
323 We note that while the NOI states, “current management practices may benefit from
324 consistent direction to vulnerabilities and increase resilience to stressors,” this consistent
325 direction should start **with a moratorium on MOG logging** as requested below in letters to
326 the president from scientists and NGOs to allow development of conservation alternatives in
327 good faith. It should include placing all remaining MOG within a protective reserve network
328 for the myriad ecosystem benefits, including long-term carbon storage, wildlife habitat,
329 drinking water, and recreation, to name a few. Focusing on maintaining carbon stocks
330 through the only meaningful scalable action you can take - cessation of logging of large trees
331 and MOG on federal lands - would provide consistent direction across the national forest
332 systems by recognizing the unique values of MOG from the eastern hardwoods and long-leaf
333 wiregrass forests to the Great Lakes beach-maple and pine forest, to the old pines of the
334 Rockies and southwest, to the massive coast redwoods and giant sequoia, to the towering
335 Douglas-fir/spruce/hemlock forests of the Pacific Northwest, large pines and other conifers
336 of the inland forests, and carbon-dense coastal rainforests from the Pacific NW to Alaska.
337 Such a conservation alternative that set-asides MOG from logging and related activities
338 would provide the consistency you seek. It needs to follow on the success of the National
339 Roadless Conservation Rule that provided consistent direction for inventoried roadless areas
340 across the national forest system.

341
342 **Carbon Stored in Mature Forests and Not Just Old-Growth Needs to be A Central**
343 **Focus**

344
345 The Forest Service must recognize the importance of mature forests in long-term storage and
346 maintenance of carbon stocks as well as old growth. Proforestation, the practice of allowing
347 forests to mature to reach their true carbon potential ([Moomaw et al. 2019](#)), needs to be
348 emphasized in a conservation alternative for MOG, as exemplified by the successful
349 Northwest Forest Plan (NWFP).

350
351 Reduction in logging levels that started in the 1990s under the Northwest Forest Plan
352 (NWFP) shifted the region from a source of carbon emissions to a sink for long-term carbon
353 capture and **storage** ([Krankina et al. 2012](#), [Law et al. 2018](#)). This unanticipated benefit of the

354 plan should be recognized in revision. Cessation of logging has been repeatedly
355 demonstrated to have benefits not only to biodiversity but to carbon accrual and storage in
356 large trees (e.g., Krankina et al. 2012, Law et al. 2018, Moomaw et al. 2019, [Nagel et al.](#)
357 [2023](#)). One such benefit is federal MOG is now considered among the most carbon dense
358 (carbon stocks per acre) ecosystems on the planet ([Smithwick et al. 2002](#), [Keith et al. 2009](#),
359 [Krankina et al. 2014](#), [Brandt et al. 2014](#), [Law et al. 2021](#)). The OG amendment therefore
360 needs to include regional contributions of MOG to climate mitigation involving carbon
361 capture and long-term stores (i.e., natural climate solutions). This includes how MOG
362 protection can match up with US commitments to nationally determined contributions
363 (NDCs) to the Paris Climate Agreement via carbon sinks and reservoirs (Article 5), the
364 Glasgow Forest Pledge to end forest degradation, and the 30 x 30 presidential directive as
365 noted.

366
367 By a natural climate solution, we mean the protection from logging of carbon stored within
368 MOG (large trees - live and dead - soils, etc) and by allowing mature forests to develop old
369 growth characteristics over time via “proforestation” (Moomaw et al. 2019). What matters
370 most in a climate emergency, is keeping additional carbon from logging out of the
371 atmosphere ([Mackey et al. 2013](#)) rather than storing a small amount in short-lived (relative to
372 MOG) wood product pools ([Keith et al. 2015](#), [Harmon 2019](#), [Hudiburg et al. 2019](#)).
373 Protection is the most effective natural climate solution and best climate smart forestry
374 option (Moomaw et. 2019, [Mackey et al. 2015](#), [Mackey et al. 2022](#)).

375
376 This particular statement by the IPCC scientist Dr. Brendan Mackey et al (2022) points to the
377 flaws in net carbon accounting methods often used by the forestry industry given that what
378 matters most is not net carbon but keeping additional emissions out of the atmosphere by
379 protecting existing carbon stocks (sinks and reservoirs):

380
381 “All CO₂ emissions from, and atmospheric removals into, forest ecosystem carbon stocks now matter and
382 should be counted and credited to achieve the deep and rapid cuts in emissions needed over the coming decades.
383 Accounting and reporting systems therefore need to show gains and losses of carbon stocks in each reservoir.
384 Changing forest management in naturally regenerating forests to avoid emissions from harvesting and enabling
385 forest regrowth is an effective mitigation strategy that can rapidly reduce anthropogenic emissions from the
386 forest sector and simultaneously increase removals of CO₂ from the atmosphere.”

387
388 We repeat our concern here that net carbon flux is the wrong indicator of the carbon
389 importance of forests because it ignores the need to keep gross emissions from logging out of
390 the atmosphere. Instead, the agency should allow mature forests and large trees to age for
391 carbon uptake and long-term carbon **storage to reach their ecological potential**. Forests
392 take at least a decade to restart carbon capture at meaningful scales after logging, and very
393 little carbon is stored in short-lived wood product pools with over 80% of a logged forests’
394 carbon winding up in the atmosphere at some point. Thus, no form of logging or tree planting
395 can be considered “climate smart” or compensatory for the carbon debt created by logging,
396 especially in a global climate emergency (Keith et al. 2009, Mackey et al. 2014, Moomaw et
397 al. 2019, [Harmon 2019](#), Mildrexler et al. 2020, 2023, Mackey et al. 2022, [Ripple et al. 2022](#),

398 DellaSala et al. 2022a, [DellaSala et al. 2023](#), [Birdsey et al. 2023](#)). That distinction is further
399 illustrated as follows and needs to be included in the EIS.

400
401 The severity of forest degradation and the extent of the carbon debt from logging depends on
402 what logging methods are used, how much forest biomass is removed (timber volume
403 removed converts to emissions), and where removals occur (MOG vs plantations, see Law et
404 al. 2018, [Law et al. 2021](#), [Moomaw and Law 2023](#), Birdsey et al. 2023, DellaSala et al. 2023,
405 [Peng et al. 2023](#)). The greatest carbon losses take place when most of the forest biomass is
406 removed (clearcuts, postfire salvage) and especially the removal of large, carbon-rich trees
407 within MOG forests (e.g., > 21 inches dbh, Mildrexler et al. 2020, 2023). Those losses are
408 not “temporary” as the carbon debt created by logging can last for centuries, a luxury of time
409 we no longer have in the climate emergency ([Hudiburg et al. 2019](#), [Moomaw and Law 2023](#)).
410 In sum, the carbon costs of wood harvest have been grossly underestimated, including wood
411 substitution that is overvalued (Harmon 2019).

412
413 Removing large trees for any perceived reduction in fire risks is also unrealistic as it would
414 require massive amounts of thinning to get to scale. This is because of the extremely low
415 chance of a site encountering a fire when flammable vegetation is reduced, high levels of
416 treatment uncertainty due to the climate signal overwhelming on-the-ground efforts,
417 expansive co-lateral damages from thinning (DellaSala et al. 2022b), and significant
418 emissions from logging that can exceed those from all natural disturbances combined ([Harris
419 et al. 2016](#), [Law et al. 2018](#), DellaSala et al. 2022a, Moomaw and Law 2023). Carbon losses
420 also occur whenever commercial thinning is involved and not just clearcut logging (Law et
421 al. 2018, Mildrexler et al. 2020, 2022, [Bartowitz et al. 2022](#)). The Bartowitz et al. citation in
422 this call-out box is exemplary of the thinning problem noted and needs to be considered in
423 any EIS alternative for significant limitations and expansive co-lateral damages.

424
425 “While prescribed fire has been shown to decrease fire risk ([Kolden, 2019](#)) and increase carbon storage
426 ([Wiedinmyer and Hurteau, 2010](#)), removal of biomass through large-diameter tree thinning or logging produces
427 mixed outcomes for fire risk mitigation and forest resilience ([Sohn et al., 2016](#)) and reduces forest carbon
428 storage and sequestration for decades to centuries ([Campbell et al., 2012](#); [Bartowitz et al., 2019](#); [Stenzel et al.,
429 2021](#)). The misconception that trees need to be saved from wildfire through harvest ([Zinke, 2018](#); [Infrastructure
430 Investment and Jobs Act, 2021](#); [Table 2](#)) may lead to unintended consequences through increased logging.
431 These consequences include increased fire risk, a decreased forest carbon sink, decreased forest resiliency, and
432 loss of the forest as a natural climate solution ([Hudiburg et al., 2013](#); [Law et al., 2018](#); [Zald and Dunn,
433 2018](#); [Stephens et al., 2020](#)).

434
435 Notably, logging contributes to the dangerous feedback with extreme fire weather (see
436 below). Any assumptions about temporary carbon losses from “active management” that
437 offset natural disturbances would require detailed carbon life cycle analysis and independent
438 verification (see Law et al. 2018, Harmon 2019, Hudiburg et al. 2019). We request that a life
439 cycle analysis of carbon leaving the forest from logging in the EIS be conducted and verified
440 independently (e.g., published in the peer-reviewed literature).

441
442 Additionally, we request that carbon storage in MOG becomes **a central focus** of the EIS
443 along with the co-functionality benefits that come from protecting MOG with high carbon

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444 stores (i.e., biodiversity, clean drinking water, recreation; [Brandt et al. 2014](#), Law et al.
445 2021).

446

447 **Exceptions within the Wildland-Urban Interface (WUI) and Alaska’s Tongass are**
448 **Outdated, Completely Ineffective, and Should be Dropped**

449

450 We note that this statement in the NOI is outdated and not based on best available science:

451

452 “Exceptions to this standard may be allowed if the responsible official determines that
453 actions are necessary: to reduce fuel hazards on National Forest System land within the
454 wildland-urban interface to protect a community or infrastructure from wildfire....”

455

456 Notably, under the “Healthy Forest Restoration Act,” the WUI can extend out to 1.5 miles
457 from the nearest structure in “at-risk” communities, which in some cases can include nearly
458 an entire county! Human-caused ignitions that spill over into urban areas; however, are
459 mostly coming from private lands where logging is most intense and roads are extensive
460 (human-caused ignition risk is highest) and not from federal lands ([Downing et al. 2022](#)).
461 Notably, the most effective wildfire risk reduction measures for communities is to work from
462 the home-out and not the wildlands-in. Home-out fire risk reduction is within 50-100 feet of
463 the structure itself ([Cohen 2000](#)). This is why many scientists are calling for a new
464 relationship with wildfire management by working with wildfire for ecosystem benefits and
465 focusing surgically on fire risk reduction with home-out treatments ([Schoennagel et al. 2017](#),
466 [Calkin et al. 2023](#), [Law et al. 2023](#)). Thus, the Forest Service should tighten up WUI
467 management to mean home-out and a very narrow zone around ingress and egress roads to
468 limit damages to urban areas and allow for escape routes. Treating beyond the home-ignition
469 zone is completely ineffective in reducing fire losses to homes as stated by the agencies’ own
470 researchers (Calkin and Cohen).

471

472 We underscore here tht many of the largest fires were human caused (Balch et al. 2017) as
473 exemplified by the Dixie Fire in California ([https://www.yahoo.com/news/california-college-
474 professor-pleads-guilty-194850298.html?guccounter=1](https://www.yahoo.com/news/california-college-professor-pleads-guilty-194850298.html?guccounter=1)).

475

476 Additionally, backburning to reduce fire intensity in fire operations sometimes can contribute
477 to fire spread rates and high severity burns when escaped burning happens in red-flag
478 conditions. This is almost never reported in fire incident reports and is no doubt contributing
479 to recent upticks in wildfires blamed instead on natural factors. Closing roads and access
480 during extreme fire weather is the only way to limit this and is directly in your ability to limit
481 unwanted ignitions. More comprehensive fire incident reports are also need to track
482 backburning influences in fire perimeter and severity determinations.

483

484 We note that the Tongass OG exemption is especially controversial and inconsistent with
485 efforts to transition the Tongass out of old growth logging: “Exceptions to standards 2 and 3
486 may be granted by the Regional Forester in Alaska if necessary to allow for implementation
487 of the Southeast Alaska Sustainability Strategy and the rationale must be included in a
488 decision document.” There is no need for this exemption as there is ample second growth to

489 meet the Tongass timber targets with no further old growth logging. The Forest Service
490 should instead concentrate its resources on the transition by further assisting rural
491 communities and the timber industry (small mills) in making the needed wood processing
492 changes to young logs coupled with value-added manufacturing instead of shipping logs and
493 jobs overseas. Notably, the timber industry on the Tongass is a mere 100 or so jobs that can
494 better be served in less destructive ways by shifting to value-added manufacturing of young
495 trees with a redirection of Forest Service subsidized logging to the second growth transition.
496 The Tongass continues to be a money losing national forest with the industry floated on
497 subsidized old growth logging that is destructive to the ecosystem and irresponsible to
498 communities that eventually will run out of supply due to overcutting (which is what has
499 happened historically, nationally). That subsidy should be redirected to the transition.

500

501 **Conclusions**

502

503 The NOI does not go far enough in meeting the president’s executive orders (especially 30 x
504 30), the Glasgow Forest Pledge (end forest degradation), the Paris Climate Agreement
505 (Article 5 on carbon sinks and reservoirs), and the White House roadmap on nature-based
506 solutions. Importantly, there are no clear standards for the inclusion of mature forests that
507 need to receive the same protections as old growth to begin restoring the integrity of MOG
508 ecosystems and their myriad benefits. We have requested the following as a conservation
509 alternative for analysis summarized in closing:

510

- 511 (1) Fully fund the national old growth monitoring network (and include mature forests)
512 and make the network monitoring transparent and inclusive of independent
513 researchers to increase plot and remote sampling capacity. This should be a
514 cooperative process that also determines an appropriate historical baseline to track
515 progress toward making MOG whole again with clear targets for MOG protection via
516 a GAP analysis and contributions toward 30 x 30 targets.
- 517 (2) Remove from the timber base all MOG on all land-use designations.
- 518 (3) In dry forests, focus treatments in MOG on prescribed and cultural burning where
519 appropriate. Tree tipping (streams), snag creation, and lower branch pruning may be
520 warranted to create structure in places.
- 521 (4) Prioritize retention of carbon stores - and not just sequestration - by protecting all
522 large trees (e.g., >21 inches, Mildrexler et al. 2020, 2023). Birdsey et al. (2023)
523 provide large tree carbon accrual rates for several national forests using other
524 diameter examples of large trees having the highest carbon accumulation rates.
- 525 (5) Establish a network of MOG conservation areas (e.g., carbon reserves, Law et al.
526 2020, 2021) that is inclusive of threatened species and rare forest communities,
527 drinking water source areas, and carbon dense forests (see DellaSala et al. 2022a).
- 528 (6) Eliminate the exemptions for the Tongass and fuel treatments involving removal of
529 economically valued trees within the WUI that are ineffective and outdated.
- 530 (7) Redirect timber subsidizes to enable nationwide transition out of MOG logging as in
531 the example of the Siuslaw early adopter of the Northwest Forest Plan and the
532 Tongass transition underway. This needs to expand to all national forests.

- 533 (8) Expand the Northwest Forest Plan Aquatic Conservation Strategy to the national
534 forest system.
- 535 (9) Close and obliterate roads and close the national forests during extreme fire weather
536 to limit human-caused ignitions.
- 537 10 Manage MOG to reduce cumulative human-caused disturbances - livestock grazing,
538 roads, invasives, all forms of logging, mining, ORVs, biomass extraction to name a
539 few.

540

541 The Forest Service has a unique opportunity to move its logging program out of controversial
542 MOG whether those forests are wet or dry, and prohibit post-disturbance logging whenever
543 MOG succumbs to natural disturbances. The agency needs to respond to the presidential
544 directives (EO 14072 and 14008) together, the US commitment to the Glasgow Forest Pledge
545 (ending forest degradation in this case), the Paris Climate Agreement (Article 5, sinks and
546 reservoirs), and the White House roadmap to nature-based solutions. In the interim, the
547 Forest Service needs to cease and desist all logging within MOG and large trees generally in
548 good faith to allow the EIS to develop conservation options as proposed herein with strong
549 protections for MOG and no further MOG logging losses.

550
551

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February 2, 2024

President Joe Biden
The White House
1600 Pennsylvania Avenue, N.W.
Washington, DC 20500

Cc: Ali Zaidi, National Climate Advisor, The White House; Stephenne Harding, Council on Environmental Quality; Thomas J. Vilsack, Secretary of Agriculture; Deb Haaland, Secretary of Interior

Re: Request for an Executive Order to Place a Moratorium on Logging Mature and Old-Growth Forests, and Large Trees Generally, on National Forests and Bureau of Land Management (BLM) Lands While the Old Growth EIS Proceeds

Dear President Biden:

We are scientists with backgrounds in forest ecosystems, climate change, and natural resources writing in response to the December 20, 2023 Notice of Intent for a National Old Growth Amendment in the Federal Register (Federal Register, Vol. 88. No. 243). We applaud your Executive Order 14008 directing federal agencies to protect 30% of the nation’s lands and waters by 2030, and Executive Order 14072 directing the national inventory of mature and old-growth forests for conservation purposes, most of which are on National Forests and BLM lands. Because of the global loss of mature and old-growth forests, and large trees generally,¹ and their importance in mitigating the climate and biodiversity crisis on federal lands², we fully support calls by fellow scientists for a moratorium³ on logging in these critically important forests. Therefore, we request that you now direct the Forest Service and BLM to suspend all timber sales in mature and old-growth forests, and refrain from proposing new timber sales in these forests, while the federal agencies develop their Environmental Impact Statements that best comply with Executive Order 14072 in securing a national network of conservation areas.

We are concerned that the Administration’s proposed old-growth Amendment “does not alter or prescribe any substantive standards for the management of old growth forests” that in the meantime remain vulnerable to [dozens of timber sales](#) nationally and efforts by the Forest Service to increase logging of these forests before any substantive conservation takes hold. We are also concerned that the proposed Amendment excludes mature forests, and includes a

¹Lindenmayer, D. et al. 2012. Global decline in large trees. *Science* 338 (6112):1305-6
https://www.researchgate.net/publication/233887120_Global_Decline_in_Large_Old_Trees

²DellaSala, D.A. et al. 2022. Mature and old-growth forests contribute to large-scale conservation targets in the conterminous United States. *Frontiers in Forests and Global Change* <https://www.frontiersin.org/articles/10.3389/ffgc.2022.979528/full>.
DellaSala et al. 2022. The Tongass National Forest, Southeast Alaska, USA: a natural climate solution of global significance. *Land* 2022, 11(5), 717; <https://doi.org/10.3390/land11050717>. Law et al. 2023. Southern Alaska’s forest landscape integrity, habitat, and carbon are critical for meeting climate and conservation goals. *AGU Advances* <https://doi.org/10.1029/2023AV000965>

³Makarieva et al. 2023. Re-appraisal of the global climatic role of natural forests for improved climate projections and policies. *Frontiers in Forests and Global Change* (<https://www.frontiersin.org/articles/10.3389/ffgc.2023.1150191/full>). Law et al. 2024. Old forests are critically important for slowing climate change and merit immediate protection from logging <https://theconversation.com/old-forests-are-critically-important-for-slowing-climate-change-and-merit-immediate-protection-from-logging-220771>)

loophole that would allow logging of old-growth forests under certain conditions. Additionally, based on an independent inventory of mature and old-growth forests in the conterminous United States, and the Tongass rainforest in Alaska, more than 50 million acres of mature and old-growth forests^{2,4} are vulnerable to logging. In particular, the Amendment exempts the Tongass, the nation's highest concentration of old-growth forests and forest carbon⁴, from further analysis, which is inconsistent with your efforts to transition this forest out of old-growth logging.

The [Glasgow Leaders' Declaration on Forests and Land Use](#) was signed by 141 countries, including the United States, at the COP26. The declaration pledges to end global deforestation and **forest degradation** by 2030 (emphasis added). Additionally, the United States is committed to the [Paris Climate Agreement](#) that “encourages Parties to conserve and enhance, as appropriate, sinks and reservoirs of GHGs that are referred to in Article 4, paragraph 1(d) of the Convention, **including forests**” (emphasis added). Following through on these commitments in practice is crucial for climate change mitigation⁵.

Logging and associated road building in mature and old-growth forests and the removal of large trees on federal lands is the main form of **forest degradation** and is therefore inconsistent with your global commitments and relevant executive orders. We ask that you lead by example in signaling to the world that the United States takes its commitment seriously in halting the global biodiversity and climate crises by now directing federal agencies to enact the strongest protections for the nation's mature and old-growth forests and large trees as natural climate solutions and a flagship initiative of your [roadmap for nature-based solutions](#). Doing so would be a legacy gift of your Administration to the nation and the planet.

Sincerely,

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⁴ DellaSala, D.A. et al. 2022. The Tongass National Forest, Southeast Alaska, USA: a natural climate solution of global significance. Land <https://www.mdpi.com/2073-445X/11/5/717>. Law, B. E., et al 2023. Southern Alaska's forest landscape integrity, habitat, and carbon are critical for meeting climate and conservation goals. AGU Advances, 4, e2023AV000965. <https://doi.org/10.1029/2023AV000965>

⁵Gasser et al. 2022. How the Glasgow Declaration on forests can help keep alive the 1.5C target. PNAS <https://www.pnas.org/doi/10.1073/pnas.2200519119#:~:text=At%20last%20year's%2026th%20UN,the%20Paris%20agreement%20within%20reach>. DellaSala, D.A., et al. 2023. A carpe diem moment on forests and climate policy. https://www.esciinfo.com/uploads/article_pdf/6/scientific_6_7_03042023070834.pdf

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Climate Science Director
Center for Biological Diversity

February 2, 2024

President Joe Biden

Cc: Ali Zaidi, National Climate Advisor, The White House; Stephenne Harding, Council on Environmental Quality; Thomas J. Vilsack, Secretary of Agriculture; Deb Haaland, Secretary of Interior; Tracy Stone-Manning, Director of Bureau of Land Management,

Re: Request for an Executive Order to Place a Moratorium on Mature and Old-Growth Logging on National Forests and Bureau of Land Management (BLM) Lands While the Forest Service Old Growth Amendment EIS and Related BLM Rulemaking Proceeds

Dear President Biden,

On behalf of our members and supporters, we extend our appreciation for commencing the process aimed at protecting mature and old-growth (MOG) forests. While recognizing this positive step, we strongly urge immediate action, emphasizing that an executive order from President Biden, which could be signed and issued now, holds the highest potential to establish enduring protections for MOG forests for generations to come. Our request, along with those in the [scientific community](#), includes issuing a moratorium on logging within MOG forests, and large trees generally, on all federal lands to ensure these forests are protected as the planning processes proceed to full protections for MOG.

We urge you to implement the following critical measures:

- **Acknowledgment of the Singular Threat to Forests: Logging**
 - Identify logging as a primary threat to forest carbon storage and biodiversity and address it as the foremost concern. This is the only threat that the Forest Service and BLM can effectively cease.
- **Closure of Logging Loopholes for MOG Forests**
 - The Administration's current proposal includes a glaring loophole for logging under the guises of forest health or fire management, currently used to conduct logging that is degrading the integrity of MOG forests. We request you eliminate this loophole. While the felling of some roadside hazard trees may be permissible for human safety, prioritize preserving felled trees as crucial habitat and stored carbon.
- **Inclusion of Mature Forests**
 - Include full protection of mature forests from logging, not just old-growth forests, and recognize mature forests as vital components of future old-growth ecosystems. For the Administration's proposal to be truly meaningful, mature forests must not be excluded from protections. The Administration's current proposal leaves out mature forests, which is tantamount to excluding the entire eastern half of the nation, since very little old-growth forest remains in the eastern U.S., due to logging.
- **Enduring Protection Regardless of Natural Processes**
 - Commit to the enduring protection of designated areas, irrespective of future natural processes like insect outbreaks, wildfires, or wind storms. A deep body of science finds that MOG forests most often act as climate and wildfire refugia. When these forests experience natural disturbance processes, including patches of high-intensity fire, the resulting habitat is [highly biodiverse and carbon-rich](#). MOG forests experiencing fire or other natural processes in recent years must be protected from logging, and current MOG

forests must be protected permanently, including when future natural processes, like fire, occur.

- **Full Protection for Tongass Old-growth**

- Remove the Tongass old-growth logging exemption from any further analysis in the upcoming EIS. Any financial incentive to log old trees on the Tongass conflicts with the conservation directive in EO 14072 and the global biodiversity and carbon importance of the [Tongass](#) that is currently transitioning out of old-growth logging.

Scientists have extensively [documented](#) the climate and biodiversity significance of mature and old-growth (MOG) forests, and large trees generally, in the [continental United States](#) and on the [Tongass](#), offering valuable insights for protections based on the best available science. Moreover, it is important to emphasize that even in the case of large wildfires, [they only consume less than 2% of tree carbon](#). In contrast, [thinning operations release a considerably higher amount of carbon](#) into the atmosphere over an equivalent area compared to wildfires.

The evidence is clear: we must cease logging in MOG forests, and large trees generally, both before and after natural processes, and refrain from blaming natural processes as a threat to these resilient forests.

We implore this Administration to exercise executive authority promptly, rather than postponing crucial decisions until after the election. The time to act, to protect MOG forests, and large trees generally, for climate change mitigation and biodiversity conservation, is now. The power is in your hands; we urge meaningful and immediate action based on the wealth of evidence available to make the right decisions for our citizens and the climate.

Sincerely,

- | | |
|---|---|
| 1. 198 methods | 23. California River Watch |
| 2. 350 Bay Area | 24. Cascadia Climate Action Now |
| 3. 350 Bay Area Action | 25. Cascadia Wildlands |
| 4. 350 Chicago | 26. Center for Responsible Forestry |
| 5. 350 Eugene | 27. Center for Sustainable Economy |
| 6. 350 Hawaii | 28. Chattooga Conservancy |
| 7. 350PDX | 29. Choosing Green |
| 8. 350 Salem OR | 30. Christians Caring for Creation |
| 9. 350 Seattle | 31. Clean Energy Action |
| 10. 350 Sonoma | 32. Climate Action Now Western MA |
| 11. A Community Voice ACORN | 33. Climate Communications Coalition |
| 12. All Aspects Ecological Restoration and Arboriculture | 34. Climate Generation |
| 13. Alliance for the Wild Rockies | 35. Climate Healers |
| 14. American Jewish World Service | 36. Climate Healing Chorus |
| 15. Animals Are Sentient Beings, Inc. | 37. Climate Reality Massachusetts Southcoast |
| 16. Anthropocene Alliance | 38. Climate Writers |
| 17. Athens County's Future Action Network, ACFAN | 39. Coast Range Association |
| 18. Battle Creek Alliance & Defiance Canyon Raptor Rescue | 40. Coastal Plain Conservation Group |
| 19. Biodiversity for a Livable Climate | 41. Color Brighton Green |
| 20. Biofuelwatch | 42. Colorado Democratic Party - Energy and Environment Initiative |
| 21. Blue Mountains Biodiversity Project | 43. Concerned Citizens of Franklin County (MA) |
| 22. California Chaparral Institute | 44. Conservation Congress |
| | 45. Creation Justice Ministries |

46. Deer Creek Valley Natural Resources Conservation Association
47. Deignan Institute for Earth and Spirit at Iona University
48. Democratic Socialists of America - Knoxville, TN
49. Disquiet Voices
50. Doctors and Scientists Against Wood Smoke Pollution
51. Dogwood Alliance
52. Don't Waste Arizona
53. Down East Coal Ash Environmental and Social Justice Coalition
54. Democratic Party of Oregon Environmental Caucus
55. Earth Ethics, Inc.
56. Earth Law Center
57. Earth Ministry/Washington Interfaith Power and Light
58. Earth Neighborhood Productions
59. Earth Path Sanctuary LLC
60. Eco Justice Collaborative
61. Eco-Integrity Alliance
62. ecoAmerica
63. Education, Economics, Environmental, Climate and Health Organization (EEECHO)
64. Eighty2degrees Design Studio
65. Elders Climate Action
66. Empower Our Future
67. Endangered Species Coalition
68. Environmental Education Fund
69. Environmental Justice Ministry Cedar Lane Unitarian Universalist Congregation
70. Environmental Protection Information Center - EPIC
71. Edmonds Unitarian Universalist Congregation
72. Extinction Rebellion Portland
73. Extinction Rebellion San Francisco Bay Area
74. Extinction Rebellion Western Massachusetts
75. Feather River Action!
76. Forest Keeper
77. Forest Unlimited
78. Forests Forever
79. Foundation Earth
80. Fox Valley Citizens for Peace & Justice
81. Franciscan Action Network
82. Fridays for Future Orange County
83. Friends of Bell Smith Springs
84. Friends of Big Bear Valley
85. Friends of Inwood Hill Park
86. Friends of the Bitterroot
87. Friends of the Clearwater
88. Friends of the Ferdinand State Forest
89. Friends of Trees Committee of Restoring Earth Connection
90. Friends of Wakefield's NEMT Forest
91. Gallatin Wildlife Association
92. Gallatin Yellowstone Wilderness Alliance
93. Great Swamp Watershed Association
94. Greater Northfield Watershed Association
95. Greece Baptist Church Sustainability Team
96. Green Snohomish
97. Greenenvironment, LLC
98. Heartwood
99. Heirs To Our Ocean
100. Holloway Educational Resources
101. Human Nature, Tree Foundation
102. Indiana Forest Alliance
103. Inland Empire Task Force
104. Interfaith Oceans Program
105. In The Shadow Of The Wolf
106. John Muir Project
107. Kentucky Heartwood
108. Kettle Range Conservation Group
109. Klamath Forest Alliance
110. Kootenai Environmental Alliance
111. Last Tree Laws Massachusetts
112. Legacy Forest Defense Coalition
113. Life Net Nature
114. Los Padres ForestWatch
115. Love Our Land
116. Magnolia Forest Group
117. Mason County Climate Justice
118. Massachusetts Forest Watch
119. MO's Defensible Space
120. Mount Shasta Bioregional Ecology Center
121. Muslim Caucus - YDA
122. Native Ecosystems Council
123. Natural Capitalism Solutions
124. Natural Resources Law
125. New Jersey Forest Watch
126. New Jersey Highlands Coalition
127. New Mexico Climate Justice
128. Nicaragua Center for Community Action
129. North American Climate, Conservation and Environment (NACCE)
130. North Cascades Conservation Council
131. North Country Earth Action
132. Northwest Environmental Defense Center
133. Northwest Watershed Institute
134. NTS Group
135. Occupy Bergen County
136. Ohio Environmental Council
137. Oil and Gas Action Network
138. Old-Growth Forest Network
139. Olympic Climate Action
140. Olympic Forest Coalition
141. Olympic Park Advocates
142. One Earth

143. Oregon Unitarian Universalist Voices for Justice
144. Our City SF
145. Our Revolution Massachusetts - GND/Climate Crisis Working Group
146. Our Revolution Michigan
147. Our Revolution National
148. Outdooredge
149. Pacific Rivers
150. Partnership for Policy Integrity
151. Passaic River Coalition
152. Peace Action WI
153. People's Justice Council
154. People's Voice on Climate
155. Pisgah Defenders
156. Portland Raging Grannies
157. Presente.org
158. Progressive Democrats of America, Oregon Chapter
159. Protect Our Woods
160. Protect Thacker Pass
161. Public Employees for Environmental Responsibility
162. Putnam Progressives
163. Rachel Carson Council
164. Raritan Headwaters Association
165. RESTORE: The North Woods
166. Ridgeview Conservancy
167. Rocky Mountain Wild
168. San Diego County Democrats for Environmental Action
169. Santa Fe Forest Coalition
170. Satoria Sustainability Consulting
171. Save Massachusetts Forests
172. Save Our Woods
173. Selkirk Conservation Alliance
174. Shagbark
175. Shawnee Forest Defense
176. Shawnee Natural Area Guardians
177. Sisters of St. Dominic of Blauvelt, New York
178. Sisters Trails Alliance
179. Soda Mountain Wilderness Council
180. Sonoma County Climate Activist Network (SoCoCAN!)
181. South Umpqua Rural Community Partnership
182. Southern Forest Conservation Coalition
183. Spokane Audubon Society
184. Stand4Forests
185. Standing Trees
186. Sunflower Alliance
187. Support Roaring Rock Park
188. Swan View Coalition
189. Tahoe Forests Matter
190. Tennessee Heartwood
191. Terra Advocati
192. The Conservation Cooperative
193. The Enviro Show
194. The Forest Advocate
195. The Rewilding Institute
196. The Wei LLC
197. Timbuctoo Mountain Club
198. Thurston Climate Action Team (TCAT)--Tree Action Group
199. Treehuggers International
200. Trees as a Public Good Network
201. Turtle Island Restoration Network
202. U.S. Youth Advisory Council for the UN Ocean Decade
203. Umpqua Natural Leadership Science Hub
204. Umpqua Watersheds
205. Unitarian Universalists for a Just Economic Community
206. Unitarian Universalists for Social Justice
207. Unite the Parks
208. United Plant Savers
209. Utah Physicians for a Healthy Environment
210. Veterans for Peace
211. Virginia Interfaith Power & Light
212. Vote Climate
213. Wall of Women
214. Washington Green Amendment
215. Wasteful Unreasonable Methane Use
216. Water League
217. Waterspirit
218. Wenatchee350.org
219. Wendell State Forest Alliance
220. Western Watersheds Project
221. Wild Heritage, a Project of Earth Island Institute
222. Wild Hope magazine
223. Wild Nature Institute
224. Wild Watershed
225. WildEarth Guardians
226. Wilderness Watch
227. WildLands Defense
228. Williams Community Forest Project
229. Women's Earth and Climate Action Network
230. World Rainforest Fund
231. Yaak Valley Forest Council
232. Young Democrats of America Environmental Caucus
233. Young Democrats of America Jewish Caucus
234. Young Democrats of America Rural Caucus