08/25/2022

Bark
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Re: Request for information (RFI) on Federal Old-Growth and Mature Forests EO 14072

Bark's mission is to bring about a transformation of public lands on and around Mt. Hood into a place where natural processes prevail, where wildlife thrives and where local communities have a social, cultural, and economic investment in its restoration and preservation. Bark has over 31,000 supporters[1] who use and depend on the public land forests surrounding Mt. Hood for a wide range of uses including, but not limited to hiking, nature study, non-timber forest product collection, spiritual renewal, and recreation. We submit this comment on behalf of our supporters.

Mature and Old Growth Under Threat

Today, mature and old growth is primarily found on Forest Service (FS) land and while EO 14072 claims these trees are largely protected from logging those of us who follow federal land management projects closely know logging of mature and old growth is still occurring today.[2] Furthermore, the EO also misleads the public by claiming the largest threat to mature and old growth is wildfire. Mature and old growth stands are far more fire resilient than young stands and excessive thinning in mature and old stands will only increase vulnerability to weather driven fire fueled by climate change. Furthermore, the FS has historically been unable to maintain fuel breaks resulting in dense, even aged, and highly flammable stands. Without ecologically driven project objectives that include returning fire to the landscape the current FS direction doubles down on the same techniques which have not been successful at protecting communities. With climate change likely to bring more frequent and regular occurrences of severe fire conditions, the FS should not rely on the inconsistent and often counterproductive practice of mechanical fuels reduction.

Climate Resiliency in Mature and Old Growth

In a recent study, Lutz and 95 co-authors compiled detailed forest plot data from 48 sites around the world and found that because large-diameter trees constitute roughly half of the mature forest biomass worldwide, their dynamics and sensitivities to environmental change represent potentially large controls on global forest carbon cycling. They recommended managing forests for conservation of existing large-

[1] Supporters in this case is defined as significant donors and petition-signees which Bark has identified as being active users of Mount Hood National Forest.
[2] Worth-More-Standing_Top-10_Bad-Logging_Projects (climate-forests.org)

diameter trees or those that can soon reach large diameters as a simple way to conserve and potentially enhance ecosystem services.[3]

Recent research finds that older forests in the westside Cascade Mountains have an extremely high potential for carbon sequestration and low vulnerability to future drought and fire.[4] *Carbon sequestration and biodiversity co-benefits of preserving forests in the western USA*, states the Pacific Northwest's high-productivity, low-vulnerability forests have the potential to sequester up to 5,450 Tg CO2 equivalent (1,485 Tg C) by 2099, which is up to 20% of the global mitigation potential previously identified for all temperate and boreal forests. Additionally, these forests currently have high above- and belowground carbon density, high tree species richness, and a high proportion of critical habitat for endangered vertebrate species, indicating a strong potential to support biodiversity into the future and promote ecosystem resilience to climate change. These results show considerable potential for forests in the western United States to sequester additional carbon over the coming century and demonstrate that protecting high-carbon-priority areas could help preserve components of biodiversity. Preserving high-carbon-priority forests avoids future CO2 emissions from harvesting and mitigates existing emissions through carbon sequestration.

The FS has often claimed the short-term carbon emissions and the difference in long-term carbon storage that could be attributed to logging projects are of such small magnitude that they are unlikely to be detectable at global, continental, or regional scales. Additionally, it has asserted that changes in carbon stores are unlikely to affect the results of any models now being used to predict climate change. The same thing could be, and is, said about every individual timber sale in National Forests in the Pacific Northwest. The failure of federal agencies to place projects within the context of emissions from logging on a regional or statewide level has led the public to believe that the forestry sector is no longer a contributor to global greenhouse gas emissions.

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

Bark has seen on the ground that old-growth characteristics in the Pacific Northwest such as large trees, snags, multiple layers, slope stability, and carbon storage often begin to be present in mature stands. Scientific literature demonstrates how "(s)ites that do not have the full complement of old-forest characteristics can partially function as old forests for those attributes that are present."[5] When old-growth forests are in such short supply these stands act as important "lifeboats" that will carry closed-canopy dependent wildlife through the habitat bottleneck created by decades of overcutting. Bark has observed that old-growth characteristics, such as large trees,

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[3] Lutz et al (2018). Global importance of large-diameter trees. Global Ecology and Biogeography. 2018:1-16. DOI: 10.1111/geb.12747.

[4] Polly C. Buotte, Beverly E. Law, William J. Ripple, Logan T. Berner. Carbon sequestration and biodiversity co-benefits of preserving forests in the western USA. *Ecological Applications*, 2019; DOI: 10.1002/eap.2039

[5] Everett, R., P. Hessburg, J. Lehmkuhl, M. Jensen, and P. Bourgeron. 1994. Old Forests in Dynamic Landscapes: Dry-Site Forests of Eastern Oregon and Washington. Journal of Forestry 92: 22-25.

snags, multiple layers, and slope stability, often begin to be present in mature stands 80 years and older. Additionally, what defines mature or old growth varies drastically by forest type and management history and any definition would need to be determined regionally.

We urge federal agencies to manage stands 80 and older for mature and old growth characteristics and comprehensively assess management impacts to carbon sequestration and storage capacity. In the Pacific Northwest Region, studies included in a 2016 bibliography released by the USFS and BLM[6],[7] addressed a variety of characteristics of old-growth forest structure and found that while thinning can positively affect certain aspects of old-growth development, such as minimally increasing diameter size, there is generally a lack of, or inconsistency in, evidence that thinning improves old-growth characteristics. This is especially true regarding impacts of thinning on the abundance and size of snags and downed wood; these old-growth structural features were largely overlooked and the evidence that does exist suggests thinning does not adequately manage for these features. Based off this lack of compelling evidence, it is most appropriate to implement a precautionary approach towards managing and thinning mature forest stands.

In the Pacific Northwest mapping of mature and old growth has been ongoing for decades – what we need now is action. We urge you to take bold action and initiate a rule making process to halt logging of mature and old growth.

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

Since 2010, the FS has developed Climate Vulnerability Assessments for 48 National Forests or geographic regions and is currently in progress on 10 others. However, when asked about how our local Climate Vulnerability Assessment for the Columbia Gorge Scenic Area and Mt. Hood will be used in project planning leadership in Region 6 is unfamiliar with the assessment and has no plan for developing direction or an implementation framework. These assessments are intended to "determine a species, ecosystem, or other system's sensitivity and ability to adapt to climate change". In the pacific northwest we largely already have mapped our old growth and we have the best available science to determine how these stands may change over time given climate change predictions. Yet we're still not seeing direction from Region 6 to meaningfully incorporate this science into regional and project level planning. We suggest that the FS follow through on its prior commitment to integrate the Climate Vulnerability Assessments into planning.

[6] Powers, M., and S. Wessell. 2016. Management impacts and developmental patterns in mature Douglas-fir forests of the Pacific Northwest: An Annotated Bibliography.

[7] Reed, P. 2016. Reviewing the US Forest Service and Bureau of Land Management's "mature stand thinning" bibliography. Available by request.

Thank you for the opportunity to provide information regarding EO 14072. We look forward to hearing from you.

Thank you,

Cara Christofferson

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