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Subject: The need to protect older, natural forests in the research design for the Elliott State Forest

The Oregon State University College of Forestry is developing what is intended to be a world-class research program for the Elliott State Forest (ESF). We are concerned that this effort will fail if it involves harvests in the older, natural forests that are a major feature of the ESF. Our experience in dealing with these types of forests over the last 25 years has impressed upon us their ecological significance and importance as carbon sinks, and, most profoundly, the powerful social responses that inevitably accompany attempts to harvest such forests.

Ecological significance. There is no ecological or environmental rationale for harvesting the older, natural forests on the ESF. These Douglas-fir-dominated forests have long life spans and continue to grow and maintain their integrity for centuries, barring a major wildfire or windstorm.[1] They are the foundational forest ecosystem of western Oregon and reach the full functional capabilities and extraordinary structural conditions that can be achieved on these sites.

Though "only" 100 to 200 years old, these forests already provide critical habitat for a broad array of late successional species, a value that will continue to increase as the forests continue to age. As an example, these forests contain suitable conditions for marbled murrelets, a seabird that nests in trees with large and complex canopies and which is listed as Threatened under the Endangered Species Act. The inability of the Oregon Department of Forestry to craft timber sales that also protected this species was one reason why these sales stopped on ESF.

Carbon storage importance. High rates of carbon sequestration will continue to occur in these older, Douglas-fir-dominated forests through their second and into their third century of development. While some mortality in dominant and co-dominant trees is expected to occur, the dead trees become an increasingly significant contributor to carbon stocks due to the low decay rates of Douglas-fir logs. This is in addition to continuing carbon accumulation in the live overstory trees and in the developing mid-story of shade-tolerant trees, such as western hemlock.

[1] Franklin, Johnson, and Johnson. 2018. Ecological Forest Management. Waveland Press

The harvest of older, natural forest works against climate-change mitigation strategies advocated by the late College of Forestry Dean Thomas Maness. Mature and old-growth forests in this region are world-renowned for their ability to store large amounts of carbon, and retention of these forests with their immense carbon stocks is a cornerstone of climate change mitigation strategies in the Pacific Northwest. As Dean Maness argued in a 2009 article in the Journal of Forestry:[2] "protection of the carbon stock in existing natural forest should be the central management objective related to carbon" (p. 119), "harvesting mature forests to replace them with fast growing stands is not a climate-change mitigation strategy" and "harvesting mature forests results in immediate large emissions that may take decades or even centuries to gain back" (p. 121).

Loss of social acceptability. Harvest of naturally regenerated forests that are greater than 100 years of age has essentially ceased on public lands in the Pacific Northwest. An important factor in the cessation of such harvests has been increased public recognition of the significance of older, naturally regenerated forests in the ecological functioning of forest landscapes, and in the conservation of biological diversity. The strong opposition that inevitably occurs whenever such harvests are proposed makes clear that there is no longer social license for such logging.

Our experience. Over the past thirty years we have participated in three attempts by federal agencies to harvest older forests on public lands, efforts that were stopped by widespread public opposition. The first attempt involved the Northwest Forest Plan (NWFP), which governs federal forest management in western Oregon. Planned timber harvests under the NWFP were to come from continued harvest of older forests that were outside of protected land allocations. These efforts at harvest collapsed in the early 2000s due to legal challenges and civil disobedience, leading to a realization by the agencies and by Congress that such harvests no longer had broad public support. The federal agencies were forced to switch to plantation thinning as their major source of harvest volume.

A second attempt to cut older forests was made by scientists associated with the H. J. Andrews Experimental Forest at about the same time. The harvest of older forest was proposed as a part of a well-designed experiment to explore management alternatives based on natural disturbance regimes (the "Blue River strategy"). No treatments involved clearcutting and all involved significant retention of older trees. After some initial treatments, the third treatment set, which involved older natural forests, was stopped by legal action and the experiment was abandoned.

A final example involved our effort to assist the Bureau of Land Management in demonstrating alternative approaches to clearcut harvesting on O&C lands, assistance requested by then-Secretary of Interior Ken Salazar. We had intended to focus solely on harvests in managed stands that had developed following clearcutting, but Oregon's congressional delegation directed us to include a project in a 110-year-old, naturally regenerated forest. This became the infamous White Castle Sale, which was subjected to both legal challenge and civil disobedience in the form of tree sitters. The proposed sale was struck down by the court, which in its decision extensively cited our own research and writings on the problematic and scientifically controversial nature of such harvests.

[2] Maness, T.C. 2019. Forest management and climate change mitigation: Good policy requires careful thought. Journal of Forestry (107)3, 119-124.

The College of Forestry already faces intense public criticism this year for clearcutting 20 acres of an old-growth stand (Baker Creek old growth/No Vacancy Sale) on college forest lands. On hearing of this action nearly 1000 people signed an electronic petition to protect old growth on the McDonald-Dunn OSU Research Forest. An Oregonian article about the old tree cutting received enormous response from readers, and CNN featured the action in a national headline.

Most of the older, naturally regenerated forests on the ESF are younger than those of Baker Creek but that is not likely to matter. Attempts to justify harvest of these forests on the ESF in the name of science will be viewed as academic license at best or yet another attempt by foresters to cut older forests despite social opposition. We expect that such an attempt will be incredibly divisive – within the University and College and well as within Oregon society at large -- and the conflict will ultimately make implementation of such a research plan infeasible.

Key the research program to managed forests. We estimate that 40 to 45 percent of the forest on the ESF consists of naturally regenerated stands over 100 years of age that developed following historical wildfires. Most are 130-150 years of age. The other 55 to 60 percent of the stands on the ESF are mostly plantations created following clearcutting of the original forest.[3]

There is an abundance of important forest research that could contribute dramatically to a successful future for forest management in western Oregon. This includes research on managed stands that have developed following past clearcutting. Such research would focus on how these and other managed forests can be managed simultaneously for economic, ecological, and cultural values using approaches based on natural forest models, rather than approaches based on agronomic models and capital markets. The result of such research would demonstrate and quantify how managed forests can produce sustainable quantities of high-quality wood while also providing habitat needed to sustain native biological diversity. This would include badly needed science on understanding and sustaining the biologically rich early successional habitats that, along with structurally complex forests, are generally lacking on industrial forest lands. In addition, the research would assess how management of these stands can assist in recovery of threatened species, such as coho salmon.

A program of this type developed and implemented on the ESF would draw broad support from Oregonians, provided the research design protects the existing older, natural forests. Such support is imperative if the research program is to be successful.

We urge you to make a public commitment to the retention of older, natural forest on the ESF and to a credible scientific program that will provide value for most Oregon forest owners and for the broad array of forest stakeholder interests.

[3] Davies, et al. 2011. Carbon analysis of proposed forest management regimes on the Elliott State Forest. Ecotrust, Portland, OR.