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Perspectives on Historic Variability, Climate Change, and Forest Management in
Western Oregon and Washington

In its 100-year history the USDA Forest Service has had a succession of policy paradigms: stewardship without much cutting (1905-World War II), wood production (post-World War II – 1990), biodiversity and ecosystem management (1990s – present). In the range of the northern spotted owl management since 1994 has operated under the Pacific Northwest Forest Plan (NWFP), which emphasizes species conservation with extensive use of reserves. However, there have been substantial departures between the policy and practice in important respects: e.g., the timber cut, expected to be only 20% of the 1980s level, is even lower; some harvest of old-growth forest was anticipated, but virtually none is occurring; the plan to increase the extent of old-growth habitat has been successful, but spotted owls are threatened by interspecies competition and interbreeding with the invading barred owl; the Adaptive Management Area program has withered due to lack of funding and other factors. Attempted and realized changes to the NWFP occur through efforts to modify elements of the plan, notably the Aquatic Conservation Strategy and requirements to survey and manage for over 400 uncommon species, and through the revision of plans for national forests and Bureau of Land Management lands getting underway now. In order to have concepts of use of understanding of historic disturbance regimes considered during plan revisions, the research-management partnership centered on the H.J. Andrews Experimental Forest near Blue River, Oregon, has developed and is implementing a landscape management plan based in part on an understanding of historic disturbance regimes and using an adaptive management approach (Cissel et al. 1999). This experience and a survey of similar efforts elsewhere reveal numerous challenges to management based on emulating natural disturbances, and also conditions which make it more or less difficult to do so. Changing climate and disturbance regimes are major challenges to any forest management paradigm for the coming decades. Several ideas about management of forest stands and landscapes have been suggested for anticipating effects of climate change, and some of these practices align with treatments for reduction of forest fuels and fire hazard. However, current funding to support fuel reduction activities is inadequate to the challenge, even disregarding the less immanent threats of climate change impacts. Efforts to confront climate change lead to several key questions: How good are climate change forecasts? How good are forecasts of ecosystem change – both with and without climate change? What do we do about the forecast future and uncertainties with respect to policy, practice, and learning processes? Our skills at this point seem quite rudimentary in each of these

regards. Therefore, it seems prudent to develop a good adaptive management approach to conduct field and modeling experiments to help guide learning of a group of land managers, scientists, and public over the coming decades. This issue is sufficiently fundamental that I suggest engaging philosophers and creative, non-fiction writers to help frame our current concept of the relation of humans with forests and to identify language that reflects our current concept of the relationship. At the Andrews Forest we have begun to explore this approach through the Long-Term Ecological Reflections program.

Literature Cited

Cissel JH, Swanson FJ, and Weisberg PJ. 1999. Landscape management using historical fire regimes: Blue River, Oregon. *Ecological Applications* 9(4): 1217-1231.