

Peer Review Plan

Influential Scientific Information

Highly Influential Scientific

Information

Topic of the Review: Status & trends of late-successional and old-growth forests , 1994-2008

Agency, Office or Center: Forest Service, PNW Research Station

Agency Contact: (AD): John Laurence (jalaurence@fs.fed.us, 503-808-2191

Subject of Review: This is the second in a series of periodic monitoring reports on late successional and old-growth forest trends on federally administered lands since implementation of the Northwest Forest Plan in 1994.

Purpose of Report: Late-successional and old-growth (LSOG) monitoring characterizes the status and trends of older forests to answer questions such as: How much older forest is there? Where is it? How much has changed and from what causes? Is the Northwest Forest Plan (NWFP) maintaining or restoring older forest ecosystems to desired conditions on federal lands in the NWFP area? This assessment is the second in a continuous monitoring cycle. We initially reported on LSOG status and trends from 1994 to 2003, in the '10-year report.'

Forest vegetation and change and regional inventory plot data was used to assess the distribution and trends of LSOG on federal and other lands in the NWFP area over the monitoring period: 1994 to 2007 in California, 1996 to 2006 in Washington and Oregon. Statistical mapping techniques were used to develop maps of forest composition and structure at the two monitoring cycle endpoints ('bookend' maps), and yearly maps of forest disturbance. From the two bookend maps changes in the amount and distribution of LSOG (defined as average diameter of overstory conifers >20 inches and conifer canopy cover >10 percent) over time was assessed. Disturbance maps were used to characterize the agents of change (harvest, wildfire, and insects/disease) associated with areas mapped as LSOG loss from the bookend maps. To corroborate the mapped information, LSOG area from two successive forest inventories was estimated where data were available (FS and Oregon BLM lands), and compiled the first NWFP-wide estimates of LSOG on all ownerships from a regionally consistent inventory design.

The bookend maps suggested a slight net loss (-1.9 percent) of LSOG from federal lands in the NWFP area, from 33.2 percent of federal forest in 1994/1996 to 32.6 percent in 2006/2007 (from 7.3 to 7.1 million ac). Trends varied by province, but in all cases the net changes were small relative to the sources of error and uncertainty in the estimates, which limit our ability to estimate the precise amount of LSOG change. Nevertheless, strong evidence suggests that >200,000 ac of LSOG were lost to stand replacing disturbance (mostly wildfire) on federal lands. Almost 90 percent of the loss of federal LSOG was from reserves.

The losses apparently were roughly balanced by recruitment, although recruitment is much more difficult to estimate than disturbance with available data and technology. Recruitment was most likely through incremental stand growth over the 20-inch threshold, or from understory disturbances that eliminated smaller-diameter trees and increased average stand diameter. Increases in the area of forests of much larger and older trees is unlikely to occur over the 10-14-year monitoring period. Use of a more restrictive definition of LSOG (larger average tree size and/or denser canopy) likely would increase the estimate of LSOG loss and decrease the estimate of LSOG gain. The small net decrease in LSOG was corroborated by successive forest inventories where available, but the plot-based estimates of LSOG change were not statistically significant.

The results support the assumption made in the NWFP that the primary role in maintaining or restoring LSOG and related habitats in the Pacific Northwest would fall to public lands. Federal lands contained less than half of the total forest land, but the federal share of total LSOG increased from 65 to 67 percent over the monitoring period. Harvesting removed about 13

percent (approximately 491,000 ac) of LSOG on nonfederal lands. Loss of LSOG on federal land due to harvest was less than 0.5 percent (approximately 32,100 ac). Wildfire was the most significant change agent for LSOG on federal lands over the NWFP area, and will continue to be a key consideration for policies affecting older forests, associated species, and watershed conditions.

Type of Review: Panel Individual

Alternative Process (Briefly Explain):

2 internal reviewers, 1 internal statistical review, & 2 external blind reviews were conducted

Timing of Review: Internal reviews were completed in 2010 and external blind peer reviews were completed. Early in 2011.

Number of Reviewers: 3 or less 4 to 10 More than 10

Primary Disciplines/Types of Expertise of Reviewers: forest ecology,

Reviewers Selected by: Agency Designated Outside Organization

Public Nominations Requested for Review Panel: Yes No

Opportunities for the Public to Comment: Yes No

If yes, briefly state how and when will these opportunities be provided:

Peer Reviewers Provided with Public Comments: Yes No

