

# Pilot Thompson Implementation Monitoring Report for Age-based Marking Guidance

June 19, 2013

The Pilot Thompson Project is designed to implement the Dry Forest Ecological Restoration Strategy outlined in Johnson and Franklin (2009) *Restoration of Federal Forests in the Pacific Northwest: Strategies and Management Implications*. One Key element of the dry forest restoration strategy is to protect and conserve older trees (trees greater than 150 years of age). Silvicultural prescriptions, or stand level tree marking guidance, seek to implement the aged based criteria by identifying older trees with the following visible characteristics as trees reserved from harvest:

*Larger and older than the second growth trees in the current stand; an indication that the tree maybe one of the seed trees of the present day stand. These trees have a bottle-brush shape (non-symmetrical crown).*

*Large diameter limbs indicating that the tree was once open grown and had a large crown. Limbs (live or dead) are usually heavy and gnarled, are covered with mosses and lichens, and are close to the ground.*

*Douglas-fir will have thick bark with deep fissures and have a chocolate brown color. Second growth trees have more gray color in the bark. Ponderosa pines will have thick bark, plate-like*

Implementation monitoring was conducted to determine how well markers achieved the age-based criteria in commercial harvest units. During the cruising phase of the project (when trees are tallied and measured to determine tree defect due to damage and disease, tree grade, and timber volume) timber cruisers tallied all trees designated for harvest by 4-inch diameter classes (8, 12, 16, 20, 24, 28, etc.). To facilitate monitoring the age-based portion of the prescription in the reserve tree marked units (yellow marked units), the cruisers hung purple ribbon on trees tallied in the 28 inch diameter class and larger. These trees were later located and bored to obtain their age. Trees monitored in the cut tree marked units (blue marked) were located based on the marking tally. Trees determined to be 150 years or older through boring were reserved from cutting by either yellow marking or blacking out blue marks. The 28-inch diameter class was chosen since the marking guidance suggests that trees 30 inches diameter and larger have a greater chance of being 150 years or older. Using the 4-inch diameter classes, the 28-inch class includes trees down to 26.1 inches diameter breast height (dbh).

Forty-eight (48) trees 26.1 inches dbh and larger and designated for harvest were bored to determine tree breast height age. Of these trees, eight were determined to be 150 years or older and were reserved from harvesting. Based on data collected, markers achieved the age based criteria for an estimated 83 percent of the trees bored larger than 26.1 inches dbh. Over the project, these eight trees represent <0.2 percent of trees marked in commercial units of the Pilot Thompson project. An additional 14 trees under 26.1 inches diameter were bored for age; all were under 150 years of age.

One unit was monitored using variable plot sampling on a systematic grid to collect age data on trees reserved from harvesting and trees designated for cutting. Age monitoring primarily focused on trees that were 24 inches dbh and greater; however, a few trees less than 24 inches dbh were also sampled. Twenty-two (22) reserve trees were bored ranging in size from about 16

to 34 inches dbh. Two of these trees were greater than 150 years old, one at 162 years and one at 154 years (33.7 and 34.0 inches dbh respectively); these trees were already yellow-marked for retention. The remaining trees ranged in size from 16 to 30.4 inches dbh and from 95 to 145 years old. All trees designated for harvest that fell within the variable radius plots were under 24 inches dbh ranging in size from 7 to 23.9 inches. Based on the age data collected within this stand, it was determined that trees designated for harvest were well under 150 years of age. The BLM also tallied trees in this stand that were in the 28-inch dbh class and above for coring. Six trees ranging from 26.7 to 33 inches dbh were cored; these trees ranged from 120 to 144 years old. The portion of the stand in which these trees were located was later dropped from the unit based on the fact previous thinning had occurred and there was little need for additional thinning. Therefore, the data on these six trees were not included in the numbers discussed in the paragraph above.

Because a few of the tally trees were difficult to relocate, and because there is potential for trees tallied below the 28-inch diameter class to be older, we do not feel that we can claim that we monitored 100 percent of the trees with potential to be 150 years or older. However, based on the methodology used and the age data collected, we feel that we cored the majority of trees with potential to be 150 years or older. The BLM prepared this report in order to disseminate information known to date. Any additional information collected at a later time will be used to update this report.

Recommendations for the implementation of future age based marking guidance.

- The collection of additional age data prior to the development of stand specific prescriptions and marking guidance would help to improve more efficient implementation of the age-based criteria.
- A certain level of error in implementing age or any other marking criteria must be allowed; a 100 percent compliance threshold is an expectation that is difficult to meet within reasonable project timelines and budget constraints.