Some Observations on the Fire History of the Black's Mountain Experimental Forest

In order to determine the extent of the relationship between past fires and the reproduction on the ground, a preliminary study was made of the past occurrence of fires on Sec. 13, T 33 N, R 7 E on the Black's Mountain Experimental Forest. Although the data indicated no obvious relationship between the fires and reproduction, an interesting history of past fires may be drawn from it.

Strips, in an east and west direction, were run at ten chain intervals across the section, starting 7½ chains north of the southwest corner of the section. On the first two strips samples were taken at intervals of 2½ chains along the strip and on both sides of the line. On the third and subsequent strips, samples were taken at 5 chain intervals along the strip. The callous of the fire scar of the tree selected was notched and number of rings were counted from the cambial layer, to each fire scar evident. Rings too fine to be distinguished by eye were counted with the aid of a 10x hand lens. The age of scars was determined in 277 trees in the section.

Since errors in counting and failure of the tree to put on an annual ring at times prohibited exact definition of fire years, the most probable values have been used as the years of the fires.

The most recent fire occurred probably 20 years before the examination in May, 1934 or in 1913. Another more widespread fire occurred 22 years before or in 1911. These may have been the same fire, the variation being due to mistakes in counting. However, one of the trees examined showed both scars. The fire occurring in 1911 was the more widespread.

Ring counts indicated that the next fire happened about 42 years before the examination or in 1891. The fire apparently was not as widespread as the one 46 years before the study, or in 1887. More trees showed scars resulting from this last fire than from any other one fire.

The age of the scars resulting from fires, the probable year of the fire and the number of scars found in each fire group are tabulated in the following table.

Age of scars (May 1934)	20	22	42	46	62	67	70	77	82	87	92	98	108
Year of fire	1913	1911	1891	1887	1871	1866	1863	1856	1851	1846	1841	1835	1825
Number of scars	18	69	49	79	35	25	41	25	10	11	11	19	18

Scars were found which indicated there had been several fires before 1825 but the years of the fires were not obvious. The oldest scar noted was caused about 260 years before 1934 or about 1673. Many trees showed 3 to 6 scars resulting from past fires. The maximum number of scars found in one tree was ten, dating from 1911 to about 1673.

H. A. FOWELLS