

STRUCTURAL CHANGES IN THE NEW ENGLAND LANDSCAPE DURING THE LAST 100 YEARS

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During the last century, many changes have occurred to forests across New England. Current forest conditions are the expression of past activities and cultural practices. An emphasis of forest research has been identifying the condition of each state's forest resources. The USDA Forest Service has conducted Forest Resource Inventories for each state at regular intervals since the late 1940s. During each inventory cycle, a wide range of data was collected to create a snapshot of forest conditions. From time to time, components of the inventories have been tabulated (Baldwin 1949, Irland 1982). Few studies have focused in assembling data from those inventories at a regional level to obtain a chronology of the changes during the last century, and correlate it with lumber production values for the same period. In this study, select data from every inventory of each state was assembled to depict a century of change across New England.

Methods

For this study, a majority of the data was in dissimilar formats. Therefore, several assumptions were necessary to develop a consistent set of data. First, the algorithms used by the USDA Forest Service to analyze data were different during each inventory. Values from a given inventory year were seldom the same when they are re-presented in subsequent publications, due to changes in processing technique. For consistency and expediency, values from the most current publication were used. Second, values were averaged between inventory periods when there was a gap in the data. Therefore, sudden changes would not be apparent in the summary presented in this note. Third, changes in nomenclature during the last century present another difficulty. Consistent standards were not established until c.1948. As a result, values before that time were examined carefully within the context of the reference, and then used or modified where appropriate. Data for each state has been assembled individually, and then compiled on the regional scale. A full list of the sources used are given in References.

Results and Discussion

Many changes were observed during the last century to the forest cover in New England (Table 1) and the lumber it has yielded (Table 2). The principle finding was that there were nearly 6 million more acres of forest land at the end of the century than were present at the beginning of the century. Most of this increase occurred prior to 1950. For the past 50 years (1950-1995), total forest area in New England has remained stable.

Table 1.—Average Forested Acres (in thousands) by Stand-Size Class in New England

Decade	Non/seed/sap	Poletimber	Sawtimber	Total ¹
1910-1919	3,870	11,466	9,901	25,237
1920-1929	6,451	7,865	11,911	26,226
1930-1939	8,374	5,696	13,339	27,409
1940-1949	8,488	8,185	13,483	30,156
1950-1959	5,998	14,104	10,723	30,825
1960-1969	6,709	13,759	11,026	31,495
1970-1979	6,985	11,302	12,998	31,284
1980-1989	4,137	11,237	16,103	31,476
1990-1995 ²	5,021	11,345	14,564	30,930

¹Stand size values may not equal Total due to rounding.

²Values after 1995 were not available.

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Another important observation is that lumber production has steadily increased during the same period, and hardwood values became a significant component. Several factors contributed to these conditions. Harvest levels dropped during the first half of the century as forest area increased. Softwood lumber was a vital component of several industries at the turn of the last century, and as those areas were exhausted, many stands converted to hardwoods. In addition, hardwood poletimber was widely used for fuel during that time, and those areas quickly resprouted. Those areas are now largely mature and are being removed at levels approaching those of 100 years ago.

Table 2.—Average reported lumber production (billion board-foot measure) in New England.

Decade	Hardwood	Softwood	Total
1900-1910	3.3	19.2	22.5
1910-1919	3.0	14.2	17.2
1920-1929	1.9	6.7	8.5
1930-1939	0.9	3.9	4.8
1940-1949	1.4	8.1	9.6
1950-1959	2.9	10.0	12.8
1960-1969	4.1	9.3	13.3
1970-1979	6.1	11.1	17.2
1980-1989	7.2	12.6	19.9
1990-1999 ¹	7.3	12.9	20.3

¹adjusted to a 10-year basis

Conclusion

Assessing change at a regional level yields a different set of information that would not be noticeable at the local level. Forestry, as a science, was in its infancy 100 years ago in New England. Then, as now, challenges exist, though the focus and size has shifted. Notwithstanding those changes during the last century, none have changed as much as the level of knowledge surrounding it. It is that thought which must guide us through this century.

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