

SUPPLYING WOOD PRODUCTS FOR MORE PEOPLE — A  
CHALLENGE TO THE FOREST INDUSTRY. *Yale University School of Forestry Bulletin No. 77. 42 pp.*

This bulletin consists of three articles delivered as the U.S. Champion Papers, Inc. lectures in April 1969. The papers are: "Population and the forest industry" by J. A. Segur, a business consultant; "World forest resources tributary to the north American sphere of development" by F. B. Lamb, an expert in forest resources; and "Industrial forest land management" by B. E. Allen, a forester. The papers are closely related and may be summarized as a critical examination of published projections, the influence of potential imports, and the important forests of the south.

Mr Segur's first section sets out the problems of an exploding population related to a fixed quantity of national resources. The situation is complicated by the uncertain role of the U.S. in providing food for the world demand, with the possible conversion of forest land to agriculture, and the probability of water shortages. His second section discusses problems of timber supply in the year 2000. Unfortunately, the author concentrates on fibre, and gives scant attention to lumber or ply. Fibre consumption is rising rapidly; two projections, the second made only three years after the first, give consumption in the year 2000 as 711 lb and 1,000 lb *per capita*. The U.S. Forest Service reports forming the basis for much of the discussion indicate that if all forests were managed as efficiently as the best-managed areas the demand could be met. Segur criticizes some of the assumptions in the national programme; he has valid doubts about the maintenance of the present forest estate, the validity of the projected demand, the use of excess resources in areas with poor access, the value of persuading small landowners to spend time and money on their forests, and the availability of capital when returns may be only 3%.

Mr Segur's third section deals with the location of future forest industry. The potential of the southern states is highlighted, and problems are outlined. Among these is a possible conflict between lumber and pulpwood interests as the southern pine forests take over the role of the dwindling virgin forests of the west. If increasing pulpwood demand raises stumpages it may be necessary to regulate supplies. The remaining sections deal with the economics of the forest industry. Past developments have been geared to cheap raw materials, water and freight. A high degree of automation and recent expansion has been encouraged by easy credit and financial aids. Rising values of land, and demand for land for alternative uses, are expected to lead to increased stumpages, and rising labour costs will price out the small owner. Provided land values are no more than \$30 per acre, a 7% price increase, passed back to the owner, should give a return of 5½%; but if timber land rises to the value of crop land then an increase of up to 30% in prices would be required to give the same return on capital. Should this happen, further consideration could be given to re-processing

waste papers, or to developing a frontier mill with Canada to use its undeveloped resources.

Dr Lamb, in his paper, comes to the same conclusion — that intensified management of the existing U.S. forest estate can lead to a sustained cut of double or triple the present volume. He also suggests that Canada and the U.S. should be considered a single economic region for the production and marketing of forest products. Under-developed regions should be managed — not mined. Other forest areas are discussed, particularly the tropics. The dipterocarp forests of south-east Asia have been the basis of major trading, due to the high volumes per acre, uniform timber, and accessibility to ocean shipping. West Africa has a large area of tropical forest, but low utilizable volumes per acre, and exports mainly to Europe. Latin America has the largest area of forest, but the lowest utilizable volumes per acre and a great deal of the country is inaccessible. However, the development of suitable manufacturing processes could be a major factor in utilizing these forests. At present tropical timber provides less than 1% of north American wood consumption. Dr Lamb also discusses briefly other possible sources of supply, including eastern Siberia, Australia, New Zealand and Chile.

Mr Allen's paper is restricted to discussion of the management of the southern pine forests. His basic tenets are: that the forest exists to contribute to the industry; that sustension should be aimed for, provided some flexibility is retained in the short term; and that the forest industries must compete with others for finance. He outlines the development of forestry in the south, which has certain resemblances to our own forest history. The first forest of virgin timber was virtually mined, abandoned, and left to regenerate. The resultant second forest forms the basis of current utilization. The third forest is intensively managed. It is established by detailed site preparation, and planted with much improved stock bred for disease resistance and response to fertilizers. Heavy expenditure on intensive practices can be justified only by high yields, early returns and complete utilization. Allen believes that one of the major concerns in modern industrial forest management is to improve the communication of recommendations upwards, and of decisions downwards. He also considers that land tax, when compounded, has a highly significant effect on the profitability of forest enterprises. The large area of small private holdings complicates the position when the forest industries can earn only 6% compared with 15% on investments in manufacturing industries.

This bulletin, with the exception of the rather inadequate treatment of sawn timber, provides an interesting resumé of the U.S. forest resources, potential development, and evolution towards intensive management.

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