

and paper industry has expanded rapidly, especially in British Columbia, to serve the large and growing California market and the markets of overseas countries. At present a new surge of construction is taking place in British Columbia as the giants in North American pulp and paper compete to obtain licences on the Continent's last forest areas available for licensing. Changes in technology have permitted the manufacture of newsprint from southern pines and this, along with the previously mentioned shift in regional consumption, has resulted in a declining share of Eastern Canadian newsprint in American consumption.

The large and progressive producers of forest products have integrated their operations in order to achieve optimum utilization of their forest holdings. Lumber, pulp and paper, and plywood operations are vertically integrated so that logs are put to their most profitable use. In such a situation, high-grade logs go as 'peelers' to the plywood mill and most of the better logs go to the sawmill. The poorer grades, smaller sizes and less-favoured species and the residues from the plywood mill and the lumber mill are used in the pulp or board mill. The cut from Canadian forests has risen but slowly as a result of increasing use of logging and manufacturing waste and the slow growth in newsprint. It has been estimated that the forest will produce an annual net cut of 12,000,000,000 cu. feet under intensive management. At present, the annual cut in Canada is just over 3,000,000,000 cu. feet and the growth in roundwood production is below the world average.

In general, production of lumber and newsprint has risen at a slower rate than the Canadian economy, but the output of Douglas fir plywood and market woodpulp has increased at a faster rate. However, since 1961, lumber production has increased rapidly in response to United States demand. The growth of Canadian forest products in relation to that of the general economy since 1949 is as follows:—

<i>Item</i>	<i>Average Annual Percentage Change</i>			
	<i>1949-56</i>	<i>1956-61</i>	<i>1961-63</i>	<i>1956-63</i>
Gross national product.....	5.5	2.1	5.3	3.0
Industrial production.....	6.4	2.2	6.6	3.4
Lumber production.....	3.9	1.2	11.7	3.2
Douglas fir plywood production.....	16.9	7.4	6.0	7.0
Newsprint production.....	3.1	0.9	0.7*	0.8*
Woodpulp exports.....	6.2	3.8	7.9	5.0

\* Adjusted to exclude the 1963 publishers' strikes.

Expectation for the future is that there will be a rising demand for Canadian woodpulp, lumber and other products. Some of this demand for construction materials may be met by increased use of fibreboards, particle board and plywood and therefore tree sizes of timber resources may be an influential factor in choosing between lumber and these substitutes. At the same time, greater use will likely be made of species considered at present to be non-commercial; at one time balsam fir was placed in this category but has been found to be suitable for newsprint. In Eastern Canada a number of pulp companies are turning to sulphate operations in order to utilize jack pine and other available species. In the sulphate process the range of the raw material is not as restricted as for sulphite, and a high quality commodity is produced.

To remain competitive in world markets, the forest industry as a whole has striven constantly to improve equipment and methods. As a result, productivity in all sectors has risen, although the greatest gains have occurred in logging. Wood being a bulky material, one of the main areas for improvement has been transportation—especially from forest to mill. Rivers and coastal waterways have always been an important means for moving wood, either floating separately or in booms, or carried in ships or the new self-loading and unloading barges. The early use of horses or oxen for hauling timber was first displaced by railway logging in coastal British Columbia and then by truck hauling in both Western and Eastern Canada. The introduction of power saws on a large scale has improved productivity considerably. Logging operations in coastal British Columbia have been mechanized for some time but mechanization in Eastern Canada is relatively new and this is where the greatest changes in logging employment have taken place. With output changed