Section One

TIMBER PRODUCTION AND MARKETS

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Timber production has been the foundation of active forest management for over a century. The science and economics of forest management were developed 150 years ago, but for years, the focus was on activity at the stand level, with very little attention to market phenomena such as price behavior, demand factors, substitution, and market structure. That has changed as advances in economic theory and methods have enhanced researchers' interest and understanding of the interaction between individual decisions (e.g., land allocation, management, harvest timing) and market outcomes (e.g., price, volumes, and trade patterns). The following chapters take the reader from these individual stand and forest-level decisions to the collective result of these decisions in the market place. The section begins with a treatment of the classical production problems in forest economics, including optimal stand management (chapter 4), and the application of modern production theory (chapters 5 and 7) and finance theory (chapter 6) to timber production.

The section then turns to market-level concepts. The market is, figuratively, where and when buyers and sellers come together to make an exchange. The market is not one physical location, but rather a collection of transactions ruled essentially by the same terms of exchange. Chapters 8 and 9 address market-level analysis of the supply and demand for timber. Space plays a particularly important role in timber markets because timber is costly to transport. This raises unique aspects of market structure and spatial market integration that are addressed in chapter 10. Finally, despite the costliness of transport, there is nonetheless a vibrant international trade in forest products (chapter 11), as there is a geographic asymmetry between where the products are demanded and where they are most abundantly supplied. While this section covers the territory from reforestation to

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exchange of processed wood products in world markets, these products are only part of the reason that forests are valued and managed. Other forest outputs are addressed in subsequent sections.