

**MAINE FOREST PRODUCTS CLUSTER**  
**MAINE FUTURE FOREST ECONOMY PROJECT**



**CURRENT CONDITIONS AND FACTORS INFLUENCING THE  
FUTURE OF MAINE'S FOREST PRODUCTS INDUSTRY**

**MARCH 2005**

**PREPARED FOR:**

**DEPARTMENT OF CONSERVATION – MAINE FOREST SERVICE  
AND  
MAINE TECHNOLOGY INSTITUTE**



**INNOVATIVE NATURAL RESOURCE SOLUTIONS LLC**  
**107 ELM STREET, SUITE 100-E**  
**PORTLAND, ME 04101**  
**[www.INRSLLC.COM](http://www.INRSLLC.COM)**

*This material was prepared with financial support from the Department of Conservation – Maine Forest Service and the Maine Technology Institute. However, any opinions, findings, conclusions, or recommendations expressed are those of Innovative Natural Resource Solutions LLC unless otherwise noted, do not necessarily reflect the views of the Maine Department of Conservation, the Maine Forest Service, the Maine Technology Institute, or the project’s Advisory Committee, and do not constitute an endorsement of products or services mentioned.*

*The analysis contained in this report is based upon our best professional judgment and on sources of information that we believe to be reliable. However, no representation or warranty is made by Innovative Natural Resource Solutions LLC or other authors of this report as to the accuracy or completeness of any of the information contained herein. Nothing in this report is, or should be relied upon as, a promise or representation as to the future.*

*Cover photos by Maine Pulp & Paper Association, Small Woodland Owners Association of Maine and Innovative Natural Resource Solutions LLC (at Hillside Lumber). Used with permission.*

*Printed Under Appropriation 013-04A-5180-512-4099 FFE3*

*Developed Under a Cooperative Forestry Assistance Grant CFDA 10.664*

*The USDA Forest Service prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status (not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).*

*To file a complaint of discrimination write: USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Ave, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA Forest Service is an equal opportunity provider and employer.*



## Maine's Forest Products Cluster

In today's highly competitive global marketplace, open borders and faster transportation are often seen as diminishing the role of location in competition. There is certainly some truth to this for Maine's forest industry – forest product manufacturers now face competition from remote corners of the globe. At the same time, recognition of the role of groups of interdependent manufacturers – clusters – has grown, placing emphasis on the importance of location.

Clusters are a location-based group of interconnected and interdependent industries that compete with one another *and* strengthen one another through interaction. Cluster members include not only the key manufacturers (e.g., pulp and paper mills, sawmills, wood products firms), but also the suppliers, academic and government institutions that support the industry, trade associations and firms that provide services to the industry. Universally recognized examples of strong clusters in the U.S. are the financial institutions that surround Wall Street in New York City, the wine industry in Napa Valley, Detroit's auto industry and the movie and television industry in Hollywood. Clusters are a highly typical way of industries developing strength, and create a paradox in today's marketplace: "the enduring competitive advantages in a global economy lie increasingly in local things – knowledge, relationships, motivation – that distant rivals cannot match."<sup>13</sup>

Maine has a strong forest products cluster, with very strong relationships among segments of the diverse industry. In Maine, the forest products cluster includes pulp and paper companies, sawmills, secondary wood product manufacturers, biomass energy firms, forest landowners and managers, loggers, equipment manufacturers and distributors, biomass power facilities, university programs, financial institutions, government agencies, trade associations, forest-based recreation businesses, conservation organizations, and transportation firms. "All of these sectors are highly interconnected and interdependent, with each sector playing a key role in maintaining the health of the industry."<sup>14</sup>

The great majority of markets served by participants in the Maine forest products cluster are mature, and sensitive to normal business cycles. Despite strong "cluster strength", the industry is not seen as growing. Firms in the forest products industry "generally seek to maintain or increase market share either by being the low-cost producer of a product or by developing products that offer quality, uniqueness or cost advantages in specific markets."<sup>15</sup>

---

<sup>13</sup> Porter, Michael E. "Clusters and the New Economics of Competition." In *Harvard Business Review*. November – December 1998.

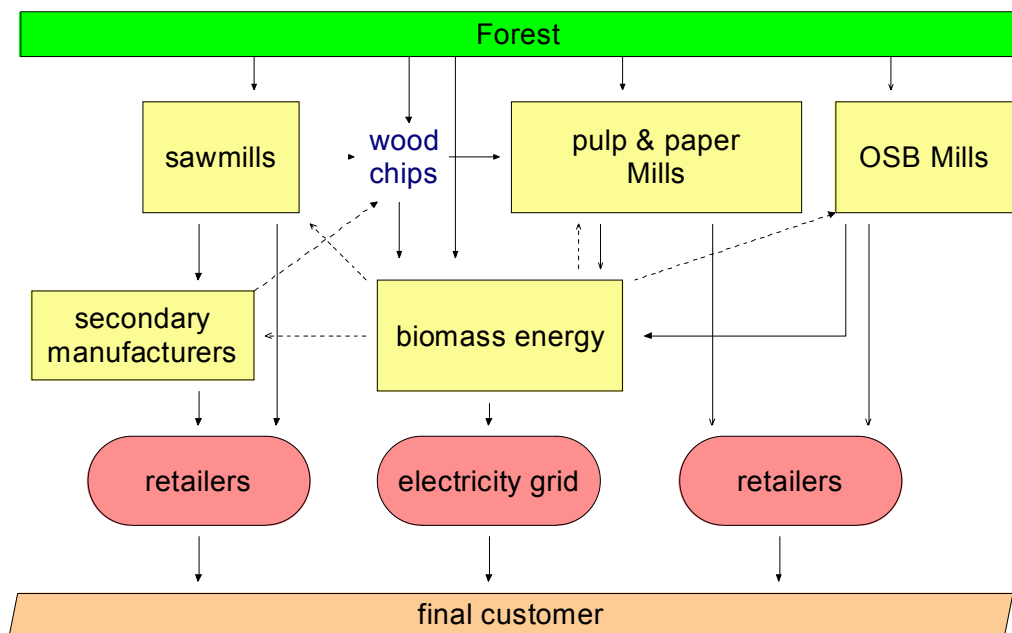
<sup>14</sup> Colgan, Charles, Colin Baker, Nan Butterfield and Michael Cote. *Assessing Maine's Technology Clusters*. Prepared for the Maine Science & Technology Foundation. June 2002.

<sup>15</sup> Colgan, Charles, Colin Baker, Nan Butterfield and Michael Cote. *Assessing Maine's Technology Clusters*. Prepared for the Maine Science & Technology Foundation. June 2002.



The following shows a *simplified* flow chart for Maine’s forest products cluster, from forest to consumer. In over-simplified terms, wood flows from the forest to manufacturers, who then move a finished product into the delivery channels (e.g. wholesalers and retailers), who then sell to a final customer. It should be noted that this simplified flow chart does not include each and every sector or transaction in the forest products industry<sup>16</sup>. Similarly, the chart does not necessarily reflect the scale of transactions, but is intended simply to show how wood flows from the forest to the consumer<sup>17</sup>.

**Figure 9. Simplified Flow Chart of Maine Forest Products Industry Cluster<sup>18</sup>**



The focus of this effort, the *Maine Future Forest Economy Project*, is on forest products manufacturers (those entities identified in light shading or yellow). This is not to suggest that other actors in the state’s forest products cluster –landowners, foresters, loggers, retailers, non-governmental organizations and others – are less important. The cluster is mutually interdependent, and all sectors are critical to the stability and growth of the forest products industry. However, the research and findings in this report focus on forest products manufacturing, and are directed at that part of the forest products cluster.

<sup>16</sup> For example, many manufacturers sell their product to wholesalers, who then sell to retailers.

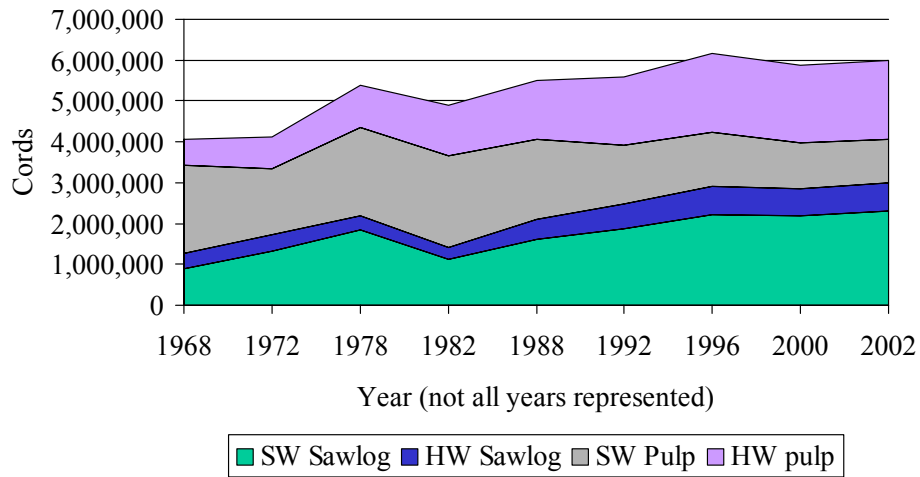
<sup>17</sup> For example in 2001 the value of shipments from Maine pulp & paper mills was \$3.9 billion and from sawmills \$297 million.

<sup>18</sup> Adapted from presentation by U. Buehlmann, North Carolina State University and S. D’Amours, FOR@C, ULaval.



Maine landowners harvested roughly 6 million cords of wood in 2002. This volume was almost evenly split between sawlogs (used for the manufacture of lumber and secondary wood products) and pulpwood (use primarily for pulp and paper manufacturing). This harvest volume is up roughly 50% from 1968 levels.

**Figure 10. Maine Harvest Volume by Year**



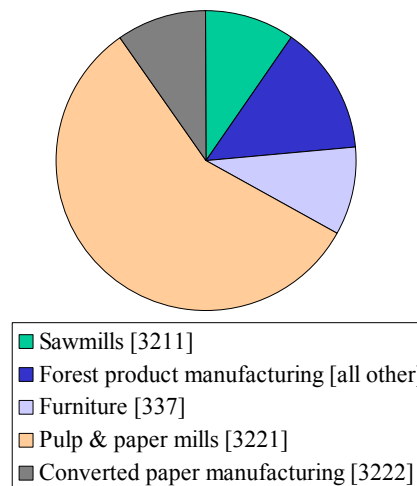
Data Source: Maine Forest Service



While each sector of the forest products cluster is critical to efficient and healthy operation of the entire industry, it is important to note that -- using a number of measures -- pulp and paper manufacturing is the most significant part of the state's forest product manufacturing base. This dominance highlights both the need to work with the pulp and paper mills to secure the future of the entire cluster *and* the opportunity to expand other parts of the cluster.

When measured by number of employees, pulp and paper mills have over half of the employees in the manufacturing part of the forest industry cluster.

**Figure 11. Number of Employees by Forest Products Manufacturing Sector, 2001<sup>19</sup>**



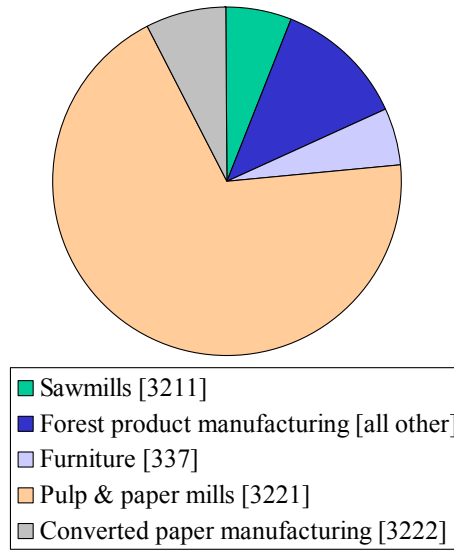
Data Source: 2001 Annual Survey of Manufacturers, U.S. Census Bureau

<sup>19</sup> Note: numbers in brackets above refer to U.S. Census Bureau codes for various industry sectors.



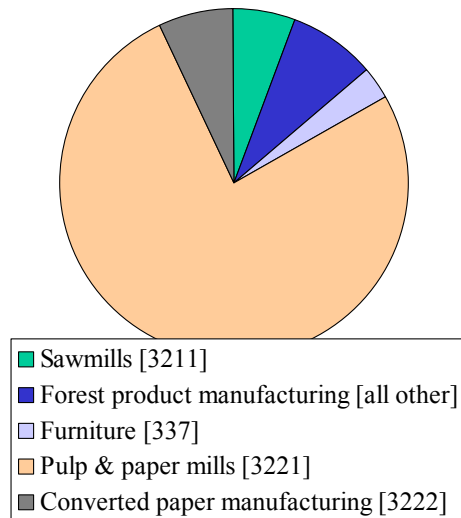
Similarly, Maine pulp and paper mills are large parts of both the payroll and value of shipments from Maine's forest product manufacturing sector.

**Figure 12. Payroll by Forest Products Manufacturing Sector, 2001**



Data Source: 2001 Annual Survey of Manufacturers, U.S. Census Bureau

**Figure 13. Value of Shipments by Forest Products Manufacturing Sector, 2001**



Data Source: 2001 Annual Survey of Manufacturers, U.S. Census Bureau



The challenge for Maine and its forest industries is to translate the existing strength of the forest industry cluster into a healthier and more stable industry, with innovation at its core. Obviously, member industries and companies have a core role to play in the development of this culture. The key to success of Maine’s forest industries going forward will be productivity. “Companies can be highly productive in any industry...if they employ sophisticated methods, use advanced technology, and offer unique products and services.”<sup>20</sup> Maine companies are seeking to do this now – the key questions is how to help, incent, and allow Maine industries to be as competitive as possible.

---

<sup>20</sup> Porter, Michael E. “Clusters and the New Economics of Competition.” In *Harvard Business Review*. November – December 1998.

