

2019 Forest Products Economic Impact: September 2021

THE 2019 STATEWIDE ECONOMIC CONTRIBUTION OF MAINE'S FOREST PRODUCTS SECTOR¹

September 2021

Megan Bailey and Sheldon Green²

¹This analysis was funded in part by the Maine Forest Products Council

² Megan Bailey is a Research Associate in the Margaret Chase Smith Policy Center; Sheldon Green is a Research Assistant in the Margaret Chase Smith Policy Center

EXECUTIVE SUMMARY

Maine's forest products sector includes (but is not limited to) businesses, organizations, and individuals involved with logging and forestry, paper and related product manufacturing, sawmills and wood-product manufacturing, wood furniture manufacturing, the generation of biomass electricity, and the Maine Forest Service.

The forest products sector contributes *directly* to the Maine economy through its day-to-day operations (e.g. direct sales, wages, employment of workers). In addition to these direct impacts, every dollar that is spent on local purchases by any business, organization or individual involved in the forest products sector circulates throughout Maine's economy and is used by other businesses and organizations to pay their employees, taxes, and purchase more goods and services. This "multiplier effect" is a crucial component to consider when studying the total economic contribution of the forest products sector to the state of Maine. When considering these multiplier effects, Maine's forest products sector contributed an estimated \$8.1 billion in total output and over 31,000 full and part-time jobs to the state economy in 2019.

HIGHLIGHTS OF MAIN FINDINGS

- The estimated overall annual (2019) economic contribution of Maine's forest products sector, including multiplier effects, was an estimated \$8.1 billion in output, over 31,000 jobs, and \$1.7 billion in labor income (Table 2).
- The total employment impact of 31,822 jobs in 2019 is equivalent to about 4 percent of the jobs in Maine. Put another way, roughly 1 out of 25 jobs in Maine is associated with the forest products sector.
- The total economic contribution of Maine's forest products sector in 2019 was associated with an estimated fiscal impact of \$276 million in state and local taxes. This tax impact is equivalent to 3.4 percent of the forest product sector's total (output) economic contribution.
- Maine's forest products sector had a total, including multiplier effects, value-added impact of an estimated \$2.8 billion. This is equivalent to 4.14 percent of the state's gross domestic product in 2019. Put another way, about \$1 out of every \$25 in Maine gross state product is associated with the forest products industry.

2019 Forest Products Economic Impact: September 2021

- The Maine forest products sector impacts businesses across the entire state through the activities of forest products companies (organizations and individuals) and the purchases that they (and their employees) make. The total employment impact varies from an estimated 121 jobs in Sagadahoc County to 5,225 jobs in Aroostook County (see Table 4).
- The forest products sector in Maine impacts businesses of all types through the purchases made by forest product sector companies (organizations and individuals) and their employees. For example, the 19,604 full- and part-time jobs counted in the forest product industry's multiplier effects includes 644 jobs in real estate, 589 jobs in full-service restaurants, and 552 jobs in hospitals (see Table 5).

2019 Forest Products Economic Impact: September 2021

BACKGROUND

The forest products sector in Maine consists of businesses, organizations, and individuals involved in one of eight primary areas. These are harvesting, biomass electricity generation, sawmills, plywood and veneer, pulp and paper manufacturing, wood furniture, wood products manufacturing and the Maine Forest Service. Table 1, below, shows a breakdown of industries that make up the forest products industry and its supporting sectors.

Table 1. Breakdown of Industries Related to Maine's Forest Products Industry

Sector	Industries Included in Sector	Description
Forest Products Sector	Harvesting, Logging, and Other Inputs	Forestry and logging Support activities for agriculture and forestry Electric power generation - Biomass Sawmill, woodworking, and paper machinery
	Intermediate Manufacturing and Processing	Wood Product Manufacturing Paper Manufacturing
	Final Manufacturing	Wood kitchen cabinet and countertop manufacturing Non-upholstered wood household furniture manufacturing Wood office furniture manufacturing Custom architectural woodwork and millwork
Forest Products Support Sector	Regeneration and Management	Greenhouse, nursery, and floriculture production Management consulting services
	Machinery Lease and Repair	Farm machinery and equipment manufacturing Commercial and industrial machinery and equipment rental and leasing Commercial and industrial machinery and equipment rental and maintenance
	Transportation	Rail transportation Truck transportation
	Research	Environmental and other technical consulting services Scientific research and development services

2019 Forest Products Economic Impact: September 2021

TOTAL ANNUAL STATEWIDE ECONOMIC CONTRIBUTION

Table 2. Total Annual Statewide Economic Contribution of Maine's Forest Products Sector, 2019

	Direct	Indirect	Induced	Total
Output	\$4,744,711,433	\$2,139,538,095	\$1,171,989,524	\$8,056,239,053
Employment	12,218	11,446	8,158	31,822
Labor Income	\$682,264,395	\$622,919,769	\$374,111,171	\$1,679,295,335

Notes: Direct output, employment and labor income figures were estimated using information from the U.S. Census Bureau Annual Survey of Manufacturers, the County Business Patterns of the U.S. Census Bureau, Nonemployer Statistics of the U.S. Census Bureau, budget figures for the Maine Forest Service, and the 2019 Maine IMPLAN model; multiplier effects are estimated using an economic impact (IMPLAN) model of the Maine economy; values are in 2019 dollars.

Table 3. Total Annual Statewide Economic Contribution of Maine's Forest Products Sector by Sector Category, 2019

	Direct Contribution	Multiplier Effects (Indirect + Induced)			Total Contribution
	Forest Products Sector	Forest Products Sector	Forest Products Support Sectors	Non-Forest Products Sectors	
Output	\$4,744,711,433	\$566,910,208	\$218,813,508	\$2,525,803,904	\$8,056,239,053
Employment	12,218	3,462	1,292	14,849	31,822
Labor Income	\$682,264,395	\$147,982,348	\$91,092,498	\$757,956,094	\$1,679,295,335

Notes: Industry categories are as defined in Table 1; direct output, employment and labor income figures were estimated using information from the U.S. Census Bureau Annual Survey of Manufacturers, the County Business Patterns of the U.S. Census Bureau, Nonemployer Statistics of the U.S. Census Bureau, budget figures for the Maine Forest Service, and the 2019 Maine IMPLAN model; multiplier effects are estimated using an economic impact (IMPLAN) model of the Maine economy; values are in 2019 dollars; the forest products sector is included in the direct contribution *and* the multiplier effect because inter-industry spending occurs (e.g. sawmills and paper product manufacturers (counted in the direct contribution) purchase goods and services from businesses involved in logging (counted in the multiplier effects)).

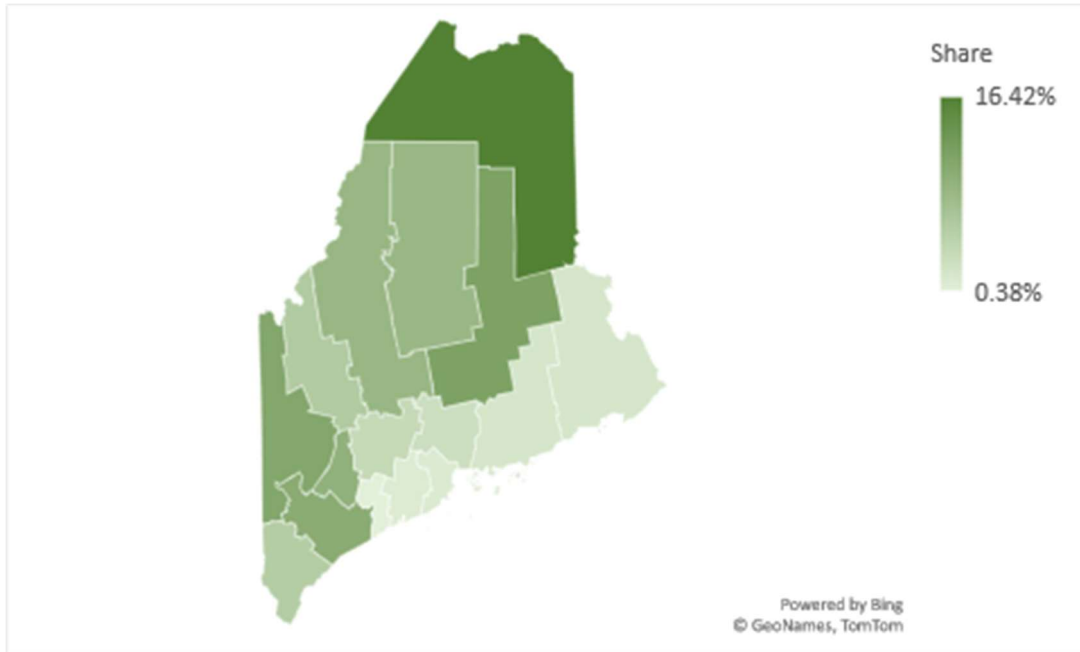
DETAIL: EMPLOYMENT IMPACTS

Table 4. Maine Forest Products Industry Employment Impact by County, 2019

County	Total Employment Impact
Androscoggin	2,992
Aroostook	5,225
Cumberland	3,253
Franklin	1,848
Hancock	591
Kennebec	1,145
Knox	379
Lincoln	342
Oxford	3,496
Penobscot	3,717
Piscataquis	2,718
Sagadahoc	121
Somerset	2,759
Waldo	911
Washington	597
York	1,726
TOTAL	31,822

Notes: County-level employment figures are generated using data from County Business Patterns and Nonemployer Statistics of the U.S. Census Bureau. County employment shares are based on direct employment in selected industries (NAICS 113, 1153, 321, 322, 337110, 337122, 337212) and these shares are applied to the statewide total employment impact.

Map 1. Maine Forest Products Industry Employment Impact by County, 2019



2019 Forest Products Economic Impact: September 2021

Table 5. Industries Impacted by Maine’s Forest Products Sector, 2019

	Included in Sectors	Total Employment Impact
Forest Products Sector	Paper Manufacturing	4,909
	Wood Product Manufacturing	4,808
	Forestry and Logging	4,187
	Other	1,766
	Subtotal	15,680
Forest Products Support Sector	Truck Transportation	708
	Rail Transportation	138
	Management Consulting	105
	Other	341
	Subtotal	1,292
Non-Forest Products Sectors	Management of companies	646
	Real estate	644
	Full-service restaurants	589
	Hospitals	552
	Limited-service restaurants	362
	Services to buildings	348
	Architectural, engineering, and related services	215
	Accounting, tax preparation, bookkeeping, and payroll services	210
	Other	11,283
	Subtotal	14,849
TOTAL		31,822

Notes: The forest products industry employment impact of 15,680 full and part-time jobs includes the direct employment of 12,218 and 3,462 jobs counted in the multiplier effects (Table 3). The forest products support industry sectors and non-forest product industry sectors listed by title have the largest employment impacts as estimated by the 2019 Maine IMPLAN model. Employment figures count full and part-time jobs that are located in Maine. Numbers may not sum to totals due to rounding.