

# New York State Forest Industry

## An Economic Overview – 2014

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### Executive Summary

New York State is comprised of 19,746,230 residents and generates approximately \$1.38 trillion in gross regional product. Roughly 43% (8,491,079) of the state’s population resides in New York City, leaving the majority of New York’s 30.2 million acres to the remaining 11 million residents [1]. 63% of the state’s land area is classified as forested (18.9 million acres) and provides numerous tangible and intangible benefits for both the residents of New York and its many annual visitors [2]. Current estimates of the annual economic impact of the forest industry range from \$4.6 billion to around \$10 billion [2,3]. This study employs 2014 IMPLAN data and a multiplier analysis to establish the economic impacts of the forest sector on the New York State economy.

New York State received significant benefits from the forest industry in 2014. The forest economy of New York generated \$13.1 billion in direct output with around 70% attributable to the production activities of the pulp and paper industry (Exhibit 1 and 2).

Description	Output	Employment	Labor Income	Value Added
Forestry & Logging	\$302.9	3,941	\$120.2	\$135.3
Wood Products	\$1,994.1	10,464	\$508.6	\$475.9
Pulp and Paper	\$9,274.2	16,884	\$1,407.5	\$1,810.5
Wood Furniture	\$1,515.8	10,106	\$510.5	\$578.6
<b>Forest Industry Total</b>	<b>\$13,087.0</b>	<b>41,394</b>	<b>\$2,546.8</b>	<b>\$3,000.2</b>
<b>NYS Agriculture Total</b>	<b>\$16,797.9</b>	<b>78,592</b>	<b>\$3,142.5</b>	<b>\$5,627.5</b>
<b>NYS Industry Total</b>	<b>\$2,144,286.5</b>	<b>11,801,400</b>	<b>\$864,093.5</b>	<b>\$1,375,278.9</b>

Exhibit 1: The direct economic activity for the NYS forest sector in millions of USD. The pulp and paper industry generated more than half of the economic activity in the sector. The forest sector in the New York State was behind the agriculture industry in employment, value added, output and labor income. Output, Labor Income, and Value Added are measured in \$ and Employment is measured in Jobs.

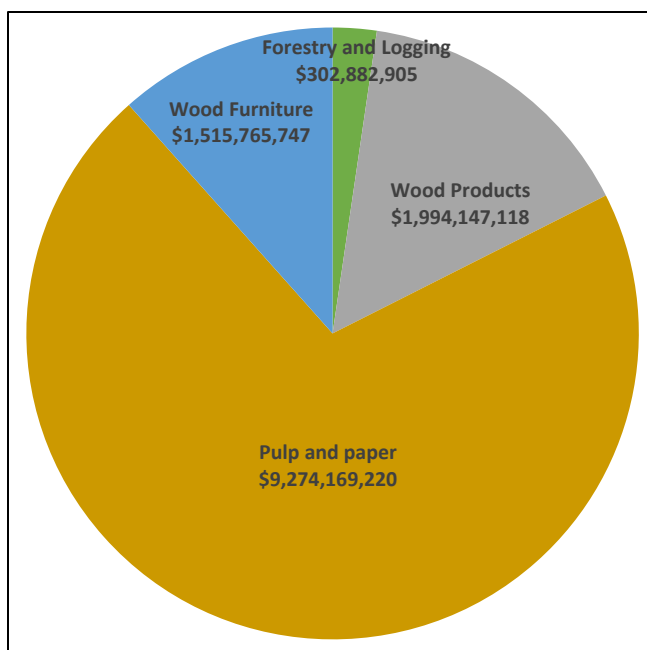


Exhibit 2: The direct economic activity for the NYS forest sector.

The forest industry’s linkages to the state’s economy generated \$9.8 billion in additional production activities, making a total state wide economic impact of \$22.9 billion dollars.

The forest industry supported 41,394 direct jobs and \$2.5 billion in direct labor income statewide for an average labor income per worker of \$61,526 (Exhibit 1). This direct economic activity generated 53,654 additional jobs for a total economic impact of nearly 100,000 jobs state wide and \$3.7 billion additional labor income for a total economic impact of \$6.2 billion in labor income state wide.

For the purposes of this report, the Regional Economic Development Councils were used with one exception, the New York City and Long Island regions were joined as one region. The nine regions were defined as Western New York, Finger Lakes, the Southern Tier, Central New York, the North Country, Mohawk Valley, the Capital

District, Mid-Hudson and New York City–Long Island.

In 2014, New York State's forestry and logging industry produced \$303 million in output, which in turn generated an additional \$233 million in output for a total output of \$536 million throughout the state. Also, 3,941 direct jobs were created by this industry leading to an additional 1,703 for a total of 5,644 jobs. The average pay of the direct employees was approximately \$30,509 each. Almost half of the jobs (2,458 jobs) were created within the North Country Region. The region with the lowest level of employment in the state was Mid-Hudson with 144 jobs.

The wood products industry and the pulp and paper industry generated the greatest valued added statewide. The wood products industry generated a total of \$1.5 billion in value added and the pulp and paper industry generated a total of \$5.7 billion in value added. \$275 million of the value added generated by the wood products industry was created within the New York City-Long Island Region and \$218 million was created by the Western New York Region. In the New York City-Long Island Region the primary wood products sectors were other mill work, wood containers and pallet manufacturing, and wood windows and doors.

The \$9.3 billion direct output produced by the state's pulp and paper industry resulted in a total statewide output impact of \$16 billion. Most notable are the over 52,000 total jobs created throughout the state as a result of the pulp and paper industry's economic activity. The two regions where most of the jobs were created were Capital District Region with 9,600 jobs and the New York City-Long Island Region with 9,000 jobs. In these regions, the pulp and paper industry stimulated \$1.9 billion and \$1.8 billion in direct regional output respectively, leading to a total regional output of 3.06 billion for the Capital District Region and 2.9 billion for the New York City-Long Island Region.

The wood furniture industry generated approximately \$2.6 billion of total economic output and \$935 million in total labor income statewide. The industry had its strongest presence in the New York City-Long Island Region where \$400 million in total labor income was created primarily by wood kitchen cabinets, custom woodwork, and non-upholstered wood household furniture manufacturing.

**Introduction**

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Industry	Individual Sectors
Forestry and Logging	Forestry, forest products, and timber tract production; Commercial logging
Wood Products	Sawmills and wood preservation; Veneer and plywood manufacturing; Engineered wood member and truss manufacturing; Reconstituted wood product manufacturing; Wood windows and doors manufacturing, cut stock, resawing lumber and planning, other millwork including flooring, wood container and pallet manufacturing; Manufactured home manufacturing; Prefabricated wood building manufacturing; All other miscellaneous wood product manufacturing
Pulp and Paper	Pulp mills; Paper mills; Paperboard mills; Paperboard container manufacturing; Paper bags and coated and treated paper manufacturing; Stationery product manufacturing; Sanitary paper product manufacturing; All other converted paper product manufacturing
Wood Furniture	Wood kitchen cabinet and countertop manufacturing; Upholstered household furniture manufacturing; Non-upholstered wood household furniture manufacturing; Institutional furniture manufacturing; Wood office furniture manufacturing; Custom architectural woodwork and millwork.
Agriculture	Crop production; Vegetable and melon farming; Fruit and tree nut farming; Greenhouse, nursery, and floriculture production; Animal production and aquaculture; Fishing, hunting, and trapping; Fluid milk manufacturing; Creamery butter manufacturing; Cheese manufacturing; Animal, except poultry; slaughtering; Meat processed from carcasses; Poultry processing; Wineries. Excludes the Forestry and Logging Industry..

Table 1: The forest industry is comprised of four industries, following the main body of literature [3–5]. The respective sectors contained within each industry are listed, following IMPLAN industrial descriptions.

**The Forest Economy of New York**

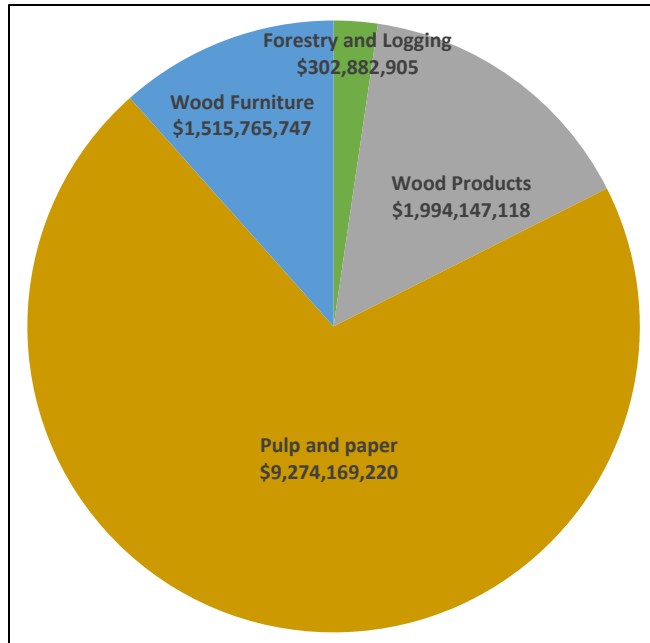


Figure 1: The direct economic activity for the NYS forest sector.

**Employment - New York State Forest Sector**

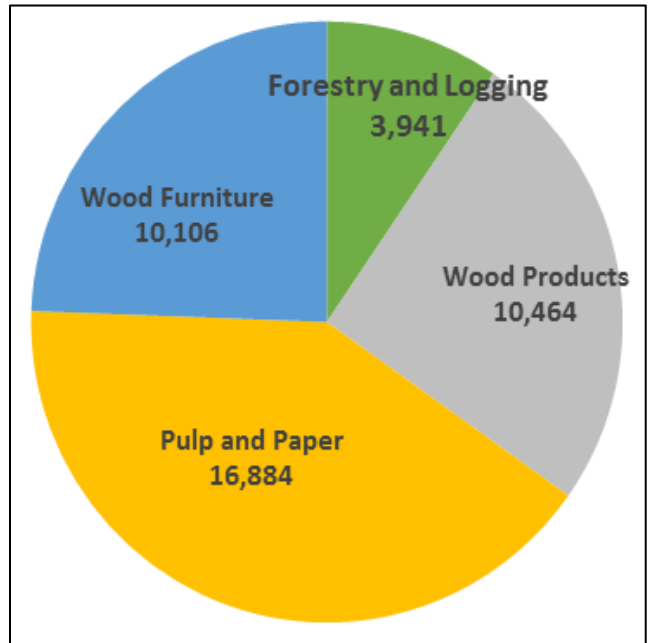


Figure 2: Direct employment of the NYS forest sector.

The forest economy of New York generated \$13.1 billion in direct output (Figure 1 and Table 2). The forest industry supported 41,394 direct jobs and \$2.5 billion in labor income (Figure 2 and Table 2). The NYS total industry average for labor income per worker (\$73,219) is above the average for labor income per worker of the forest industry (\$61,526).

The Pulp and Paper industry was responsible for approximately three-quarters (71%) of the output of the forest industry and also the majority of the employment, labor income, and value added (Table 2).

Description	Output	Employment	Labor Income	Value Added
<b>Forestry &amp; Logging</b>	\$302.9	3,941	\$120.2	\$135.3
<b>Wood Products</b>	\$1,994.1	10,464	\$508.6	\$475.9
<b>Pulp and Paper</b>	\$9,274.1	16,884	\$1,407.5	\$1,810.5
<b>Wood Furniture</b>	\$1,515.8	10,106	\$510.5	\$578.6
<b>Forest Industry Total</b>	\$13,087.0	41,394	\$2,546.8	\$3,000.3
<b>NYS Agriculture Total</b>	\$16,797.9	78,592	\$3,142.5	\$5,627.5
<b>NYS Industry Total</b>	\$2,144,286.5	11,801,400	\$864,093.5	\$1,375,278.9

Table 2: The direct economic activity for the NYS forest sector in millions of USD. The pulp and paper industry generated more than half of the economic activity in the sector. Output, Labor Income, and Value Added are measured in \$ and Employment is measured in Jobs.

New York State received from the forest industry, in 2014, in total, \$22.9 billion dollars in annual industry production (Indirect, direct and induced output) and nearly 100,000 total jobs are attributable to the operations of the various industries within the forest industry, significantly larger than previous estimates [2,3] (Table 3 and Figure 3). The regional effects of the forest industry are pronounced as well, generating substantial output and creating needed employment (Figure 4).

	Output	Value added	Employment	Labor Income
<b>Direct</b>	\$13,087.0	\$3,000.3	41,394	\$2,546.8
<b>Indirect</b>	\$6,406.6	\$3,528.8	30,790	\$2,323.7
<b>Induced</b>	\$3,370.5	\$2,230.8	22,864	\$1,352.1
<b>Total</b>	\$22,864.1	\$8,759.8	95,048	\$6,222.7

Table 3: The direct, indirect, induced, and total statewide effects of the economic activity of the NYS forest sector in 2014. Output, Labor Income, and Value Added are measured in millions of USD and Employment is measured in Jobs

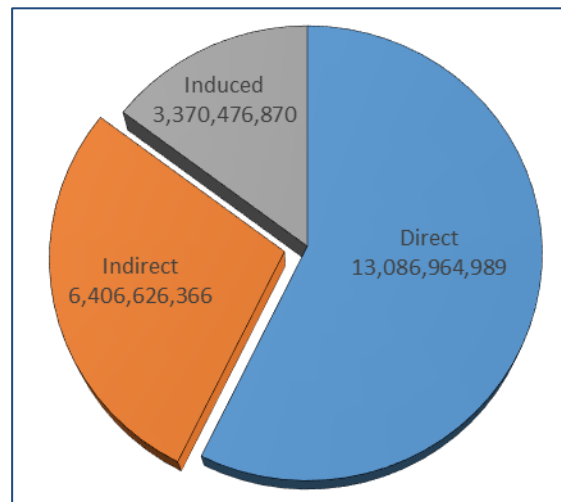


Figure 3. The Direct, Indirect and Induced Output by The New York State Forest Sector.

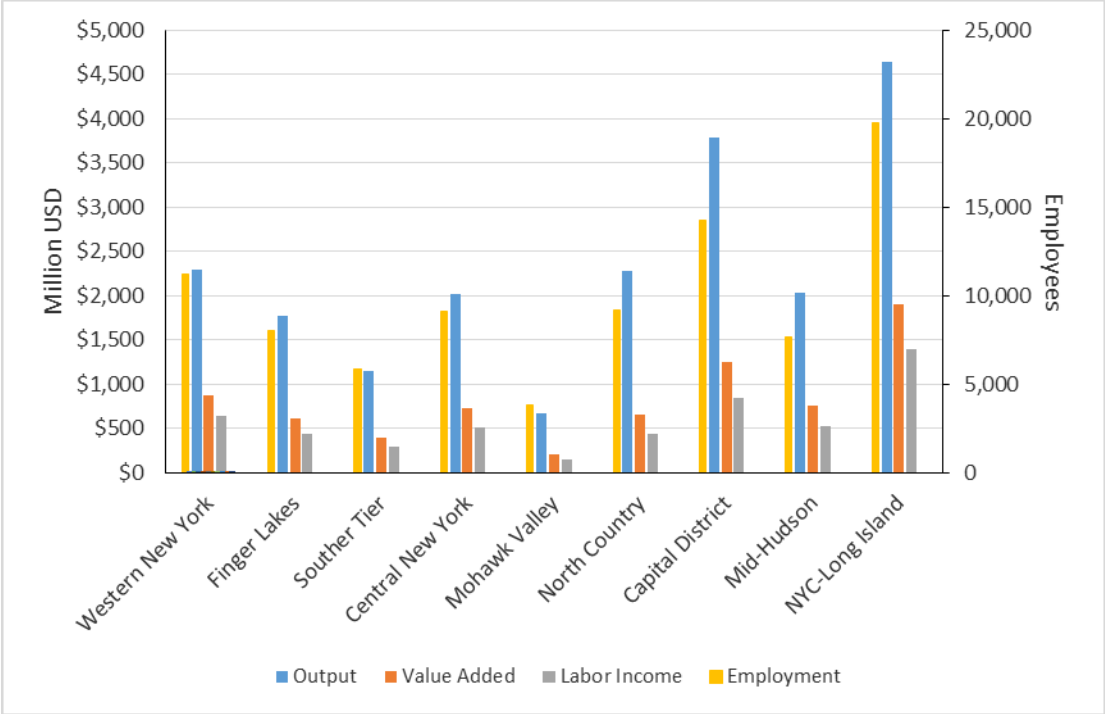


Figure 4: The total economic impacts of the forest industry, within each region.

## **Multiplier Analysis**

The effects of an industry on a regional economy can be classified as direct, indirect, or induced. Direct effects simply measure the initial impacts of the industry activity, such as its output or compensation paid to that industry's employees as a result of production. Indirect effects, such as output, employee compensation, etc., result from the direct effect. These are the generated by the other industries within the regional economy in order to produce the inputs demanded by the initial industry. When households are included in the analysis, the model is defined as "closed". Under a closed model, induced effects are the additional economic activity created by households spending of labor income generated by the direct and indirect effects [1].

Multipliers are a measure of the total production requirements for every unit of production sold to final demand [1]. Therefore, a direct, indirect, or induced multiplier captures the "ripple effects" of an industry's production throughout the economy. Larger multipliers indicate more economic linkages, or "ripples". For example, the construction industry requires dimensional lumber, which comes from the Wood Products industry, which buys its inputs, logs, from the Forestry & Logging industry. Therefore, every house built indirectly creates a demand for outputs from the Forestry and Logging industry. More regional economic activity is created, per unit of output, by industries with larger multipliers. A multiplier that measures the direct and indirect effects is defined as a Type I multiplier; a multiplier that measures the direct, indirect, and induced effects is defined as a SAM multiplier [1].

Furthermore, multipliers may be constructed for output as well as all the components of value added such as labor income, and employment [1]. Multipliers are commonly calculated with respect to output to measure the impacts of a change in final demand for the output of an initial industry on i) regional output (output/output multipliers), ii) value added (value added/output multipliers), iii) employment (employment/output multipliers), or iv) labor income (labor income/output multipliers). Multipliers can also be calculated with respect to economic factors other than output. For example, the effects of an increase in employment by a given industry on the demand for employment within the regional economy (employment/employment multipliers) [6].

Multiplier effects more fully illustrate the economic linkages within a given region and will be used along with the direct effects of the industry to expound each industries role within the regional economy. The New York State regional economic multipliers for the forest industry are given in Table 4.

	Output	Value Added	Employment	Labor Income
<b>Forestry &amp; Logging</b>	1.77	2.01	1.43	1.73
<b>Wood Products</b>	1.86	3.16	2.00	2.31
<b>Pulp &amp; Paper</b>	1.73	3.16	3.09	2.77
<b>Wood Furniture</b>	1.72	2.17	1.62	1.83

Table 4. SAM output/output, value added/value added, employment/employment, labor income/labor income for the four industries of the New York forest industry.

These multipliers should be interpreted with caution. Normally, the industries are defined according to the North American Industrial Classification Scheme (NAICS). For this study the relevant sectors of the forest industry have been aggregated as described in Table 1, while all other industries are aggregated using a 2-digit NAICS aggregation scheme. For example, the manufacturing industry, shown in Figure 1, comprises over 200 industry classifications. Aggregating industries into broader categories may skew the multipliers and is termed “aggregation bias”. The aggregated industry is a weighted average of all the aggregated industry’s production activity; those industries with the greatest output levels have the greatest influence. Thus, the multiplier may not truly represent an individual industry within the aggregated industry [1].

### **Regional Analysis**

The forest sector plays an important role in each region of New York State. For the purposes of this report, the Regional Economic Development Councils were used with one exception, the New York City and Long Island regions were joined as one region (Figure 5). The regions were defined as Western New York, Finger Lakes, the Southern Tier, Central New York, the North Country, Mohawk Valley, the Capital District, Mid-Hudson and New York City–Long Island. This resulted in nine regions. Regional multipliers were used to determine the direct, indirect, induced, and total impacts of the forest industry in terms of output, value added, employment, and labor income.

According to Figure 6, the two regions with the highest total direct output for the NYS forest industry were New York City-Long Island and Capital District, followed by North Country, Western New York and Mid-Hudson. The region with the smallest total output was Mohawk Valley.

Compared with the agriculture sector (Table 5), the production levels of the forest industry were bigger than the agricultural industries just within three regions: Capital District, Mid-Hudson and New York City-Long Island. Two of these three regions obtained a higher value added and a higher labor income than the agriculture industry, as well: The Capital District and the New York City-Long Island Regions.



Figure 5: The 10 NYS economic development councils.

<b>Western New York Region – Direct Economic Activity (Forest, Agriculture and Total Industry)</b>				
	Output	Value Added	Employment	Labor Income
<b>Regional Forest Industry Total</b>	\$1,380.2	\$357.0	5,057	\$327.4
<b>Regional Agriculture Total</b>	\$2,769.6	\$748.8	11,281	\$439.1
<b>Regional Industry Total</b>	\$125,417.1	\$66,427.0	778,385	\$41,271.6
<b>Finger Lakes Region – Direct Economic Activity (Forest, Agriculture and Total Industry)</b>				
	Output	Value Added	Employment	Labor Income
<b>Regional Forest Industry Total</b>	\$1,086.2	\$222.3	3,633	\$192.8
<b>Regional Agriculture Total</b>	\$2,801.1	\$1,201.3	13,994	\$659.9
<b>Regional Industry Total</b>	\$111,644.3	\$60,960.4	698,701	\$38,088.5
<b>Southern Tier Region – Direct Economic Activity (Forest, Agriculture and Total Industry)</b>				
	Output	Value Added	Employment	Labor Income
<b>Regional Forest Industry Total</b>	\$756.2	\$182.3	3,089	\$168.2
<b>Regional Agriculture Total</b>	\$2,716.2	\$694.5	10,164	\$375.4
<b>Regional Industry Total</b>	\$54,482.0	\$27,247.3	346,533	\$17,530.2
<b>Central New York Region – Direct Economic Activity (Forest, Agriculture and Total Industry)</b>				
	Output	Value Added	Employment	Labor Income
<b>Regional Forest Industry Total</b>	\$1,228.3	\$289.6	3,983	\$249.3
<b>Regional Agriculture Total</b>	\$1,519.0	\$557.9	7,296	\$291.5
<b>Regional Industry Total</b>	\$69,219.3	\$37,557.1	438,271	\$23,358.6
<b>Mohawk Valley Region – Direct Economic Activity (Forest, Agriculture and Total Industry)</b>				
	Output	Value Added	Employment	Labor Income
<b>Regional Forest Industry Total</b>	\$452.6	\$94.7	2,235	\$88.0
<b>Regional Agriculture Total</b>	\$1,100.1	\$375.6	5,743	\$164.4
<b>Regional Industry Total</b>	\$35,752.4	\$18,013.4	241,732	\$11,420.5
<b>North Country Region – Direct Economic Activity (Forest, Agriculture and Total Industry)</b>				
	Output	Value Added	Employment	Labor Income
<b>Regional Forest Industry Total</b>	\$1,626.1	\$312.6	4,258	\$243.1
<b>Regional Agriculture Total</b>	\$1,773.8	\$655.3	7,305	\$290.7
<b>Regional Industry Total</b>	\$32,940.8	\$19,343.3	217,782	\$11,189.3
<b>Capital District Region – Direct Economic Activity (Forest, Agriculture and Total Industry)</b>				
	Output	Value Added	Employment	Labor Income
<b>Regional Forest Industry Total</b>	\$2,333.2	\$440.7	5,219	\$346.2
<b>Regional Agriculture Total</b>	\$968.5	\$361.8	6,239	\$200.7
<b>Regional Industry Total</b>	\$105,675.9	\$60,086	655,108	\$38,104.6
<b>Mid-Hudson Region – Direct Economic Activity (Forest, Agriculture and Total Industry)</b>				
	Output	Value Added	Employment	Labor Income
<b>Regional Forest Industry Total</b>	\$1,317.2	\$321.1	3,398	\$252.7
<b>Regional Agriculture Total</b>	\$1,115.8	\$390.9	6,531	\$259.3
<b>Regional Industry Total</b>	\$206,850.2	\$124,018.9	1,261,587	\$78,169.9
<b>New York City-Long Island Region – Direct Economic Activity (Forest, Agriculture and Total Industry)</b>				
	Output	Value Added	Employment	Labor Income
<b>Regional Forest Industry Total</b>	\$2,906.9	\$779.9	10,523	\$679.1
<b>Regional Agriculture Total</b>	\$2,033.6	\$641.3	10,040	\$461.5
<b>Regional Industry Total</b>	\$1,402,304.5	\$961,625.5	7,163,302	\$604,960.0

Table 5: The direct economic activity of the forest and agriculture sector per region. Output, Labor Income, and Value Added are measured in millions of USD and Employment is measured in Jobs



According to Table 6, among the nine regions, the forestry industry in the New York City-Long Island region was the one that created the greatest level of economic output, the highest labor income, value added and highest level of employment. These results were mainly influenced by two of the four sectors within the forestry industry: wood products and wood furniture, which are particularly important in New York City [1]. These findings were corroborated by comparing the related sectors within each region using IMPLAN.

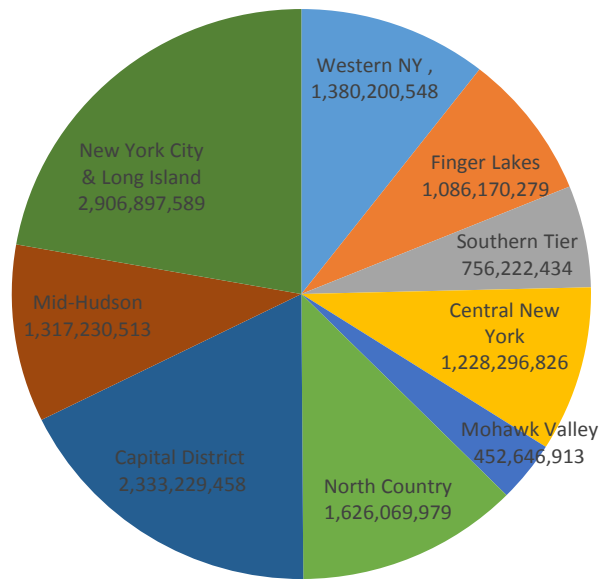


Figure 6: Total direct output of the forest sector per Region.

<b>Western New York Region - Forest Industry</b>				
	Output	Value Added	Employment	Labor Income
<b>Direct</b>	\$1,380.2	\$357.02	5,057.20	\$327.4
<b>Indirect</b>	\$521.2	\$276.2	2,992.68	\$175.2
<b>Induced</b>	\$393.2	\$237.6	3,134.43	\$136.3
<b>Total</b>	\$2,294.6	\$870.8	11,184.30	\$638.9
<b>Finger Lakes Region - Forest Industry</b>				
	Output	Value Added	Employment	Labor Income
<b>Direct</b>	\$1,086.2	\$222.3	3,633	\$192.8
<b>Indirect</b>	\$422.0	\$229.7	2,363	\$147.9
<b>Induced</b>	\$261.6	\$158.4	2,065	\$91.5
<b>Total</b>	\$1,769.8	\$610.5	8,061	\$432.3
<b>Southern Tier Region - Forest Industry</b>				
	Output	Value Added	Employment	Labor Income
<b>Direct</b>	\$756.2	\$182.3	3,089	\$168.2
<b>Indirect</b>	\$240.8	\$118.5	1,497	\$75.7
<b>Induced</b>	\$157.0	\$92.7	1,297	\$52.8
<b>Total</b>	\$1,154.0	\$393.5	5,883	\$296.6

<b>Central New York Region – Forest Industry</b>				
	Output	Value Added	Employment	Labor Income
<b>Direct</b>	\$1,228.3	\$289.6	3,983	\$249.3
<b>Indirect</b>	\$471.1	\$249.2	2,633	\$155.3
<b>Induced</b>	\$323.6	\$193.3	2,531	\$111.8
<b>Total</b>	\$2,023.1	\$732.1	9,147	\$516.3
<b>Mohawk Valley Region – Forest Industry</b>				
	Output	Value Added	Employment	Labor Income
<b>Direct</b>	\$452.6	\$94.7	2,235	\$88.0
<b>Indirect</b>	\$136.6	\$65.2	951	\$39.6
<b>Induced</b>	\$80.5	\$46.2	664	\$26.4
<b>Total</b>	\$669.7	\$206.1	3,850	\$154.0
<b>North Country Region – Forest Industry</b>				
	Output	Value Added	Employment	Labor Income
<b>Direct</b>	\$1,626.1	\$312.6	4,258	\$243.1
<b>Indirect</b>	\$446.2	\$217.2	3,186	\$132.0
<b>Induced</b>	\$202.8	\$120.9	1,718	\$65.6
<b>Total</b>	\$2,275.0	\$650.7	9,162	\$440.7
<b>Capital District Region – Forest Industry</b>				
	Output	Value Added	Employment	Labor Income
<b>Direct</b>	\$2,333.2	\$440.7	5,219	\$346.2
<b>Indirect</b>	\$936.0	\$496.4	5,157	\$318.4
<b>Induced</b>	\$510.6	\$308.6	3,852	\$180.0
<b>Total</b>	\$3,779.9	\$1,245.7	14,228	\$844.6
<b>Mid-Hudson Region – Forest Industry</b>				
	Output	Value Added	Employment	Labor Income
<b>Direct</b>	\$1,317.2	\$321.1	3,398	\$252.7
<b>Indirect</b>	\$437.6	\$259.9	2,210	\$164.3
<b>Induced</b>	\$280.0	\$177.1	2,060	\$105.5
<b>Total</b>	\$2,034.9	\$758.0	7,667	\$522.4
<b>New York City-Long Island Region – Forest Industry</b>				
	Output	Value Added	Employment	Labor Income
<b>Direct</b>	\$2,906.9	\$779.9	10,523	\$679.1
<b>Indirect</b>	\$1,115.9	\$686.5	5,176	\$453.5
<b>Induced</b>	\$622.1	\$429.4	4,093	\$264.7
<b>Total</b>	\$4,644.9	\$1,895.8	19,793	\$1,397.3

Table 6: Using regional multipliers developed using IMPLAN, the direct, indirect, induced, and total economic impacts of the forest industry in each region was estimated. Output, Labor Income, and Value Added are measured in millions of USD and Employment is measured in Jobs

## **Economic breakdown of the New York State's Forest Industry**

In terms of employment impact, the pulp and paper industry is the strongest forest sector industry within each region (See Figure 7).

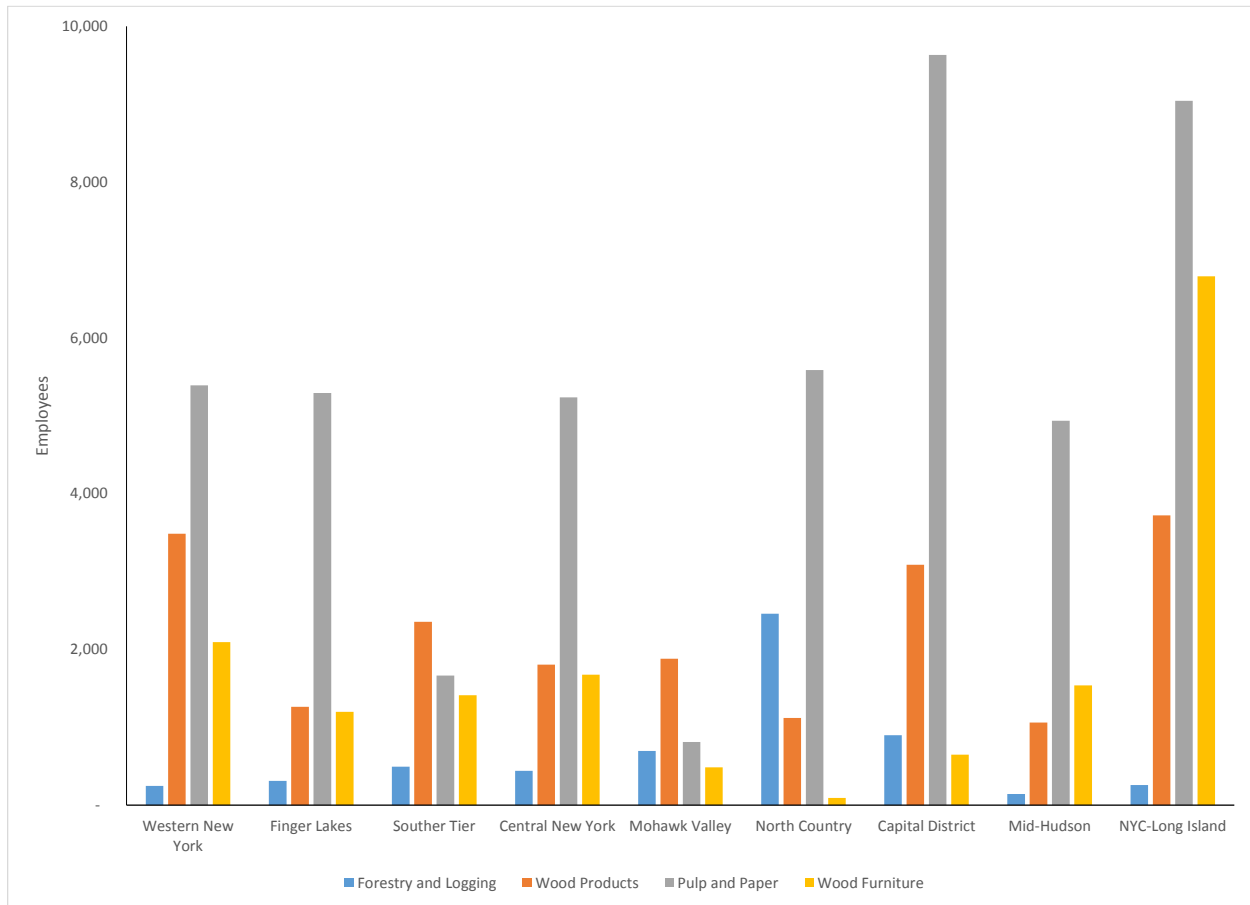


Figure 7: The total regional employment impact for each industry within the nine regions.

The highest employment in general for the forest industry, was within the New York City-Long Island Region (Figure 7). However, as individual industries, strong regional effects could be seen. Pulp and paper had the greatest impact in the capital District Region, the wood furniture industry had the greatest impact in the New York City-Long Island Region, while the wood products industry generated its strongest employment impact in the Western New York, New York City-Long Island and Capital District Regions. Although small in comparison to the activity of the pulp and paper industry, the logging industry had its most significant impact in the North Country Region.

In 2014, New York State's forestry and logging industry produced \$303 million in output, which in turn generated an additional \$233 million in output for a total output of \$536 million throughout the state (Table 7); a multiplier effect of 1.77 (Table 3). Also, 3,941 direct jobs were created by this industry leading to an additional 1,703 for a total of 5,644 jobs (direct, indirect, and induced) (Table 7); a multiplier effect of 1.43 (Table 3). The average pay of the direct employees was approximately \$30,509 each. Almost half of the jobs (2,369 jobs) created in response to the economic activity in the forestry and logging industry were created within the North Country Region. The region with the lowest level of employment in the state was Mid-Hudson (142 jobs) (Figure 8).

<b>Forestry and Logging</b>				
	Output	Value added	Employment	Labor Income
<b>Direct</b>	\$302.9	\$135.3	3,941	\$120.2
<b>Indirect</b>	\$117.9	\$61.0	920	\$41.7
<b>Induced</b>	\$115.1	\$76.2	783	\$46.3
<b>Total</b>	\$535.9	\$272.5	5,644	\$208.2

Table 7: The direct, indirect, induced, and total statewide impacts of the forestry and logging industry. Output, Labor Income, and Value Added are measured in millions of USD and Employment is measured in Jobs

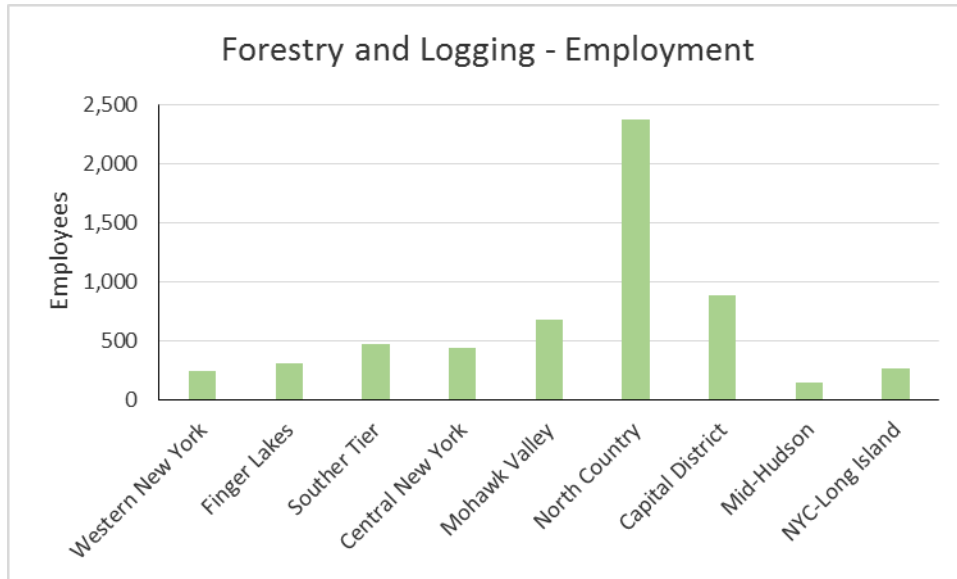


Figure 8. The total regional employment generated in each region as a result of the production activities of the forestry and logging industry

The wood products industry is responsible for the manufacturing of lumber, plywood, veneers, wood flooring, wood trusses, manufactured homes, and prefabricated buildings [7]. This industry and the pulp and paper industry have the highest value added multiplier, 3.16, among the forest industries (Table 3). This multiplier indicates that for every dollar of Direct Value Added in these Industries another \$2.16 of Value Added is generated throughout NYS leading to a total of \$1.5 billion in value added by the wood products industry (Table 8). The pulp and paper industry generated a total of \$5.7 billion in value added (Table 8). \$275 million of the value added generated by the wood products industry was created within the New York City-Long Island Region and \$218 million was created by the Western New York Region (Figure 9). In the New York City-Long Island Region the primary wood products sectors were other mill work, wood containers and pallet manufacturing, and wood windows and doors. In the Capital District the primary wood products sectors were sawmills and wood containers and pallet manufacturing.

<b>Wood Products</b>				
	Output	Value Added	Employment	Labor Income
<b>Direct</b>	\$1,994.1	\$475.9	10,464	\$508.6
<b>Indirect</b>	\$1,082.5	\$608.0	6,140	\$411.5
<b>Induced</b>	\$637.6	\$422.0	4,326	\$255.8
<b>Total</b>	\$3,714.3	\$1,505.9	20,930	\$1,175.9

Table 8: The direct, indirect, induced, and total statewide impacts of the wood products industry. Output, Labor Income, and Value Added are measured in millions of USD and Employment is measured in Jobs



Figure 9: The total value added generated in each region as a result of the production activities of the wood products industry.

The \$9.3 billion direct output produced by the state’s pulp and paper industry resulted in a total statewide output impact of \$16 billion (Table 9). Around 70% of the statewide economic activity created by the New York State forest sector is attributable to the production activities of this industry (Table 2). Most notable are the over 52,000 total jobs (direct, indirect and induced) created throughout the economy; a multiplier effect of 3.09 (indicating that 2.09 additional indirect and induced jobs are created for every direct job in this industry) (Table 3). The two regions where most of the jobs were created, by the Pulp and Paper industry, were Capital District Region with 9,600 jobs and the New York City-Long Island Region with 9,000 jobs (Figure 7). In these regions, the pulp and paper industry stimulated \$1.9 billion and \$1.8 billion in direct regional output respectively, leading to a total regional output of 3.06 billion for the Capital District Region and 2.9 billion for the New York City-Long Island Region (Figure 10).

Pulp and Paper				
	Output	Value added	Employment	Labor Income
<b>Direct</b>	\$9,274.2	\$1,810.5	16,884	\$1,407.5
<b>Indirect</b>	\$4,626.0	\$2,517.9	20,878	\$1,648.8
<b>Induced</b>	\$2,113.1	\$1,398.5	14,333	\$847.6
<b>Total</b>	\$16,013.2	\$5,726.9	52,095	\$3,903.9

Table 9: The direct, indirect, induced, and total statewide impacts of the pulp and paper industry. Output, Labor Income, and Value Added are measured in millions of USD and Employment is measured in Jobs

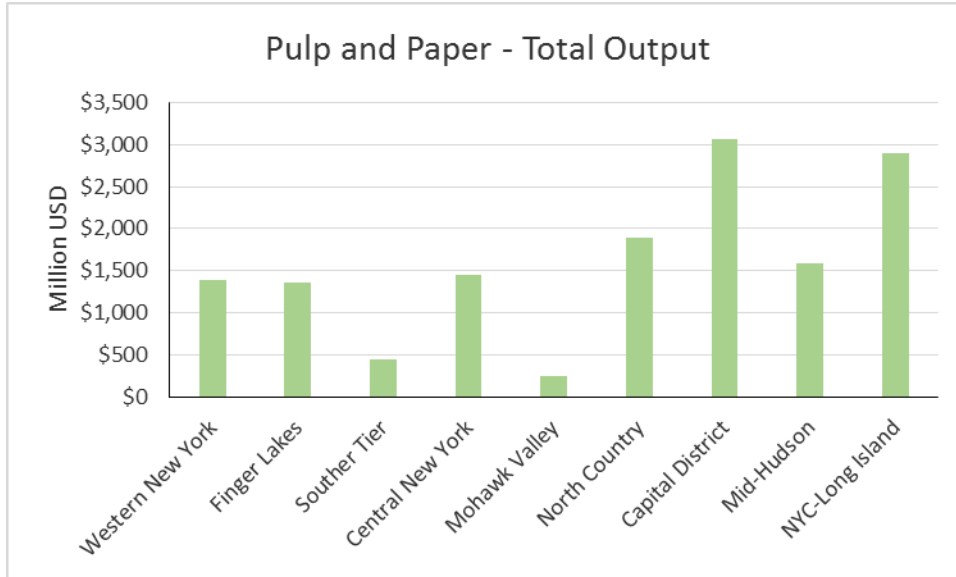


Figure 10: The total output generated in each region as a result of the production activities of the pulp and paper industry

The production of the wood furniture industry initiated approximately \$2.6 billion of total economic output throughout the state, a multiplier effect of 1.72 (Table 3). There was also \$935 million in total labor income attributable to the wood furniture industry (Table 10); a multiplier effect of 1.83 which indicates that for every dollar of direct labor income in this Industry another \$0.83 of labor income is generated in the economy. The industry had its strongest presence in the New York City-Long Island Region where \$400 million in total labor income was created (Figure 11).

Wood Furniture				
	Output	Value added	Employment	Labor Income
<b>Direct</b>	\$1,515.8	\$578.6	10,106	\$510.5
<b>Indirect</b>	\$580.2	\$341.9	2,851	\$221.8
<b>Induced</b>	\$504.7	\$334.0	3,422	\$202.4
<b>Total</b>	\$2,600.7	\$1,254.5	16,380	\$934.7

Table 10: The direct, indirect, induced, and total statewide impacts of the wood furniture industry. Output, Labor Income, and Value Added are measured in millions of USD and Employment is measured in Jobs



Figure 11: The total labor income generated in each region as a result of the production activities of the wood furniture industry

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