



Forest Products Industries' Economic Contributions in the Northeast and Midwest

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Other Region-Wide Economic Analysis Projects

- Economic Contribution Analysis of Forest Products Industries in the Northeast & Midwest in 2017 (20 state region + Nebraska)
 - 2017 LSR grant
- Economic contributions of urban and community forestry in the Northeast and Midwest in 2017
 - 2018 LSR grant
- Economic Contributions of Biomass Power in the Northeast & Midwest (+ CA, GA, VA) in 2017 & 2019
 - 2021 LSR grant

Background

The project was initiated by the Northeast – Midwest State Foresters Alliance, Forest Markets & Utilization Committee.

Purpose: describe the contributions of the forest products industry in the 20 Northeast and Midwest states

- Supported by a U.S. Department of Agriculture, Forest Service 2017 Landscape Scale Restoration Grant and by contributions from 19 participating states
- Administered by Michigan Department of Natural Resources, Forest Resources Division
- Contracted for facilitation, analysis and report writing with Public Sector Consultants (PSC) in Lansing, Michigan. Dr. Larry Leefers was a contractor with PSC for this project.





Project Goals

- Develop, through consensus, a method for an economic contribution analysis of forest products industries (FPI) that could be consistent among states, and potentially among regions, over time
- Develop estimates at state- and region-scales
- Produce State- and Region-level reports, 2-page fact sheets (and a dashboard)



What is Economic Contribution Analysis?

A way of quantifying economic activity for an area, state, region etc. using publicly available data. We used 2017 IMPLAN data.

Contributions analysis can:

- Provide context for garnering support for forest management and associated economic activities.
- Help assess changes in policy, legislation or tax law that may affect forest-based economic activity.
- Examine how forest products industries respond to changes in local supply and demand.
- Demonstrate how one-size-fits-all programs and policies may affect the forest products industries.

Economic Contribution Analysis: Methods

Forest Products Industry Regional Economic Analysis: Methods

4.30.2020



Prepared by
[Public Sector Consultants](#)
Lansing, Michigan
www.publicsectorconsultants.com

Prepared for
[Michigan Department of Natural Resources](#)
Lansing, Michigan
www.michigan.gov/dnr

Suggested citation: Gibson, Melissa, Larry Leefers, and Jagdish Poudel. 2020. *Forest Products Industry Regional Economic Analysis: Methods*. Lansing: Public Sector Consultants.



Methods and Reporting Decisions: Consensus-based

- **Methods Report:** Gibson, Melissa, Larry Leefers, and Jagdish Poudel. 2020. Forest Products Industry Regional Economic Analysis: Methods. Lansing: Public Sector Consultants.
- 2017 IMPLAN data used; reported in 2017 dollars; 32 sectors
- Five partial sectors, including maple syrup production
- Seven industry groups

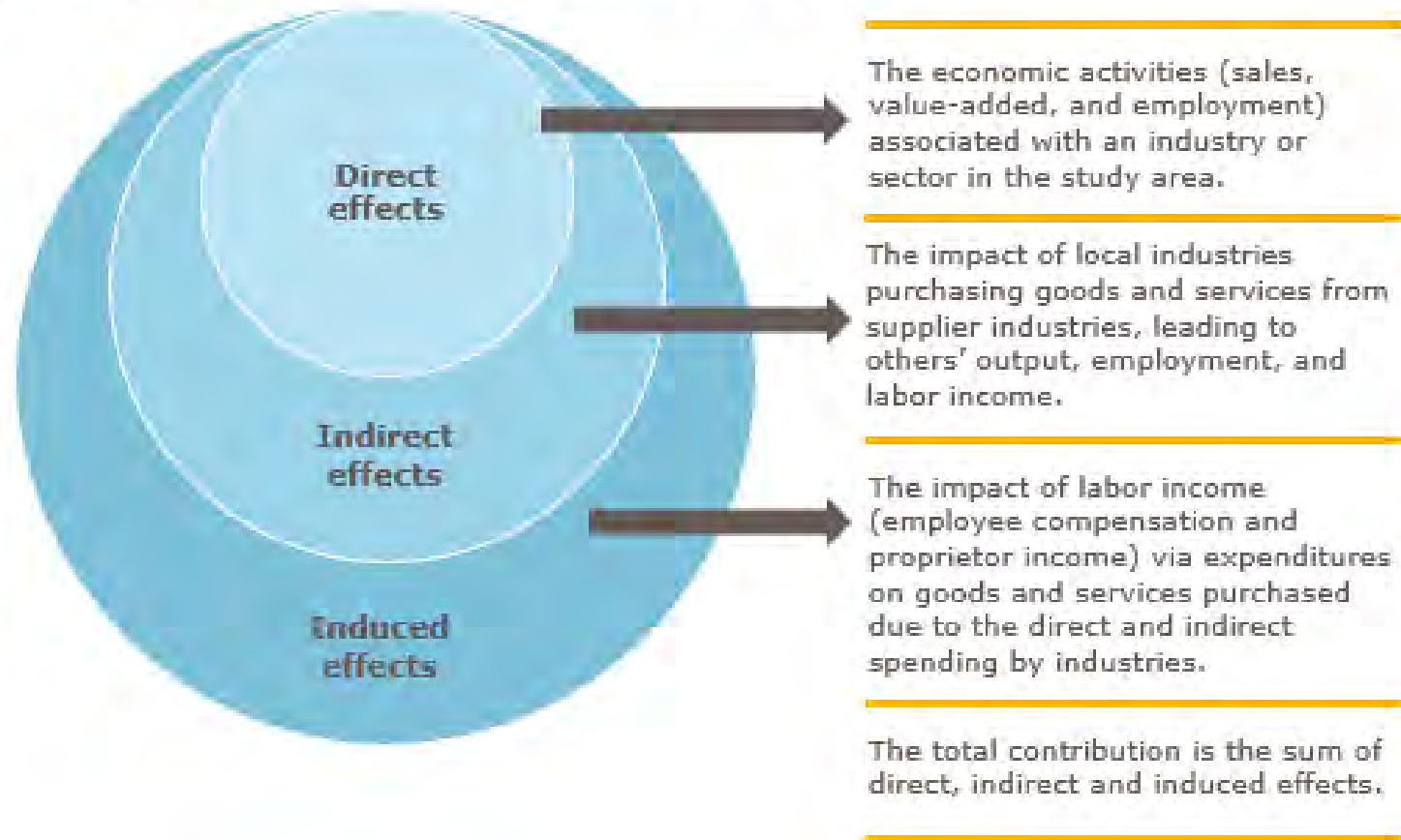


Forest Products Industries Groupings

1. Forestry (includes maple syrup production)
2. Logging
3. Primary solid wood products
4. Secondary solid wood products
5. Wood furniture
6. Pulp, paper and paperboard mills
7. Secondary paperboard and other paper products

Economic Framework

EXHIBIT 6. Concept of Total Economic Contribution Analysis



Regional and State Report

Forest Products Industries' Economic Contributions in the Northeast and Midwest

March 2020



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Prepared for

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Forest Resources Division

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Forest Products Industries' Economic Contributions: Michigan

May 2020

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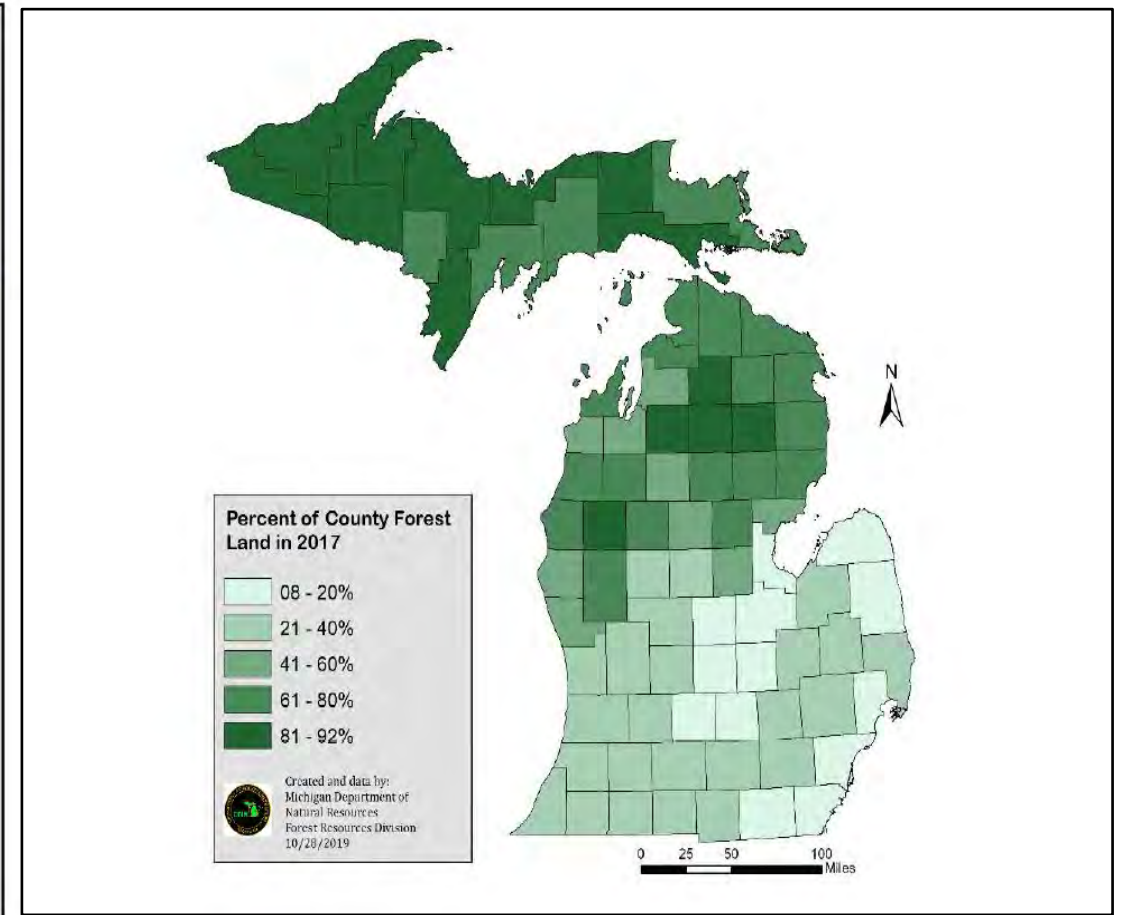
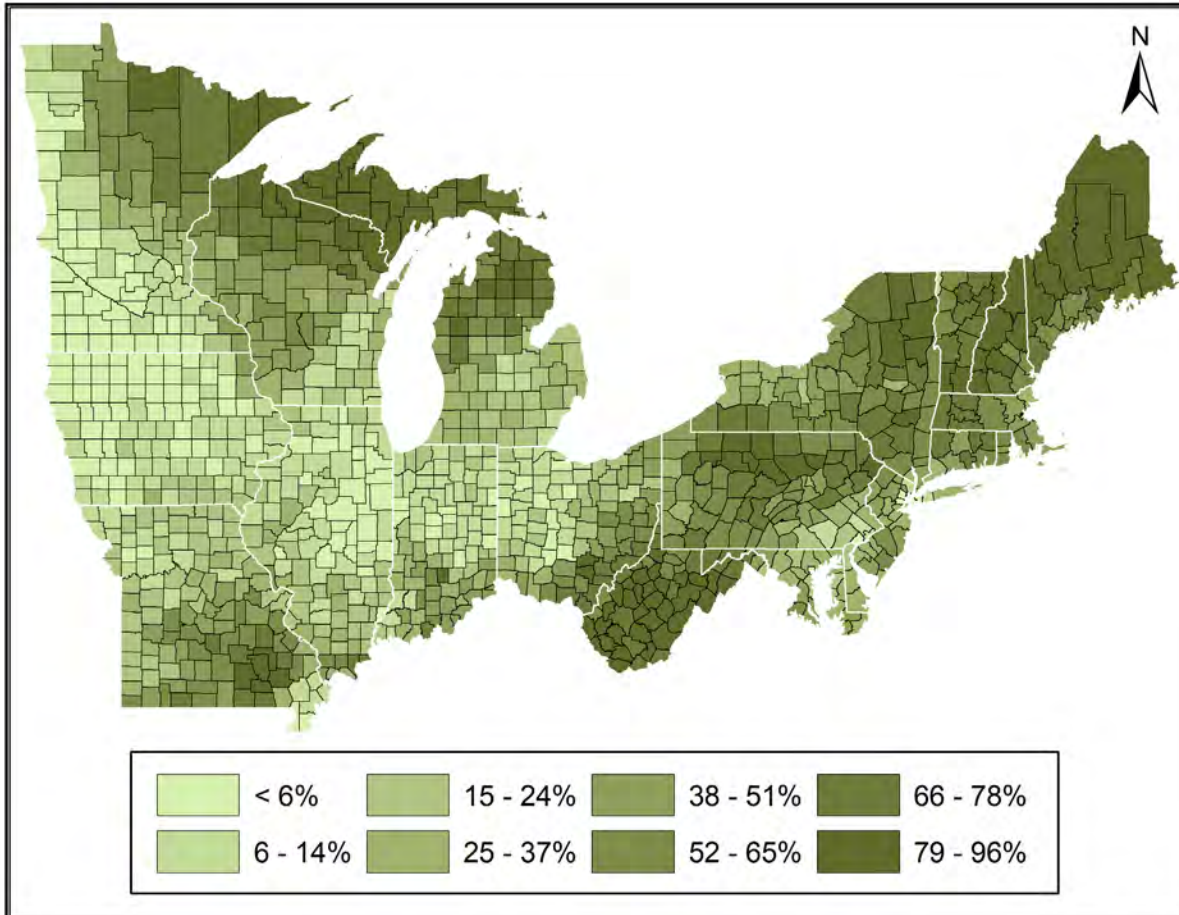


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http://www.northeasternforests.org/content/fmuc_page

The Northeast and Midwest's Forest Land by County, 2017





Selected Findings – Region-Wide

- Northeast and Midwest's forest land covers 175.5 million acres—43% of the land base.
- Direct employment of over 540,000 people in 2017, leading to \$167.0 billion in output with labor income of \$36.5 billion and value-added of \$50.6 billion.
- Supports total contributions of 1.4 million jobs, \$92.5 billion in labor income, \$141.8 billion in value-added, and \$327.2 billion in output.
- Each direct job in the forest products industries supports 1.6 additional jobs.
- Of the 16 manufacturing industries, forest products was the fifth largest in terms of employment (481,790 jobs).

Region-wide Direct Economic Contributions, Industry Groups, 2017

EXHIBIT 8. Region-wide Direct Economic Contributions, Industry Groups, 2017

Industry Group	Employment	Labor Income (Thousands of Dollars)	Value-added (Thousands of Dollars)	Output (Thousands of Dollars)
Forestry	17,582	\$605,111	\$625,441	\$820,887
Logging	41,769	\$2,349,855	\$3,366,782	\$4,286,672
Primary solid wood products	41,560	\$2,457,771	\$3,182,925	\$13,939,506
#3 Secondary solid wood products	122,434	\$7,044,823	\$8,313,876	\$24,694,220
#2 Wood furniture	136,021	\$7,844,368	\$9,307,465	\$23,743,111
Pulp, paper, and paperboard mills	38,351	\$3,926,864	\$6,914,707	\$29,603,879
#1 Secondary paperboard and other paper products	144,442	\$12,289,344	\$18,842,069	\$69,945,542
Total	542,158	\$36,518,137	\$50,553,265	\$167,033,817

Region-wide Total Economic Contributions, Industry Groups, 2017

EXHIBIT 9. Region-wide Total Economic Contributions, Industry Groups, 2017

Industry Group	Employment	Labor Income (Thousands of Dollars)	Value-Added (Thousands of Dollars)	Output (Thousands of Dollars)
Forestry	16,669	\$684,498	\$857,354	\$1,267,775
Logging	23,331	\$1,268,111	\$1,921,904	\$2,745,669
Primary solid wood products	108,003	\$6,708,781	\$10,274,777	\$23,526,396
Secondary solid wood products	288,927	\$17,504,448	\$25,155,685	\$54,607,794
Wood furniture	297,641	\$17,980,467	\$25,692,267	\$53,520,259
Pulp, paper, and paperboard mills	164,948	\$12,051,257	\$19,932,081	\$48,900,414
Secondary paperboard and other paper products	508,115	\$36,287,805	\$57,934,902	\$142,597,517
Total	1,407,634	\$92,485,367	\$141,768,969	\$327,165,824

*Forestry and Logging are reported in this table; but many of their contributions are as indirect inputs or intermediate inputs that are used in the production in the other five industry groups.

State-level Direct Contributions, 2017

Exhibit D1. Compilation of State-level Direct Contributions

State	Employment	Labor Income (Thousands of Dollars)	Value-added (Thousands of Dollars)	Output (Thousands of Dollars)
Connecticut	7,730	\$612,313	\$673,015	\$2,415,490
Delaware	1,957	\$172,281	\$277,321	\$811,193
Illinois	38,554	\$2,751,641	\$3,631,953	\$12,863,371
Indiana	50,093	\$3,124,900	\$4,046,325	\$12,883,498
Iowa	17,834	\$1,118,759	\$1,828,168	\$4,978,201
Maine	18,887	\$990,184	\$1,589,980	\$5,236,715
Maryland	8,813	\$589,530	\$730,098	\$2,633,880
Massachusetts	16,083	\$1,548,080	\$1,441,125	\$5,354,786
Michigan	40,746	\$2,674,987	\$3,481,716	\$12,182,249
Minnesota	34,055	\$2,367,350	\$3,578,890	\$10,503,265
Missouri	25,699	\$1,466,242	\$2,336,133	\$6,985,972
New Hampshire	7,289	\$362,982	\$651,642	\$1,620,412
New Jersey	18,702	\$1,550,628	\$1,908,904	\$6,720,879
New York	43,024	\$3,270,371	\$3,783,648	\$13,484,023
Ohio	54,445	\$3,690,189	\$4,649,464	\$16,111,539
Pennsylvania	68,541	\$4,631,225	\$7,477,831	\$22,419,639
Rhode Island	3,035	\$180,616	\$229,666	\$929,557
Vermont	9,107	\$291,472	\$393,406	\$1,370,850
West Virginia	10,108	\$520,228	\$747,027	\$2,214,972
Wisconsin	67,793	\$4,517,367	\$7,065,287	\$25,282,710
20-state region (sum)	542,494	\$36,431,345	\$50,521,600	\$167,003,201

Lowest

Highest

Top 6 states

Pennsylvania

Wisconsin

Ohio

Indiana

New York

Michigan

State-level Total Contributions, 2017

Exhibit D2. Compilation of State-level Total Contributions

State	Employment	Labor Income (Thousands of Dollars)	Value-added (Thousands of Dollars)	Output (Thousands of Dollars)
Connecticut	16,141	\$1,224,699	\$1,637,604	\$3,957,671
Delaware	4,003	\$291,789	\$485,356	\$1,147,886
Illinois	90,102	\$5,995,900	\$8,994,987	\$21,851,360
Indiana	96,444	\$5,522,457	\$7,982,412	\$19,935,504
Iowa	33,656	\$1,880,743	\$3,116,328	\$7,285,278
Maine	39,742	\$1,951,150	\$3,190,147	\$8,165,119
Maryland	18,046	\$1,162,355	\$1,675,631	\$4,200,375
Massachusetts	37,806	\$3,102,352	\$3,806,318	\$9,225,714
Michigan	91,176	\$5,477,204	\$7,987,222	\$20,196,166
Minnesota	78,465	\$5,098,267	\$7,893,811	\$18,036,983
Missouri	53,862	\$2,961,633	\$4,759,704	\$11,292,249
New Hampshire	12,881	\$695,988	\$1,168,016	\$2,485,618
New Jersey	41,942	\$3,186,935	\$4,477,820	\$10,894,609
New York	86,775	\$6,537,990	\$9,049,965	\$21,792,352
Ohio	124,692	\$7,516,031	\$11,069,310	\$27,365,814
Pennsylvania	152,698	\$9,874,890	\$15,782,426	\$36,469,069
Rhode Island	6,372	\$375,000	\$548,657	\$1,462,615
Vermont	13,816	\$521,860	\$770,800	\$2,057,036
West Virginia	17,171	\$853,058	\$1,311,223	\$3,229,881
Wisconsin	160,149	\$9,528,567	\$15,295,296	\$39,996,566
20-state region (sum)	1,175,938	\$73,758,866	\$111,003,033	\$271,047,864

Lowest

Highest

Top 6 states

Wisconsin

Pennsylvania

Ohio

Indiana

Michigan

Illinois

Michigan Results vs. Other States (Direct Effects)

State	Employment	Labor Income (Thousands\$)	Value-added (Thousands \$)	Output (Thousands \$)
Illinois	38,554	2,751,641	3,631,953	12,863,371
Indiana	50,093	3,124,900	4,046,325	12,883,498
Michigan	40,746	2,674,987	3,481,716	12,182,249
Minnesota	34,055	2,367,350	3,578,890	10,503,265
Ohio	54,445	3,690,189	4,649,464	16,111,539
Pennsylvania	68,541	4,631,225	7,477,831	22,419,639
Wisconsin	67,793	4,517,367	7,065,287	25,282,710

MI 2017 Rank (out of 7):

5th

6th

7th

6th

Direct Employment by Forest Products Industry in Michigan, Wisconsin, and Minnesota, 2017

Exhibit 12. Forest Products Industries Direct Employment in Michigan, Wisconsin, and Minnesota, 2017

Industry	Michigan	Wisconsin	Minnesota
Forestry	1,321	778	782
Logging	4,487	5,207	2,495
Primary solid wood products	4,768	4,564	1,489
Secondary solid wood products	7,048	14,911	11,288
Wood furniture	10,837	12,071	8,575
Pulp, paper, and paperboard mills	3,186	11,233	2,542
Secondary paperboard and other paper products	9,099	19,029	6,885
Sum of Direct Contributions	40,746	67,793	34,055



Dashboard

2017 Northeast & Midwest States FPI Economic Contributions Dashboard – Page 1



NMSFA & Michigan DNR
Forest Products Industry Economic Contributions - 2017

The forests of the Northeast and Midwestern United States support a diverse and vibrant forest products industry. The forest products industry is an important employer in the region, and contributor to the regional and state economies. The following four pages summarize estimates of economic contribution for the forest products industry from 2017 IMPLAN.

Toggle through the pages at the bottom of this screen or click the button below to read more information about this project.

[More Info](#)

Data Filters

Region

State

All

Contributions Type

Direct

Total



Industry Group	Employment	Labor Income (Thousands \$)	Value Added (Thousands \$)	Output (Thousands \$)
Forestry	17,582	605,111.09	625,441.26	820,887.22
Logging	41,769	2,349,855.35	3,366,781.52	4,286,671.88
Primary Solid Wood Products	41,560	2,457,770.73	3,182,925.10	13,939,505.93
Pulp, Paper, and Paperboard Mills	38,351	3,926,863.87	6,914,707.25	29,603,878.91
Secondary Paperboard and Other Paper Products	144,442	12,289,344.24	18,842,069.24	69,945,541.99
Secondary Solid Wood Products	122,434	7,044,823.30	8,313,876.18	24,694,219.91
Wood Furniture	136,021	7,844,368.44	9,307,464.87	23,743,110.89
Total	542,158	36,518,137.02	50,553,265.43	167,033,816.73

2017 Northeast & Midwest States FPI Economic Contributions Dashboard – Page 2



NMSFA & Michigan DNR
Direct & Total Contributions by
Industry Group - 2017

Data Filters

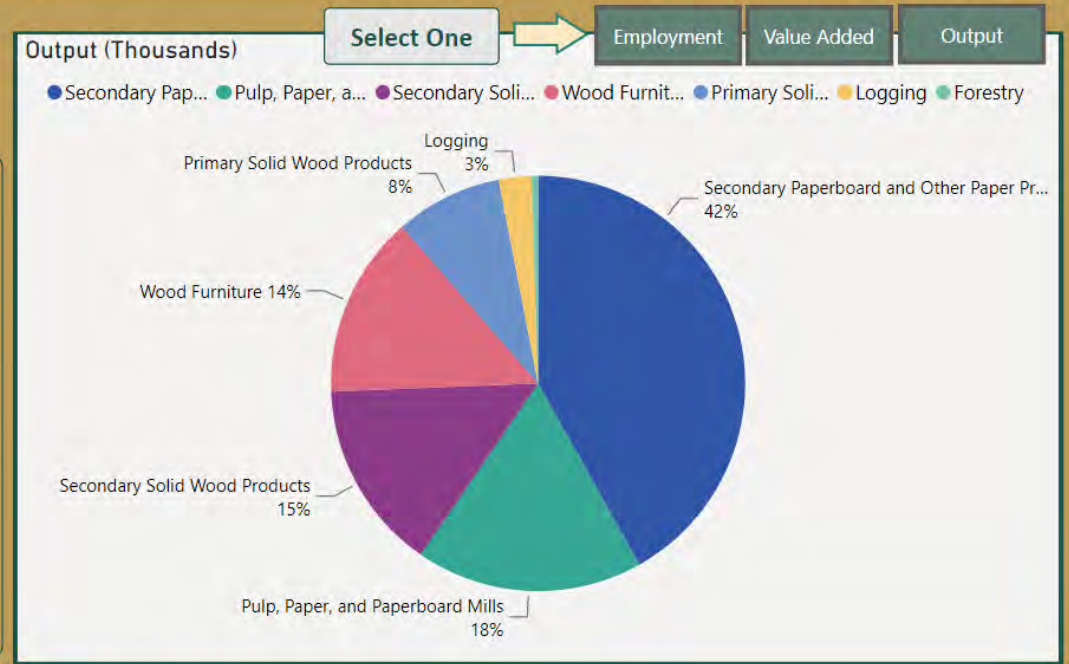
Region OR State

AND


Contribution:



Industry Group	Employment	Labor Income (Thousands \$)	Value Added (Thousands \$)	Output (Thousands \$)
Forestry	17,582	605,111.09	625,441.26	820,887.22
Logging	41,769	2,349,855.35	3,366,781.52	4,286,671.88
Primary Solid Wood Products	41,560	2,457,770.73	3,182,925.10	13,939,505.93
Pulp, Paper, and Paperboard Mills	38,351	3,926,863.87	6,914,707.25	29,603,878.91
Secondary Paperboard and Other Paper Products	144,442	12,289,344.24	18,842,069.24	69,945,541.99
Secondary Solid Wood Products	122,434	7,044,823.30	8,313,876.18	24,694,219.91
Wood Furniture	136,021	7,844,368.44	9,307,464.87	23,743,110.89
Total	542,158	36,518,137.02	50,553,265.43	167,033,816.73



2017 Northeast & Midwest States FPI Economic Contributions Dashboard – Page 3



NMSFA & Michigan DNR
Direct Contributions by Industry Group & Sector 2017

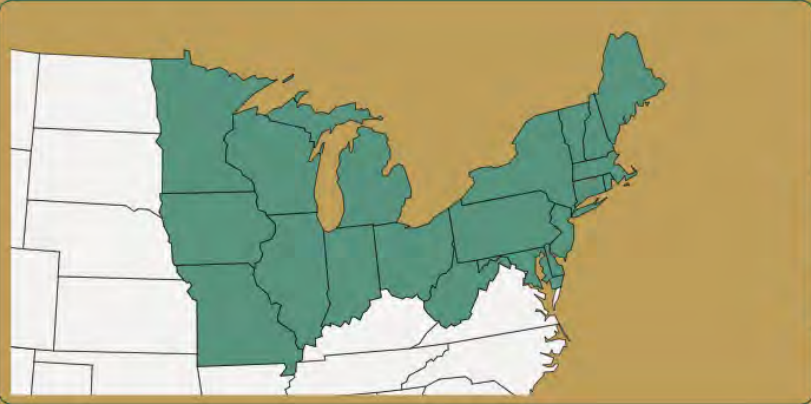
Data Filters

Region OR State

AND

Industry: Primary Solid Wood Products

Please select either region or an individual state, and an industry group in the upper left box to examine contributions by individual sector. To display estimates by individual sector, click on the bar in the chart. Click again to return to industry group total.



Select One

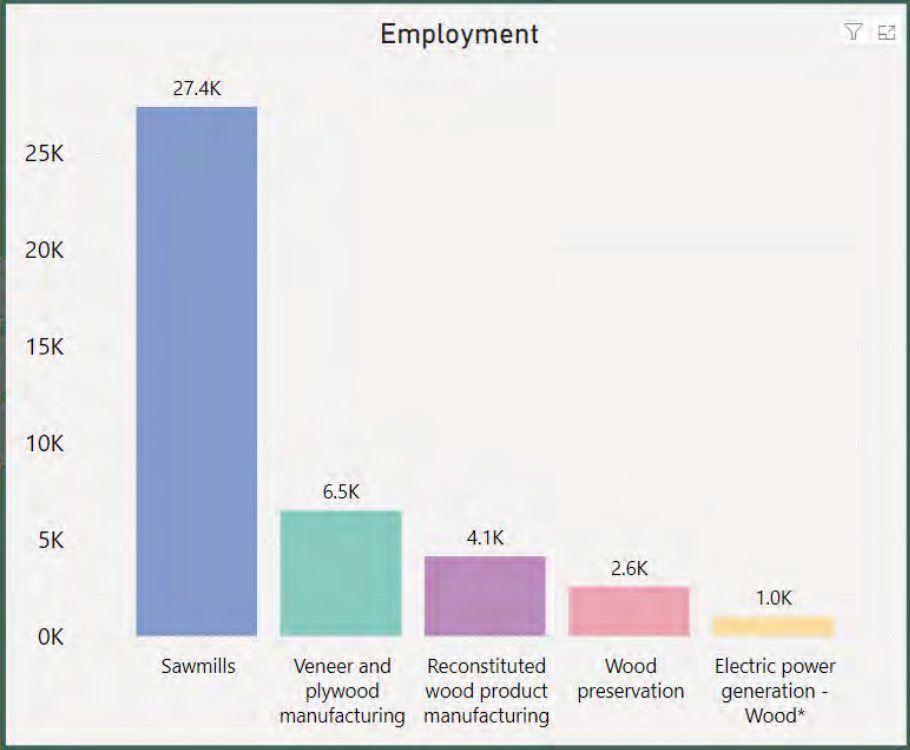
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Employment

Value Added

Output


Employment



Sector	Employment
Sawmills	27.4K
Veneer and plywood manufacturing	6.5K
Reconstituted wood product manufacturing	4.1K
Wood preservation	2.6K
Electric power generation - Wood*	1.0K

State	Employment	Labor Income (Thousands \$)	Value Added (Thousands \$)	Output (Thousands \$)
Region	41,560	2,457,770.73	3,182,925.10	13,939,505.93

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Michigan County Level Dashboards:
2015 Dashboard &
2015 – 2017 Dashboard

2015 Michigan Economic contribution of Forest Products Industries by County – Page 1

Forest Resources Division
 Forest Economy of **Alcona County**
 2015



Select a county below

10,349 Total Population in 2015
3,689 Total Employment in 2015

- County
- Alcona County
 - Alger County
 - Allegan County
 - Alpena County
 - Antrim County
 - Arenac County
 - Baraga County
 - Barry County



Forest Products Industries	Employment (Jobs)	Labor Income (Millions)	Output (Millions)	Value Added (Millions)
Forestry and Logging	42	\$2.98	\$4.47	\$3.15
Primary Solid Wood Products and Wood-based Power	57	\$2.27	\$23.52	\$4.36
Secondary Solid Wood Products	32	\$0.61	\$3.64	\$0.65
Wood Furniture	0	\$0.00	\$0.00	\$0.00
Pulp, Paper and Paperboard	0	\$0.00	\$0.00	\$0.00
Secondary Paperboard and Other Paper Products	0	\$0.00	\$0.00	\$0.00
Total	131	\$5.86	\$31.64	\$8.16

HIGHLIGHTS

Forest products industries directly employ 39,417 people in Michigan with an annual direct output or sales of 12 billion dollars.

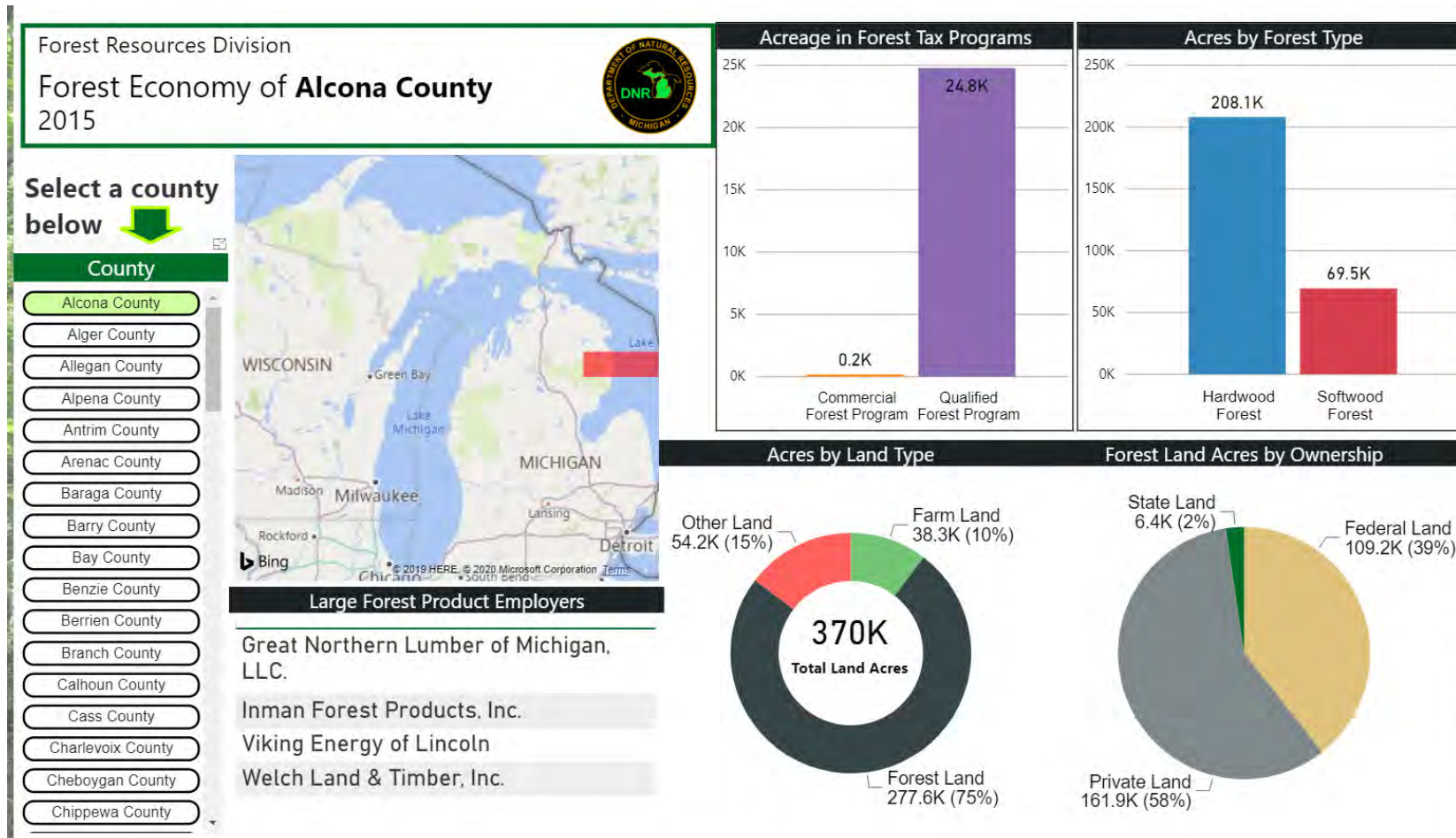
The industries generate 108 Million dollars annually in direct sales, excise and other business taxes in MI.

Forest products industries provide 3.6% of the jobs in Alcona County and 7.5% of the output.

For each direct job in the forest products industries, an additional 1.5 jobs are supported statewide.


Indirect business taxes generated by forest industries: \$1.2 million

2015 Michigan Economic contribution of Forest Products Industries by County – Page 2



2015-2017 Michigan County-Level Economic Contributions of Forest Products Industries – Page 1

Forest Resources Division
 Forest Economy of **Antrim** County
 2015 - 2017



Select a county and year below

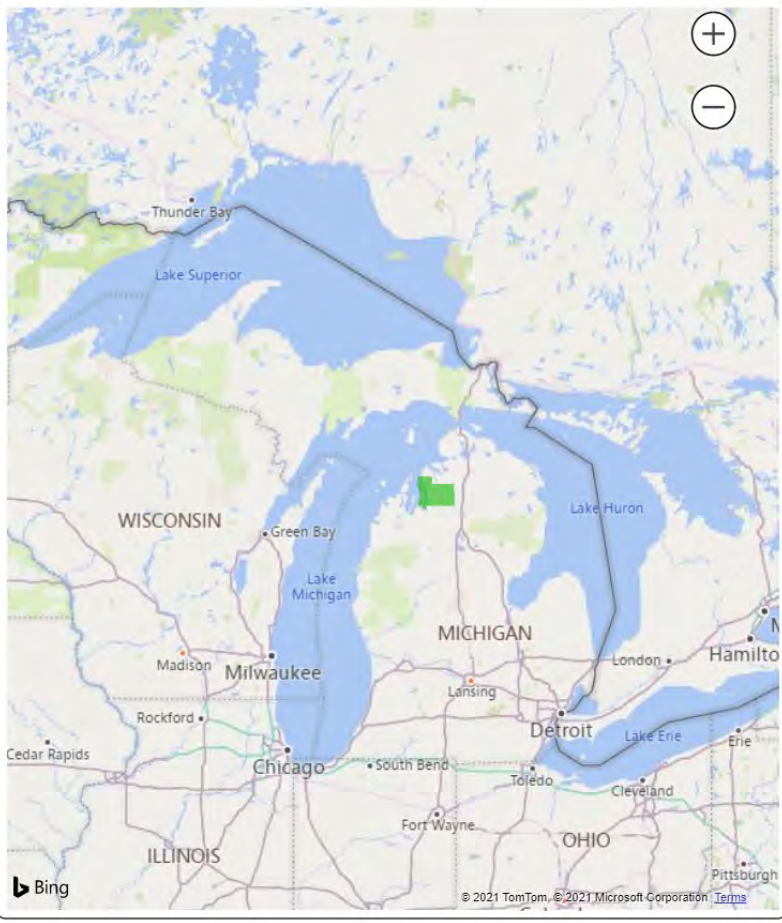
County

Antrim ▼

Year

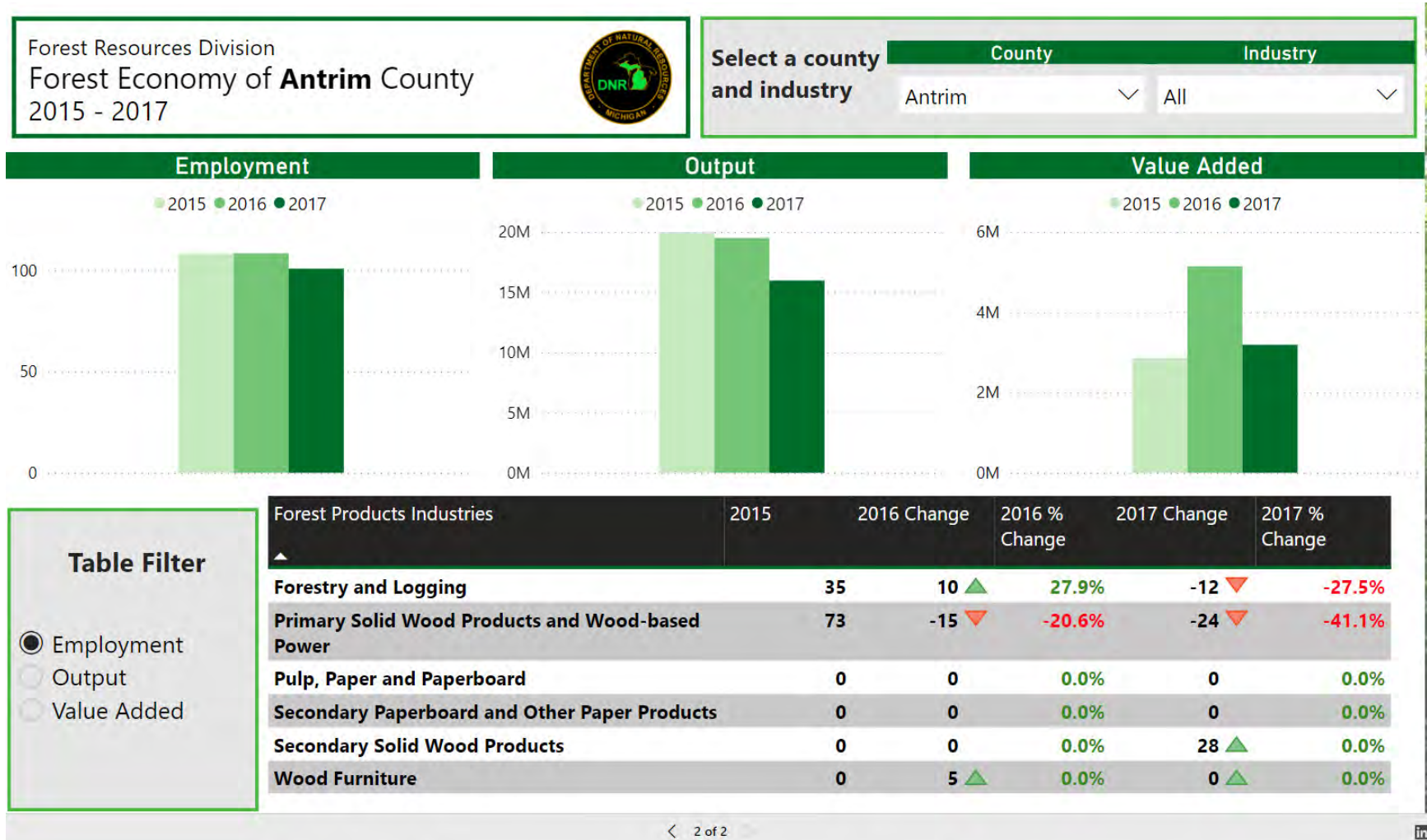
2015 ▼

Forest Products Industries	Employment	Output	Value Added
Forestry and Logging	35	2,451,312.32	1,348,675.78
Primary Solid Wood Products and Wood-based Power	73	17,541,320.80	1,511,988.54
Pulp, Paper and Paperboard	0	0.00	0.00
Secondary Paperboard and Other Paper Products	0	0.00	0.00
Secondary Solid Wood Products	0	0.00	0.00
Wood Furniture	0	0.00	0.00
Total	108	19,992,633.13	2,860,664.32



< 1 of 2 >

2015-2017 Michigan County-Level Economic Contributions of Forest Products Industries – Page 2



Thank – You!



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