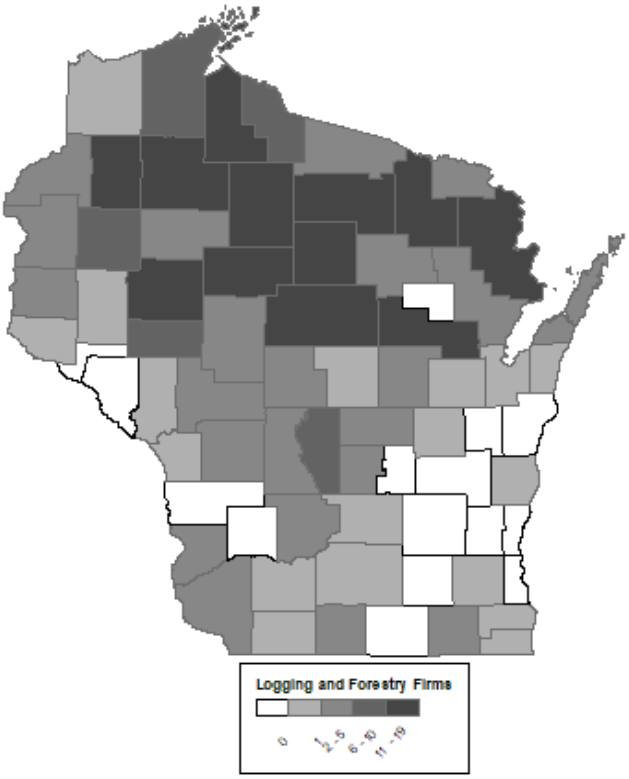
Contribution of Agriculture to Wisconsin

Agriculture's Contribution to The Wisconsin Economy 2017: Logging and Forestry

One of the earliest agricultural products to be exported from Wisconsin were forestry based. This included timber for construction and latter wood pulp for the paper industry. While one may not consider logging and forestry part of Wisconsin agriculture, this would be too narrow of a view of agriculture. People generally think in terms of one year growing seasons (for crops) but for forestry the growing season can be many years: trees planted today with the intent to be harvested in 20 years.

Today the logging and forestry industry employees almost 5,300 people and has total sales, or revenues, of just under half a billion dollars ($495 million) and pays some $318 million to workers in the form of wages, salaries and proprietor income. There are 288 formal businesses within the industry but the vast majority have fewer than five employees and only four percent have more than 10 employees. It is important to note, that this does not include sole proprietor independent operators who have no formal employees other than the owner/operator.

Map 1: Logging and Forestry Firms



Given the geography of Wisconsin it is not surprising that the vast majority of these firms are located in the northern half of the state. But other than a small handful of counties, predominately in the more urban and less forested southeastern part of the state, almost every county in Wisconsin has at least one business in the logging and forestry industry (Map 1).

Logging and forestry contributes to the Wisconsin economy in three ways: the actual operation itself, the purchase in input supplies such as equipment and fuel, and then through the wages that is paid to workers. The first component is referred to as the direct effect, the second as the indirect effect, and the third as the induced effect. All three added together provides the total contribution to the economy. Comparing the source of the ripple or multiplier effect, specifically the indirect and induced, can provide insights into how the industry affects the economy. More labor intensive industry or those that pay higher wages tend to have larger induced effects than those that are more capital intensive or pay lower wages.

For Wisconsin, logging and forestry contribute $835.5 million dollars to the Wisconsin economy in terms of industry sales or revenue, just over 8,000 jobs, $436.9 million to labor income (wages, salaries and proprietor income), and $579.6 million to total income (labor income plus all other sources of income such as dividends, interest and rental income). This economic activity also generates revenues that flow to the state government and local governments, which is about $47 million. For every $100 of logging and forestry revenues, an addition $69 is generated elsewhere in the Wisconsin economy. For every ten jobs, five additional jobs are created.

Note that across all four measures of economic activity, the induced effects tend to be larger than the indirect effects. This suggests that the build of the ripple or multiplier effect is coming from workers in logging and forestry spending their income in the state's economy. This is likely a reflection of the labor intensive nature of the industry. Indeed, the average employee in the logging and forestry industry earns $60,400 annually.

When thinking about the Wisconsin agricultural industry one must also consider the logging and forestry related industries. One must also keep in mind that this analysis does not include the value added industries that are dependent on raw forestry products.

Table 1: Economic Contribution of Logging and Forestry (2017)

	Industry Sales (000$)	Employment	Labor Income (000$)	Total Income (000$)
Direct Effect	$ 495,257.4	5,269	$ 318,392.4	$ 379,199.1
Indirect Effect	$ 54,514.6	698	$ 24,744.0	$ 34,165.5
Induced Effect	$ 285,724.8	2,106	$ 93,773.8	$ 166,211.6
Total Effect	$ 835,496.8	8,073	$ 436,910.2	$ 579,576.2
Multiplier	1.687	1.532	1.372	1.528

For this analysis we use an input-output model of the Wisconsin economy. One can think of this model as a "spreadsheet of the economy" where buyers (demand) are across the columns of the spreadsheet and sellers (supply) are down the rows. Any individual cell of the spreadsheet captures the amount of money flowing from the seller to the buyer. Because supply must equal demand we can trace changes in one part of the economy (an interaction between supply and demand) throughout the whole of the economy. These changes are often referred to as the multiplier effects.

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