

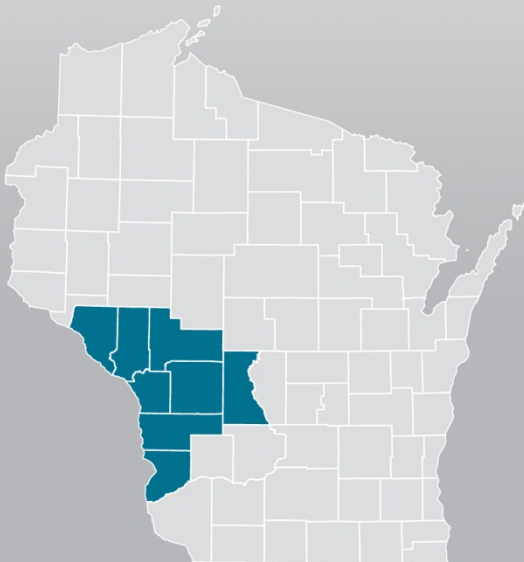


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Through our partnerships with industry sectors, WCI is able to align the skill needs of industry employers with the available workforce. In areas where skills gaps exist, WCI targets its resources to strengthen the workforce; closing skills gaps.

WCI provides employment assistance and prevocational training to adults and dislocated workers in Buffalo, Crawford, Jackson, Juneau, La Crosse, Monroe, Trempealeau and Vernon Counties.

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FRAC SAND MINING Industry Report

Executive Summary

Historically, the frac sand mining industry has been relatively small; however, this industry is now on the verge of substantial growth in the region. Most of the sand mining jobs have been concentrated in Jackson County although Trempealeau, Buffalo, and Monroe County are beginning to take advantage of their natural resources and the growing industry. All of these counties are experiencing mass buyouts of land from companies hoping to build sand mines. The wages in the region for this industry are family sustainable and significantly higher than the state and national average for the industry.

The frac sand mining location quotient, which shows the regional concentration compared to the national concentration, is quite large, indicating the region is more conducive to sand mining than the rest of the Nation.

Basic Information	
2001 Industry Jobs	68
2011 Industry Jobs	77
Total Change	9
Total % Change	13.30%
2011 Average Earnings per Worker	\$136,363

Economic Indicators	
2001 Location Quotient	17.34
2011 Location Quotient	16.87
Shift Share: Regional Competitiveness Effect	-3
Shift Share: Industrial Mix Effect	8
Shift Share: National Effect	4

Regional Information

Region: WDA #9

County Areas: Buffalo, Wisconsin (55011), Crawford, Wisconsin (55023), Jackson, Wisconsin (55053), Juneau, Wisconsin (55057), La Crosse, Wisconsin (55063), Monroe, Wisconsin (55081), Trempealeau, Wisconsin (55121), Vernon, Wisconsin (55123)

The WDA #9 is a workforce development area located in western Wisconsin. The area is comprised of eight contiguous counties. These counties are Buffalo, Crawford, Jackson, Juneau, La Crosse, Monroe, Trempealeau, and Vernon.

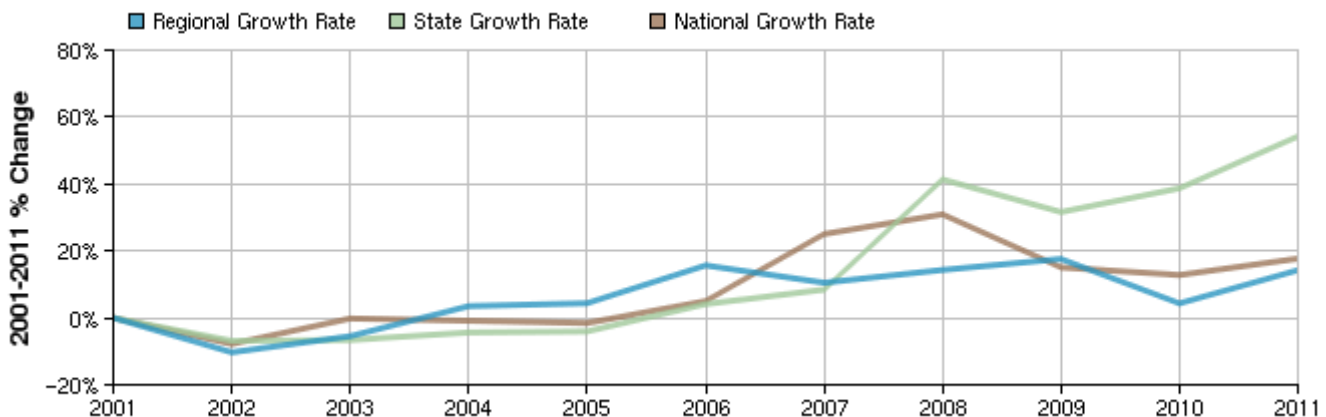
Selected Industries

NAICS Code	Description
212322	Industrial Sand Mining

Frac sand mining has gained attention throughout western Wisconsin as well as on a national level. This industry is growing in western Wisconsin due to the region's high concentration of sandstone that produces sand used in natural gas and oil extraction. The process of "fracking" involves blasting sand, water and chemicals into wells, creating fissures in the rocks, allowing people to access previously unreachable pockets of natural gas and oil. Frac sand mining could play a large role in helping to ease the country's dependence on foreign oil and lower gas prices. It creates a new source of energy that was previously untapped and could prove to be quite beneficial. This report will look at the current state of the industry in the region as well as future projections for the sand mining as the industry grows.

Industry Change Summary

Even with regional growth rates that were a little lackluster compared to state and national rates since 2001, the frac sand mining industry still has a strong presence in the region. The WDA #9 region comprises 25% of the state jobs in the sand mining industry and boasts average salaries that exceed that of the state and national averages by over \$30,000 a year.



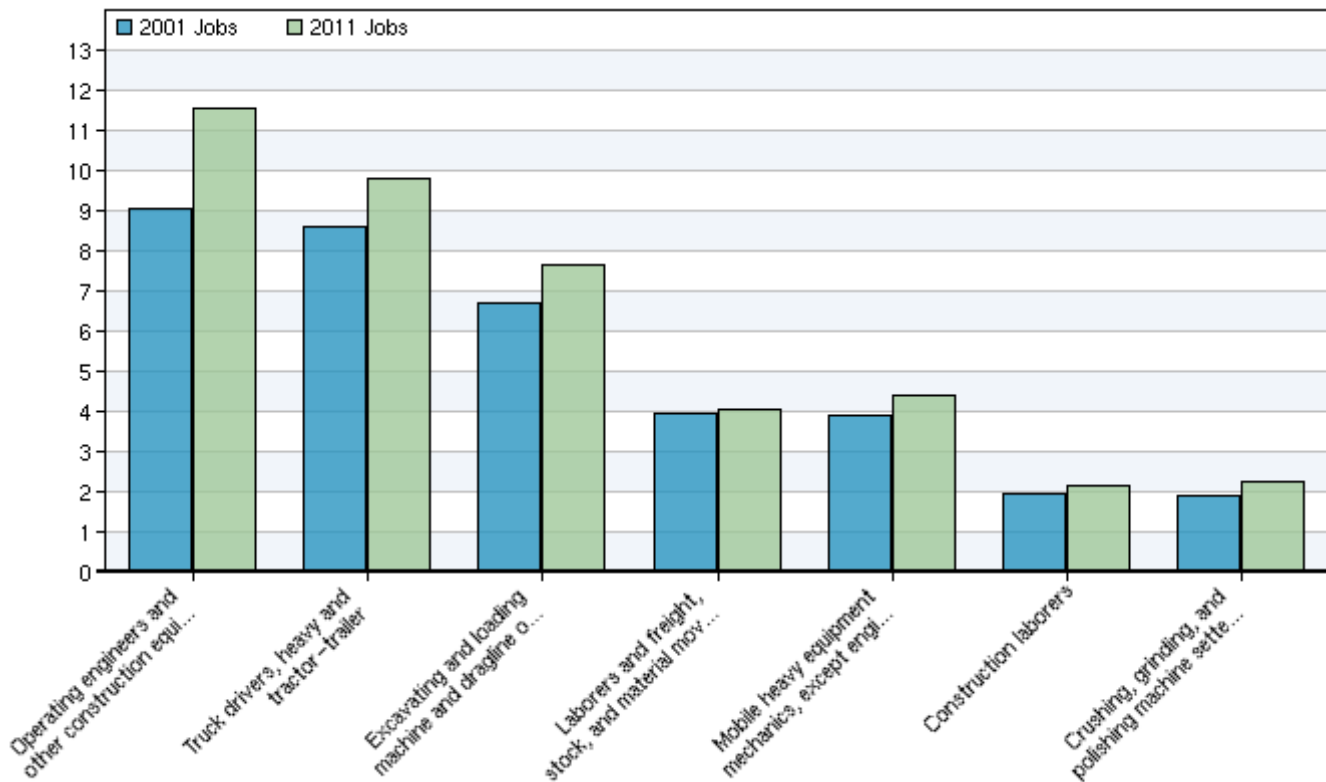
Of the 3,451,098 workers employed in Wisconsin, 4,297 or 0.1245 percent work in the sand mining industry. The WDA #9 Region employs 162,229 workers, 77 of which are in the sand mining field, meaning 0.04 percent of all workers in the region are employed in the sand mining field. We expect to see the sand mining industry grow for the region in the future as 11 sand mines are in development with 14 more being proposed.

Description	2001 Jobs	2011 Jobs	Change	% Change	2011 Average Earnings	2011 Establishments
Regional Total	68	77	9	13%	\$136,363	4
State Total	205	316	111	54%	\$102,653	16
National Total	3,650	4,297	647	18%	\$84,312	164

Source: EMSI Complete Employment - 2011.4

Top Occupations in Selected Industry

Albeit a relatively small section of the total workforce, the top seven occupations in this industry provide family sustaining wages with competitive benefits. Heavy equipment operators and truck drivers top this list with both in compensation and numbers.



SOC Code	Name	2001 Jobs	2011 Jobs	2011 Ave. Hr Earnings
47-2073	Operating engineers and other construction equipment operators	<10	12	\$22.81
53-3032	Truck drivers, heavy and tractor-trailer	<10	<10	\$19.53
53-7032	Excavating and loading machine and dragline operators	<10	<10	\$17.82
53-7062	Laborers and freight, stock, and material movers, hand	<10	<10	\$11.87
49-3042	Mobile heavy equipment mechanics, except engines	<10	<10	\$20.23
47-2061	Construction laborers	<10	<10	\$17.49
51-9021	Crushing, grinding, and polishing machine setters, operators, and tenders	<10	<10	\$14.90

Source: EMSI Complete Employment - 2011.4

Industry Location Quotient

Location quotient is an economic analysis tool used to determine how specialized a certain industry is within a region. The location quotient is found by dividing the percent of the regional workforce employed in an industry over the percentage of national jobs in the same industry. If the quotient is greater than 1.00 the industry comprises a higher percentage of the workforce in the region than in the rest of the nation. If the quotient is less than 1.00 the industry represents a smaller percent of the total regional workforce than the rest of the nation.

The location quotient for the sand mining industry in the WDA #9 Region is a strong 16.87 indicating the region is highly specialized in the sand mining industry, much more so than most of the country. This region has unique environmental factors that are much more conducive to sand mining than most areas in the country.

NAICS Code	Description	2001 Jobs	2011 Jobs	2011 LQ
212322	Industrial Sand Mining	68	77	16.87

Source: EMSI Complete Employment – 2011.4

As we dig deeper into the region, we find Jackson County has an exceptionally high location quotient indicating the county is much more specialized in the sand mining industry than the rest of the region. Jackson County possesses unique factors that are conducive to the sand mining industry, specifically their strong concentration of sandstone.

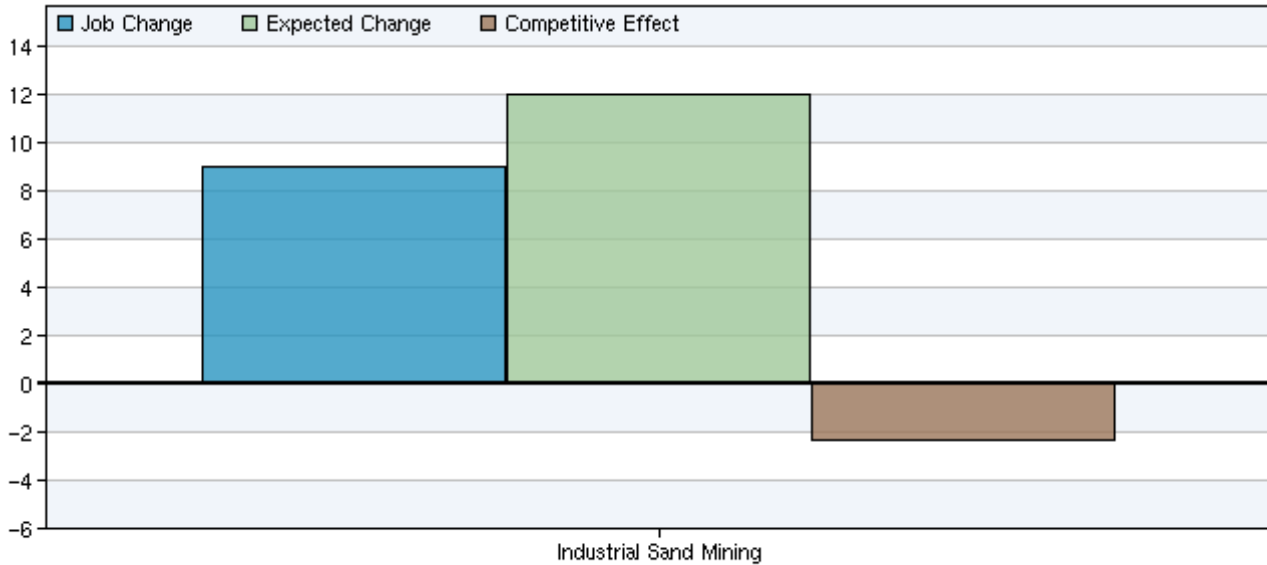
Although, recent reports indicate some major movements are a foot in other counties that would bring others onto the same playing field as Jackson County. Trempealeau County has grown in specialization of sand mining since 2001. Monroe County is in the development of two (2) sand mines right now with another one being proposed. The sand mines being developed in Monroe County will increase their location quotient once they become operational. Buffalo County is in the development of several mines that could put them strongly on the map. The other counties in the region do not participate in sand mining, but do reap the economic ripple benefit due to their proximity.

County	2001 Location Quotient	2011 Location Quotient
Jackson, WI (55053)	259.08	257.48
Trempealeau, WI (55121)	0.00	3.26
Western Wisconsin Region		16.87

Source: EMSI Complete Employment - 2011.4

Shift Share Breakdown

Shift share is used to determine how much of the growth in an industry can be attributed to national growth and how much is due to local and regional factors. The industrial mix effect explains how much of the regional growth in an industry is due to the national growth of the industry. The industrial mix effect was eight (8) from 2001 to 2011. This means that we expected to see an increase of eight (8) jobs due to the growth of the industry on a national level.



The national growth effect shows how many jobs can be attributed to the overall growth of the national economy within the time period. The national growth effect was four (4), so we expected to see four (4) sand mining jobs added in the region due specifically to the overall growth of the economy.

NAICS Code	Description	Job Change	Ind Mix Effect	Nat Growth Effect	Expected Change	Competitive Effect
212322	Industrial Sand Mining	9	8	4	12	-3

Source: EMSI Complete Employment - 2011.4

Competitive effect is the job change in the industry in a particular region that cannot be attributed to national economic growth or national growth of the industry. The competitive effect shows the amount of jobs added due to specific regional factors, and it is calculated as job change minus expected change. For the sand mining industry the competitive effect was -3, meaning the industry was expected to grow by 12 jobs in the region due to the national economic growth and national growth of the industry, but the industry only grew by nine (9) jobs in the region.

Industry Distribution

Jackson County

Currently, Jackson is the only county in the region with significant operations in the sand mining industry. Jackson County is home to Taylor based Atlas Resin Proppants, the 2010 winner of Wisconsin's manufacturer of the year award. Atlas Resin Proppants manufactures materials known as "proppants" such as ceramic or grains of sand that prevent the fractures during "fracking" from closing.

Atlas Resin Proppants is owned by Badger Mining Corporation, which is responsible for a majority of the frac sand mining in Jackson County. Badger Mining Corporation operates two frac sand mines, one (1) in Taylor and one (1) in Fairwater. They also manufacture and sell industrial silica sand, limestone and other aggregates. Badger Mining Corporation keeps yearly revenue private, but it is estimated that the company brings in roughly between \$5 million and \$10 million while employing roughly 100 people.

Jackson County should see an increase in sand mining jobs within the next year as Taylor Frac LLC plans to have a 350 acre sand mine operational in the township of Springfield by May 2012. The new mine is expected to create 50 jobs once it opens (New Sand Mining Plant Planned near Taylor).

We can also expect to see more employment in the sand mining industry in both Trempealeau and Buffalo Counties in the coming years as both counties begin to play a bigger role in sand mining. Trempealeau County currently has five (5) sand mines that are proposed or in development. Ottawa Sand LLC recently bought 231 acres of land in Trempealeau, a half mile outside of Arcadia. This mine is expected to employ 59 people and add \$2 million to the local economy. These mines in Trempealeau are expected to employ around 150 workers. Buffalo County has two (2) mines approved and has proposed three more (Voge). It is expected that these mines will employ around 75 workers in Buffalo once they become operational. The economic impact of the proposed mines in Trempealeau, Buffalo, and Jackson will be discussed in more depth later in the report.

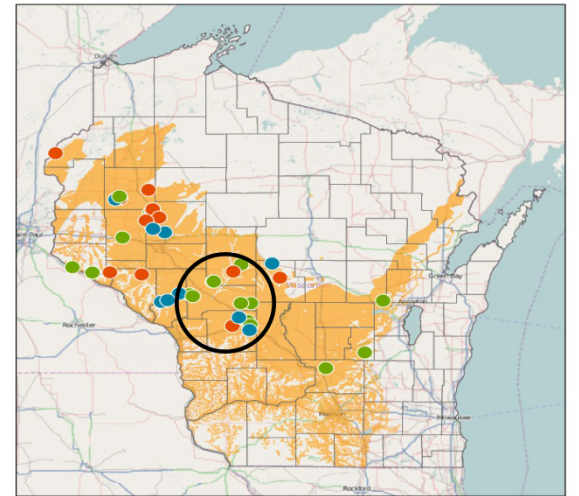
In Monroe County, Unimin Eagle Land Investments, recently bought 720 acres of land in Tunnel City, Wisconsin for \$9.5 million with plans to build a sand mine. As can be seen from the map, there is a high concentration of sandstone in Monroe that could possibly be conducive to sand mining. The town of Greenfield, where the unincorporated city of Tunnel City can be found, will receive up to \$250,000 a year from the sand mine. The town would receive \$0.15 for the first million pounds of sand that is mined and \$0.10 for the second million pounds of sand mined. It is estimated that the mine will employ 50-70 workers.

Description	
Year	2011
Sales Multiplier	1.37
Jobs Multiplier	2.79
Earnings Multiplier	1.48

	Jackson (55053)	Monroe (55081)	Vernon (55123)	La Crosse (55063)	Crawford (55121)	Trempealeau (55121)	Buffalo (55011)	Juneau (55057)
2001 Jobs	68	0	0	0	0	0	0	0
2011 Jobs	76	<10	0	0	0	<10	<10	0

Source: EMSI Complete Employment - 2011.4

Frac sand: Wisconsin sites



● Active (16) Sandstone areas of possible interest to frac sand miners
● In development (11)
● Proposed (14)

Mine and processing plant sites compiled in July 2011 from interviews with county and company officials; company websites; and Department of Natural Resources permit records. Sandstone identified with assistance from the Wisconsin Geological Survey.

Map: Kate Golden, Wisconsin Center for Investigative Journalism. Research: Jason Smathers and Julie Strupp, WCJ.

In the next section we will take a closer look at the county by county impact of the proposed mines, but first it is important to look at the overall impact new sand mining jobs will have on the region. The sales multiplier for the industry in the region is 1.37. This means that for every \$1 made in sand mining sales, the sales in the country will be positively impacted by \$0.37. The jobs multiplier, at 2.79, tells us that for every job added in sand mining there will be almost three jobs added in the region. Therefore, the region’s employment should increase by just under three times the amount of sand mining jobs added in any given location in the region. The earnings multiplier, which is at 1.48, shows that with every dollar in sand mining earnings the earnings for the region will increase by \$0.48.

Short-term Industry Employment Forecast and Regional Economic Impact

This section describes the economic impact of the proposed expansions and new mines in Buffalo, Jackson, Monroe, and Trempealeau Counties.

Buffalo County

Currently, Buffalo County has one mine in operation, two approved and three mines pending approval. Recently Buffalo County considered putting a moratorium on sand mining due to environmental and health concerns. This moratorium did not pass and the county approved sand mining operations. In the last meeting, the Buffalo County Zoning Committee increased the cost of frac mining permits from \$250 to \$3,500. The rise in permit fees is in response to the deterioration of the roads that will be caused by increased traffic from frac sand trucks (Brommerich).

The size and scope of the proposed sand mines in Buffalo County has yet to be determined. Because the silica sand in the county is more sparsely concentrated and spread out than in surrounding counties, we can expect the mines to be smaller than those in Jackson and Trempealeau. We can assume that the sand mines, based off of assessments of nearby mines, will employ 15-30 workers. Taking the conservative estimate we can figure that these proposed mines will bring at least 75 sand mining jobs into Buffalo County.

Using multiplier effects the creation of 75 sand mining jobs will supply 209 jobs to the county, while increasing total earnings by \$15,113,000 resulting in increases of yearly earnings per workers by \$37.94. Mining, construction and machinery will see the largest increases in employment. The sand mining sector will increase by almost twice the original amount of jobs.

Description	
Year	2011
Jobs Change	209
Earnings Change (in thousands)	\$15,113
Earnings per Worker Change	\$37.94
Sales Multiplier	1.37
Jobs Multiplier	2.79
Earnings Multiplier	1.48

NAICS Code	Description	% Change
212322	Industrial Sand Mining	97.07%
212321	Construction Sand and Gravel Mining	4.73%
212312	Crushed and Broken Limestone Mining and Quarrying	2.10%
212311	Dimension Stone Mining and Quarrying	2.06%
212313	Crushed and Broken Granite Mining and Quarrying	2.06%
333922	Conveyor and Conveying Equipment Manufacturing	0.76%
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	0.64%
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	0.64%
532420	Office Machinery and Equipment Rental and Leasing	0.64%
532411	Commercial Air, Rail, and Water Transportation Equipment Rental and Leasing	0.61%

NAICS Code	Description	Original Jobs	Current Jobs	Change	% Change	EPW(K)
11	Agriculture, Forestry, Fishing and Hunting	14,101	14,102	1	0.0071%	\$24
21	Mining, Quarrying, and Oil and Gas Extraction	289	339	50	17.301%	\$62
23	Construction	7,727	7,731	4	0.0518%	\$48
31-33	Manufacturing	23,124	23,127	3	0.0130%	\$53
42	Wholesale Trade	6,065	6,067	2	0.0330%	\$53
44-45	Retail Trade	20,254	20,267	13	0.0642%	\$24
48-49	Transportation and Warehousing	9,688	9,694	6	0.0619%	\$47
51	Information	1,849	1,850	1	0.0541%	\$46
52	Finance and Insurance	7,725	7,728	3	0.0388%	\$43
53	Real Estate and Rental and Leasing	5,037	5,041	4	0.0794%	\$17
54	Professional, Scientific, and Technical Services	5,081	5,084	3	0.0590%	\$41
55	Management of Companies and Enterprises	1,904	1,907	3	0.1576%	\$66
56	Administrative and Support and Waste Management and Remediation Services	7,093	7,097	4	0.0564%	\$25
61	Educational Services	2,400	2,401	1	0.0417%	\$31
62	Health Care and Social Assistance	22,980	22,991	11	0.0479%	\$49
71	Arts, Entertainment, and Recreation	2,998	2,999	1	0.0334%	\$12
72	Accommodation and Food Services	12,198	12,206	8	0.0656%	\$14
81	Other Services (except Public Administration)	7,883	7,889	6	0.0761%	\$23
90	Government	24,907	24,923	16	0.0642%	\$49

Jackson County

Jackson County should see an increase in sand mining jobs within the next year as Taylor Frac LLC plans to develop a 350 acre sand mine operation in the township of Springfield by May 2012. The new mine is expected to create 50 jobs (Colson). Since the company operating the sand mine is based outside of the region, development will not stimulate the local economy to the extent that a locally based company would, as some revenues will return to corporate region.

These tables show the overall economic impact that the creation of 50 jobs, in sand mining Jackson, would have in the region. Overall 140 jobs would be created. Fifty-two (52) would be in the sand mining industry, (50 mine workers and two (2) corporate office workers) while 88 would be created outside of the industry.

- The local government is projected to see a strong increase of 16,
- Restaurants and hospitals would each employ an extra three workers due to increased business from the sand mine,
- The retail industry would see a nice increase of 13 more workers and
- Healthcare and social assistance as well as an 11 worker increase for the health care and social assistance industry.

Workers in the sand mining industry would see an increase of \$6,974,000 in overall earnings for the year with while workers outside of the industry would see an increase of \$3,101,000. It is important to note that though many of the workers may come from outside of the county, they will still be located within the region bringing important economic growth to the region.

Description	2011
Year	2011
Jobs Change	140
Earnings Change (in thousands)	\$10,075
Earnings per Worker Change	\$25.30
Sales Multiplier	1.37
Jobs Multiplier	2.79
Earnings Multiplier	1.48

NAICS Code	Description	% Change
212322	Industrial Sand Mining	64.71%
212321	Construction Sand and Gravel Mining	3.16%
212312	Crushed and Broken Limestone Mining and Quarrying	1.40%
212311	Dimension Stone Mining and Quarrying	1.38%
212313	Crushed and Broken Granite Mining and Quarrying	1.37%
333922	Conveyor and Conveying Equipment Manufacturing	0.51%

NAICS Code	Description	Original Jobs	Current Jobs	Change	% Change	EPW(K)
21	Mining, Quarrying, and Oil and Gas Extraction	289	339	50	17.3010%	\$62
23	Construction	7,727	7,731	4	0.0518%	\$48
31-33	Manufacturing	23,124	23,127	3	0.0130%	\$53
42	Wholesale Trade	6,065	6,067	2	0.0330%	\$53
44-45	Retail Trade	20,254	20,267	13	0.0642%	\$24
48-49	Transportation and Warehousing	9,688	9,694	6	0.0619%	\$47
52	Finance and Insurance	7,725	7,728	3	0.0388%	\$43
53	Real Estate and Rental and Leasing	5,037	5,041	4	0.0794%	\$17
54	Professional, Scientific, and Technical Services	5,081	5,084	3	0.0590%	\$41
55	Management of Companies and Enterprises	1,904	1,907	3	0.1576%	\$66
56	Administrative and Support and Waste Management and Remediation Services	7,093	7,097	4	0.0564%	\$25
62	Health Care and Social Assistance	22,980	22,991	11	0.0479%	\$49
72	Accommodation and Food Services	12,198	12,206	8	0.0656%	\$14
81	Other Services (except Public Administration)	7,883	7,889	6	0.0761%	\$23
90	Government	24,907	24,923	16	0.0642%	\$49

Monroe County

The mine in Tunnel City is expected to employ 60 workers. These tables show the impact the creation of 60 jobs would have in the region. Overall 168 jobs would be created in the community. Of the jobs created, 61 would be in the sand mining industry (60 mine workers and one corporate office worker). Outside the industry 107 will be created. The sand mining industry would increase by over 75 percent in the region.

Government, retail and healthcare will see the largest increase from the new sand mine. Of these three industries:

- Government will increase the most, expanding by 19 jobs.
- Retail will see a substantial increase of 15 jobs as the new mines in the area will increase residents disposable and bring more customers into the county.
- The healthcare industry will experience job growth of 13 jobs as a direct result of the new mines becoming operational.

Overall, this mine will increase total earnings by \$12,090,000 resulting in yearly average take home salaries rising by \$30.36.

Description	2011
Year	2011
Jobs Change	168
Earnings Change (in thousands)	\$12,090
Earnings per Worker Change	\$30.36
Sales Multiplier	1.37
Jobs Multiplier	2.79
Earnings Multiplier	1.48

NAICS Code	Description	% Change
212322	Industrial Sand Mining	77.65%
212321	Construction Sand and Gravel Mining	3.79%
212312	Crushed and Broken Limestone Mining and Quarrying	1.68%
212311	Dimension Stone Mining and Quarrying	1.65%
212313	Crushed and Broken Granite Mining and Quarrying	1.65%
333922	Conveyor and Conveying Equipment Manufacturing	0.61%
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	0.51%
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	0.51%
532420	Office Machinery and Equipment Rental and Leasing	0.51%

NAICS Code	Description	Original Jobs	Current Jobs	Change	% Change	EPW(K)
11	Agriculture, Forestry, Fishing and Hunting	14,101	14,102	1	0.0071%	\$24
21	Mining, Quarrying, and Oil and Gas Extraction	289	350	61	21.1073%	\$64
22	Utilities	958	959	1	0.1044%	\$106
23	Construction	7,727	7,732	5	0.0647%	\$48
31-33	Manufacturing	23,124	23,128	4	0.0173%	\$53
42	Wholesale Trade	6,065	6,068	3	0.0495%	\$53
44-45	Retail Trade	20,254	20,269	15	0.0741%	\$24
48-49	Transportation and Warehousing	9,688	9,695	7	0.0723%	\$47
51	Information	1,849	1,850	1	0.0541%	\$46
52	Finance and Insurance	7,725	7,728	3	0.0388%	\$43
53	Real Estate and Rental and Leasing	5,037	5,042	5	0.0993%	\$17
54	Professional, Scientific, and Technical Services	5,081	5,085	4	0.0787%	\$41
55	Management of Companies and Enterprises	1,904	1,907	3	0.1576%	\$66
56	Administrative and Support and Waste Management and Remediation Services	7,093	7,098	5	0.0705%	\$25

61	Educational Services	2,400	2,401	1	0.0417%	\$31
62	Health Care and Social Assistance	22,980	22,993	13	0.0566%	\$49
71	Arts, Entertainment, and Recreation	2,998	3,000	2	0.0667%	\$12
72	Accommodation and Food Services	12,198	12,208	10	0.0820%	\$14
81	Other Services (except Public Administration)	7,883	7,890	7	0.0888%	\$23
90	Government	24,907	24,926	19	0.0763%	\$49

Trempealeau County

Trempealeau County currently has three operational sand mines and five more being proposed. Canada based Ottawa Sand LLC plans to build a 231 acre mine that is projected to bring in 59 jobs and \$2 million to the local economy. This mine would be located a half a mile outside of Arcadia with 180 trucks per day driving to and from the mine. Because this mine will not be run by a locally owned business, much of the revenue will not stay in the region to stimulate the local economy. But, regardless this mine will bring great amounts of growth to the region. (Hubboch, Trempealeau).

Locally based Winn Bay Sand has a 350 acre sand mine proposed in Trempealeau County, which is expected to employ between 30 and 40 employees. Though this mine will not employ as many people as the Ottawa Sand LLC mine, it will more effectively stimulate the local economy as the company is locally based and will keep their money in the region (Hubboch, Winn Bay).

Currently, the size of the three other proposed sand mines are unknown. Based off of the size and scope of the surrounding sand mines, we can assume that these mines will each employ between 20 and 40. Using the conservative assessments we can estimate that the proposed sand mines in Trempealeau will bring close to 149 sand mining jobs to the county. By using the multiplier effects, these 149 jobs would create a total of 416 jobs in the region, while increasing total earnings by \$30,024,000 resulting in earnings per worker increasing by \$75.28 a year. Most of the job change will be seen in the mining and quarrying industry, with a large majority coming from the sand mining sector itself. Construction and machinery industries will see significant increases as well. Construction will be necessary for the upkeep of roads and other resources used by the sand mining companies. The machinery industry will benefit from sand mine operators renting and purchasing machines in order to work the mines.

Description	
Year	2011
Jobs Change	416
Earnings Change (in thousands)	\$30,024
Earnings per Worker Change	\$75.28
Sales Multiplier	1.37
Jobs Multiplier	2.79
Earnings Multiplier	1.48

NAICS Code	Description	% Change
212322	Industrial Sand Mining	192.84%
212321	Construction Sand and Gravel Mining	9.40%
212312	Crushed and Broken Limestone Mining and Quarrying	4.18%
212311	Dimension Stone Mining and Quarrying	4.10%
212313	Crushed and Broken Granite Mining and Quarrying	4.09%
333922	Conveyor and Conveying Equipment Manufacturing	1.52%
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	1.27%
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	1.27%
532420	Office Machinery and Equipment Rental and Leasing	1.27%

NAICS Code	Description	Original Jobs	Current Jobs	Change	% Change	EPW(K)
21	Mining, Quarrying, and Oil and Gas Extraction	289	440	151	52.2491%	\$79
23	Construction	7,727	7,741	14	0.1812%	\$48
31-33	Manufacturing	23,124	23,133	9	0.0389%	\$53
42	Wholesale Trade	6,065	6,072	7	0.1154%	\$53
44-45	Retail Trade	20,254	20,291	37	0.1827%	\$24
48-49	Transportation and Warehousing	9,688	9,704	16	0.1652%	\$47
52	Finance and Insurance	7,725	7,732	7	0.0906%	\$43
53	Real Estate and Rental and Leasing	5,037	5,048	11	0.2184%	\$17
54	Professional, Scientific, and Technical Services	5,081	5,090	9	0.1771%	\$41
55	Management of Companies and Enterprises	1,904	1,912	8	0.4202%	\$66
56	Administrative and Support and Waste Management and Remediation Services	7,093	7,106	13	0.1833%	\$25
62	Health Care and Social Assistance	22,980	23,012	32	0.1393%	\$49
71	Arts, Entertainment, and Recreation	2,998	3,002	4	0.1334%	\$12
72	Accommodation and Food Services	12,198	12,222	24	0.1968%	\$14
81	Other Services (except Public Administration)	7,883	7,900	17	0.2157%	\$23
90	Government	24,907	24,955	48	0.1927%	\$49

Source and Calculations

Industry Data

In order to capture a complete picture of industry employment, EMSI basically combines covered employment data from Quarterly Census of Employment and Wages (QCEW) produced by the Department of Labor with total employment data in Regional Economic Information System (REIS) published by the Bureau of Economic Analysis (BEA), augmented with County Business Patterns (CBP) and Non-employer Statistics (NES) published by the U.S. Census Bureau. Projections are based on the latest available EMSI industry data, 15-year past local trends in each industry, growth rates in statewide and (where available) sub-state area industry projections published by individual state agencies, and (in part) growth rates in national projections from the Bureau of Labor Statistics.

Occupation Data

Organizing regional employment information by occupation provides a workforce-oriented view of the regional economy. EMSI's occupation data are based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk is based on one from the U.S. Department of Education, with customizations by EMSI.

Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

Shift Share

Shift share is a standard regional analysis method that attempts to determine how much of regional job growth

can be attributed to national trends and how much is due to unique regional factors.

State Data Sources

This report uses state data from the following agencies: Wisconsin Department of Workforce Development, Bureau of Workforce Information.

Work Cited

Brommerich, David. "Buffalo Co. Considers Moratorium on Frac Sand Mines." *Winona Daily News*. Web. 04 Jan. 2012. <http://www.winonadailynews.com/news/local/article_bc939c5a-05cb-11e1-9036-001cc4c03286.html>.

Colson, Cassandra. "New Sand Mining Plant Planned near Taylor." *La Crosse Tribune - LaCrosse News Source*. Web. 04 Jan. 2012. <http://lacrossetribune.com/jacksoncochronicle/news/local/article_c869142c-fa92-11e0-94a3-001cc4c002e0.html>.

EMSI | Economic Modeling Specialists Inc. Web. 10 Nov. 2011.

<https://east.economicmodeling.com/internal/modules/home/?session_tab=fc254d916dab70d8028ef4405d00892b#module=forecaster>.

"New Sand Mining Plant Planned near Taylor." *La Crosse Tribune - La Crosse News Source*. Web. 10 Nov. 2011. <http://lacrossetribune.com/jacksoncochronicle/news/local/article_c869142c-fa92-11e0-94a3-001cc4c002e0.html>.

Hubboch, Chris. "Winn Bay Begins First Frac Mine in Trempealeau Co." *La Crosse Tribune - LaCrosse News Source*. Web. 04 Jan. 2012. <http://lacrossetribune.com/article_19a601a0-c62d-11e0-b235-001cc4c002e0.html>.

Hubbuch, Chris. "Trempealeau County Gives Early OK to Fifth Sand Mine." *Winona Daily News*. Web. 04 Jan. 2012. <http://www.winonadailynews.com/news/local/article_ce28825e-a2d0-11e0-b24d-001cc4c03286.html>.

Smathers, Jason. "Sand Mining Surges in Wisconsin." *WisconsinWatch.org*. Web. 17 Nov. 2011. <<http://www.wisconsinwatch.org/2011/07/31/sand-mining-surges-in-wisconsin/>>.

Voge, Adam. "Trempealeau County Gives Early OK to Fifth Sand Mine." *Winonadailynews.com*. 30 June 2011. Web. <http://www.winonadailynews.com/news/local/article_ce28825e-a2d0-11e0-b24d-001cc4c03286.html>.