



Louisiana Forest Industry Supply Chain Mapping: Results & Conclusions

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**Louisiana Forest Products Development Center
Working Paper #83**

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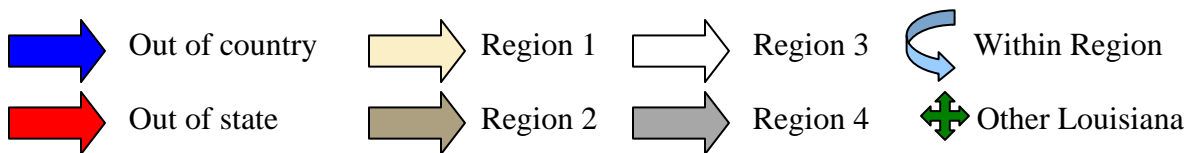
June 10, 2008

Explanation of Map Symbols

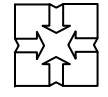
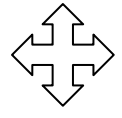
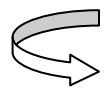
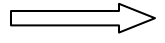
Each percentage range was chosen based on the quantity of survey data. Since there was a lack of sufficient data within 1-14%, we did not include this percentage range on our map. The first three ranges have a 10% increment because most of the data lies within these ranges. The last two ranges are larger due to the fact that not enough data is present to provide a meaningful representation with smaller increments.

In order to provide a visual of the survey data, we used four different symbols within each percentage range that corresponds to their sizes. These symbols have three important distinguishing factors. First, the symbols differentiate the distributors' suppliers and customers. A patterned symbol denotes the suppliers, while a solid colored symbol represents the customers. Second, the color of the symbols indicates the location of the distributors' suppliers and customers. For example, a red arrow pointing away from Louisiana signifies that the goods are being sent out of state. In contrast, a red arrow pointing toward Louisiana means that the supplies are coming in from another state. Third, each size of the symbols designates a specific percentage range. Here's an example to clarify: the smallest blue curved arrow represents that approximately 15-25% of the forest products are coming from within the region; remember that the color of the symbol denotes the region where products are coming from or where they are going.

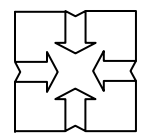
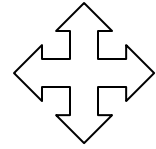
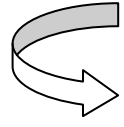
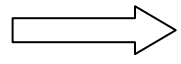
Note: In our results, Louisiana is used to represent those respondents who replied with "Louisiana" when asked to specify where their customers and suppliers are located. In addition, any regions that represented less than 15% of customers or suppliers were added to the Louisiana category.



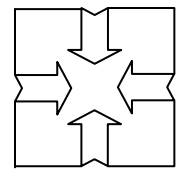
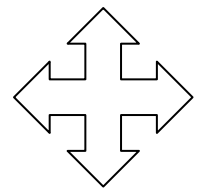
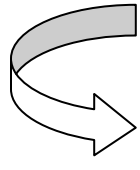
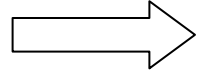
15-25 %



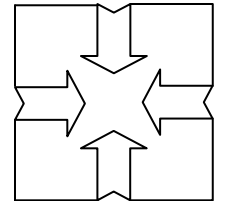
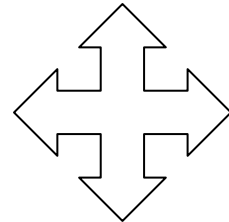
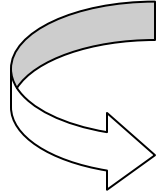
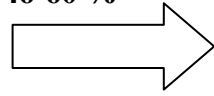
26-35 %



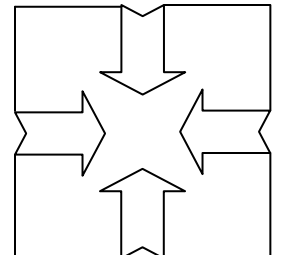
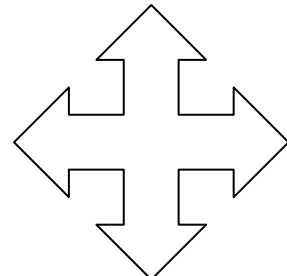
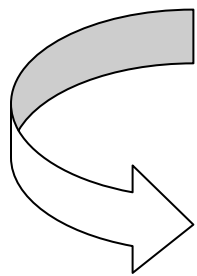
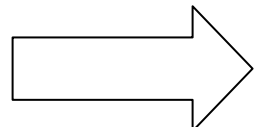
36-45 %



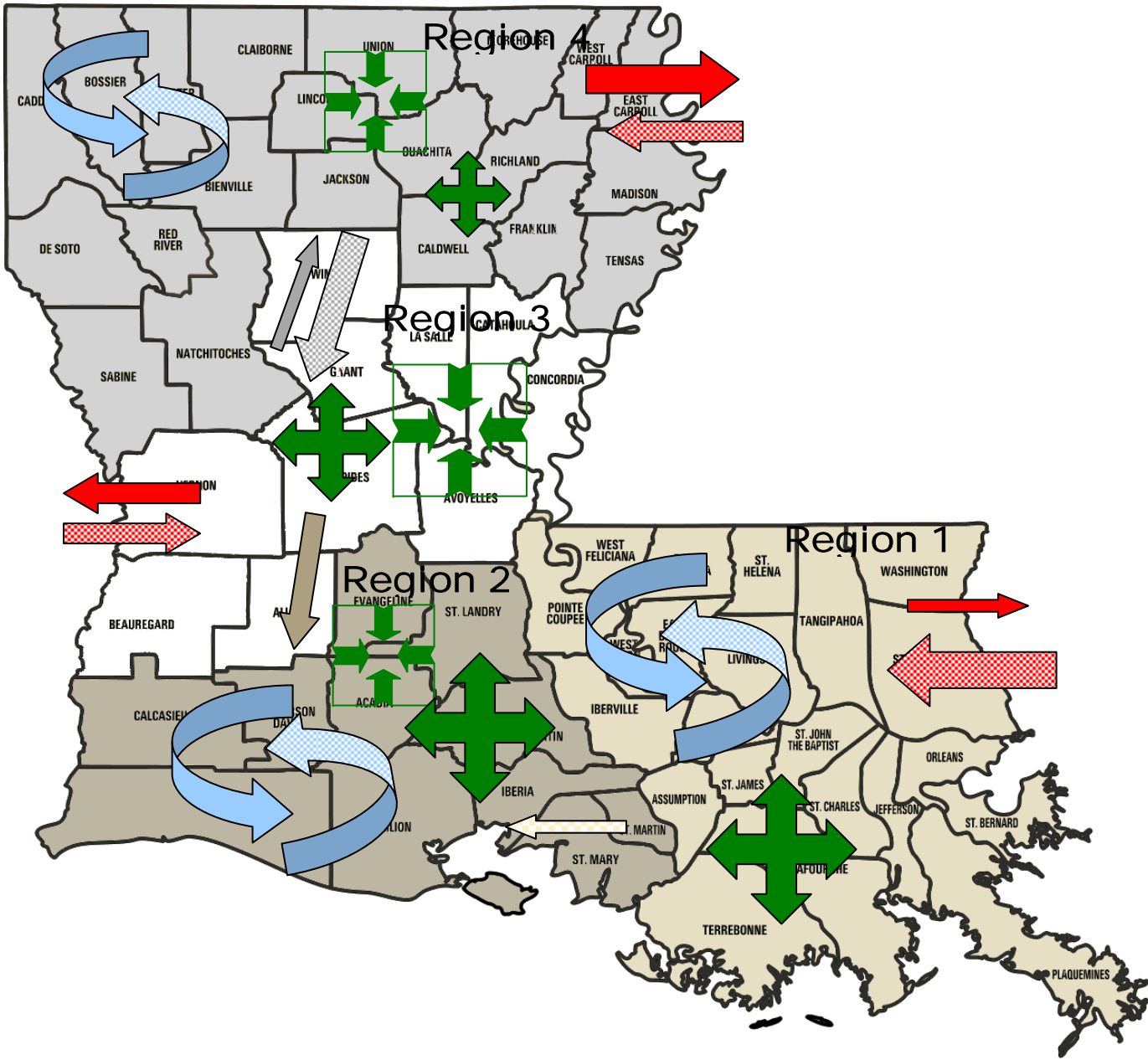
46-60 %

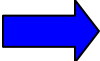









61-100 %



Primary Forest Products Industry's Suppliers (pattern) and Customers (solid)



- | | | | | | | | |
|---|----------------|---|----------|---|----------|---|-----------------|
|  | Out of country |  | Region 1 |  | Region 3 |  | Within Region |
|  | Out of state |  | Region 2 |  | Region 4 |  | Other Louisiana |

Industry Descriptions

Region 1

49% of the customers are located in region 1
23% of the customers are located out of state
28% of the customers are located in Louisiana.

45% of the suppliers are located in region 1
52% of the suppliers are located out of state

The following is a description of Region 1 on the map “Primary Forest Products Industry’s suppliers and customers”: More than half of region 1’s customers are located in Louisiana. 49% of the customers are located in region 1, while 28% of them are located throughout the state. Out of state customers only account for 23%. Looking at the percentages for suppliers’ location, 45% of the suppliers are located in region 1, whereas 52% of the suppliers are located out of state.

Region 2

57% of the customers are located in region 2.
43% of the customers are located in Louisiana.

50% of the suppliers are located in region 2.
20% of the suppliers are located in region 1
30% of the suppliers are located in Louisiana

The following is a description of Region 2 on the map “Primary Forest Products Industry’s suppliers and customers”: Of the total percentage of customers doing business with region 2, 57% of them are located within region 2. The remaining 43% of customers are located in other regions of Louisiana. The responses to suppliers’ locations were more specific. Half of the suppliers are located in region 2. About 20% of its suppliers are located in region 1 and about 30% are located within Louisiana.

Region 3

28% of the customers are located out of state
27% of the customers are located in region 2
27% of the customers are located in Louisiana.
18% of the customers are located in region 4

37% of the suppliers are located in region 4
36% of the suppliers are located in Louisiana
27% of the suppliers are located out of state

The following is a description of Region 3 on the map “Primary Forest Products Industry’s suppliers and customers”: A total of 72% of region 3’s customers are located within Louisiana. Of this total, 27% of the customers are located in region 2, 18% are located in region 4, and 27% are located in other regions of Louisiana. The remaining 28% of customers are located out of state. The survey indicates that approximately 37% of region 3’s suppliers are located in region 4. In addition, 36% of the suppliers are located in other regions of Louisiana. Out of state suppliers only account for 27% of total suppliers to region 3.

Region 4

40% of the customers are located in region 4.
 36% of the customers are located out of state
 20% of the customers are located in Louisiana.

38% of the suppliers are located in region 4
 33% of the suppliers are located out of state
 29% of the suppliers are located in Louisiana

The following is a description of Region 4 on the map “Primary Forest Products Industry’s suppliers and customers”: More than half of region 4’s customers are located within the state of Louisiana. About 40% of them are located in region 4 and 20% are located somewhere in Louisiana. The remaining 36% of customers are located out of state. Suppliers’ locations are roughly the same as the customers’ locations. There are 38% of suppliers that are located in region 4 and 29% of them that are located within the state of Louisiana. Out of state suppliers only account for 33% of the total amount of suppliers found in region 4.

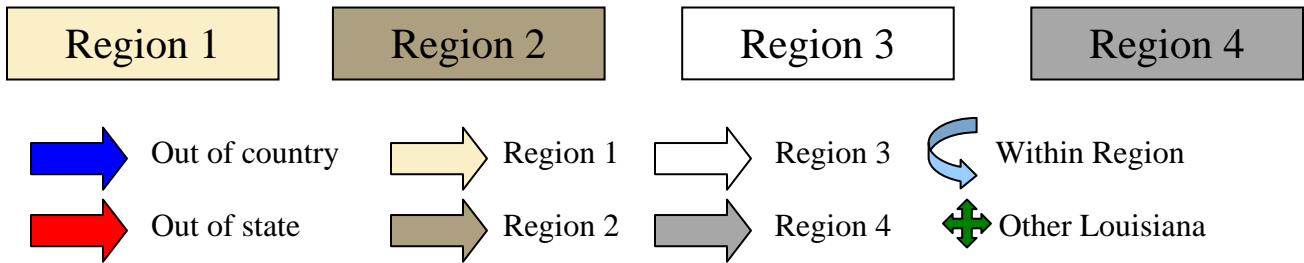
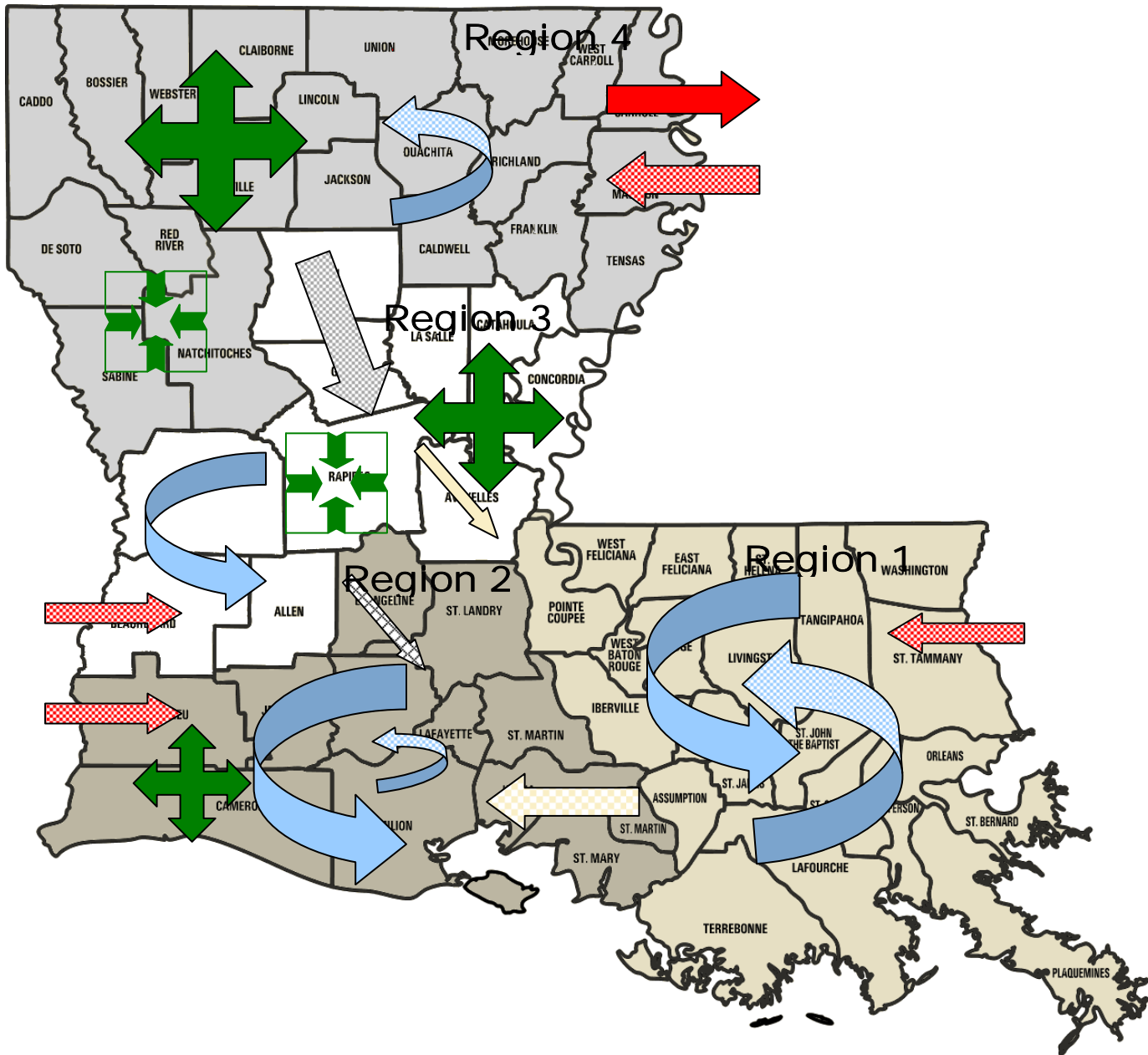
Survey Response Breakdowns

From the charts below, you can see the inconsistency in respondents answering the survey questions. As the survey progressed and more questions were asked, the respondents tended to refrain from completing the survey.

Primary companies that provided customer location of:	Region 1	Region 2	Region 3	Region 4
Number 1 customer by volume	9	4	7	12
Number 2 customer by volume	5	2	2	5
Number 3 customer by volume	3	1	2	5
Number 4 customer by volume	3	0	0	3
Number 5 customer by volume	2	0	0	1
Total number of Primary companies surveyed that provided their customer’s locations	10	4	7	12

Primary companies that provided customer supplier of:	Region 1	Region 2	Region 3	Region 4
Number 1 supplier by volume	17	7	6	17
Number 2 supplier by volume	8	3	3	7
Number 3 supplier by volume	5	0	2	1
Number 4 supplier by volume	1	0	0	0
Number 5 supplier by volume	0	0	0	0
Total number of primary companies surveyed that provided their supplier's locations	19	8	6	17

Secondary Forest Products Industry's Suppliers (pattern) and Customers (solid)



Industry Descriptions

Region 1

76% of the customers are located within region 1.

65% of the suppliers are located within region 1.

28% of the suppliers are located out of state.

The following is a description of Region 1 on the map “Secondary Forest Products Industry’s suppliers and customers”: A little over three fourths of region 1’s customers are located in region 1 (76%).

Region 1 suppliers are located within the region, as well as out of state. Out of state suppliers account for roughly 28% of total suppliers, while 65% are located within region 1.

Region 2

67% of the customers are located within region 2.

33% of the customers are located in Louisiana.

33% of the suppliers are located in region 1.

17% of the suppliers are located in region 2

17% of the suppliers are located in region 3

25% of the suppliers are located out of state.

The following is a description of Region 2 on the map “Secondary Forest Products Industry’s suppliers and customers”: Of the total amount of region 2’s secondary forest products industry’s customers, 67% are located within region 2 and 33% are located somewhere within Louisiana. Region 2 respondents provided more precise location information regarding suppliers than customers. A total of 67% of suppliers are located within Louisiana. From this total, our data shows that 33% of the suppliers are located in region 1, 17% are located in region 2, and 17% are located in region 3. Roughly 25% of region 2’s suppliers are located out of state.

Region 3

46% of the customers are located within region 3.

36% of the customers are located in Louisiana.

18% of the customers are located in region 1

46% of the suppliers are located in region 4

27% of the suppliers are located in Louisiana. (region 2 = 9% region 1 = 9% Louisiana = 9%)

27% of the suppliers are located out of state

The following is a description of Region 3 on the map “Secondary Forest Products Industry’s suppliers and customers”: Region 3’s customers are mostly located in Louisiana. About 46% of them are located in region 3, 18% are located in region 1, and 36% are located throughout Louisiana. The majority of suppliers can also be found in Louisiana. According to our study, 46% of region 3’s suppliers are located in region 4 and 27% are located within the state. The rest of the suppliers (27%) are located out of state.

Region 4

57% of the customers are located in Louisiana (with region 4 accounting for 14%)
43% of the customers are located out of state

37% of the suppliers are located in region 4
26% of the suppliers are located in Louisiana
37% of the suppliers are located out of state

The following is a description of Region 4 on the map “Secondary Forest Products Industry’s suppliers and customers”: Approximately half of region 4’s customers are located in Louisiana and half are located out of state. Louisiana customers account for 57% of total customers, while out of state customers account for 43% of total customers. Also, within the percentage of customers located in Louisiana, 14% of them are located in region 4. In analyzing percentages of supplier locations, it was found that 37% of the suppliers are located in region 4 and 26% of them are located within Louisiana. The remaining 37% of suppliers are located out of state.

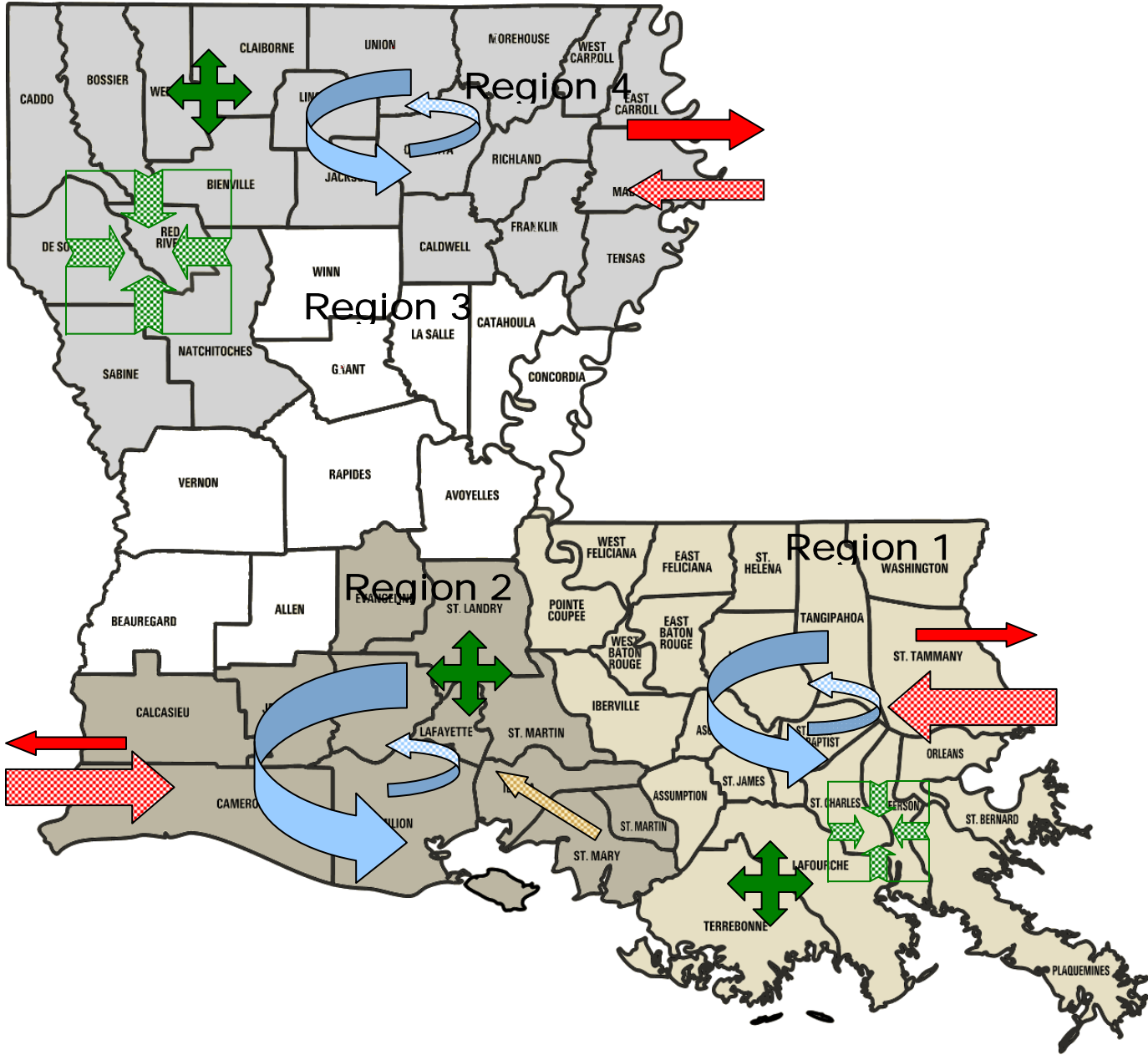
Survey Response Breakdowns

From the charts below, you can see the inconsistency in respondents answering the survey questions. As the survey progressed and more questions were asked, the respondents tended to refrain from completing the survey.

Secondary companies that provided customer location of:	Region 1	Region 2	Region 3	Region 4
Number 1 customer by volume	22	7	4	9
Number 2 customer by volume	10	2	4	3
Number 3 customer by volume	5	2	2	1
Number 4 customer by volume	3	2	1	0
Number 5 customer by volume	2	2	1	1
Total number of secondary companies surveyed that provided their customer's locations	22	7	5	9

Secondary companies that provided customer supplier of:	Region 1	Region 2	Region 3	Region 4
Number 1 supplier by volume	31	7	7	17
Number 2 supplier by volume	22	4	2	8
Number 3 supplier by volume	5	1	1	3
Number 4 supplier by volume	3	0	1	2
Number 5 supplier by volume	3	0	0	0
Total number of secondary companies that provided their supplier's locations	31	7	7	20

Forest Products Distributors Suppliers (pattern) and Customers (solid)



- | | | | | | | | |
|--|----------------|--|----------|--|----------|--|-----------------|
| | Out of country | | Region 1 | | Region 3 | | Within Region |
| | Out of state | | Region 2 | | Region 4 | | Other Louisiana |

Industry Descriptions

Region 1

The following is a description of Region 1 on the map “Forest Products Distributors’ suppliers and customers”: Overall, approximately half of the suppliers are from out of state and the other half are located in Louisiana. Within the state of Louisiana, 15% of the suppliers are from region 1. In contrast, there is a bigger discrepancy in customers’ locations. Approximately three fourths of customers are located in Louisiana. Of this figure, 54% of the customers are located within region 1. Out of state customers only account for 19% of total customers.

Region 2

The following is a description of Region 2 on the map “Forest Products Distributors’ suppliers and customers”: Out of the total number of forest products distributors’ customers, 83% of them are located within region 2. The rest are located out of state. The suppliers, on the other hand, are greatly dispersed. Approximately 54% of the suppliers are located in Louisiana. Of this figure, 15% are from region 2 and 19% are from region 1. In addition, 46% of the suppliers are located out of state.

Note: The results are skewed and inaccurate because there are only 6 distributors located within region 2. Also, only one company provided the locations for all of their top five customer locations.

Region3

There was insufficient data to draw any conclusions on this region.

Region 4

The following is a description of Region 4 on the map “Forest Products Distributors’ suppliers and customers”: The study found that about three fourths of the suppliers are located in the state of Louisiana. Of this figure, 25% of the suppliers are located within region 4. In addition, the study found that 25% of the suppliers are located out of state. Also, a total of 67% of customers are located in Louisiana and 33% of customers are located out of state. Of the total percentage of customers located in Louisiana, 45% of them are located in region 4.

Note: There are only 5 distributors located in region 4 of which only 1 company provided information about its top five customers.

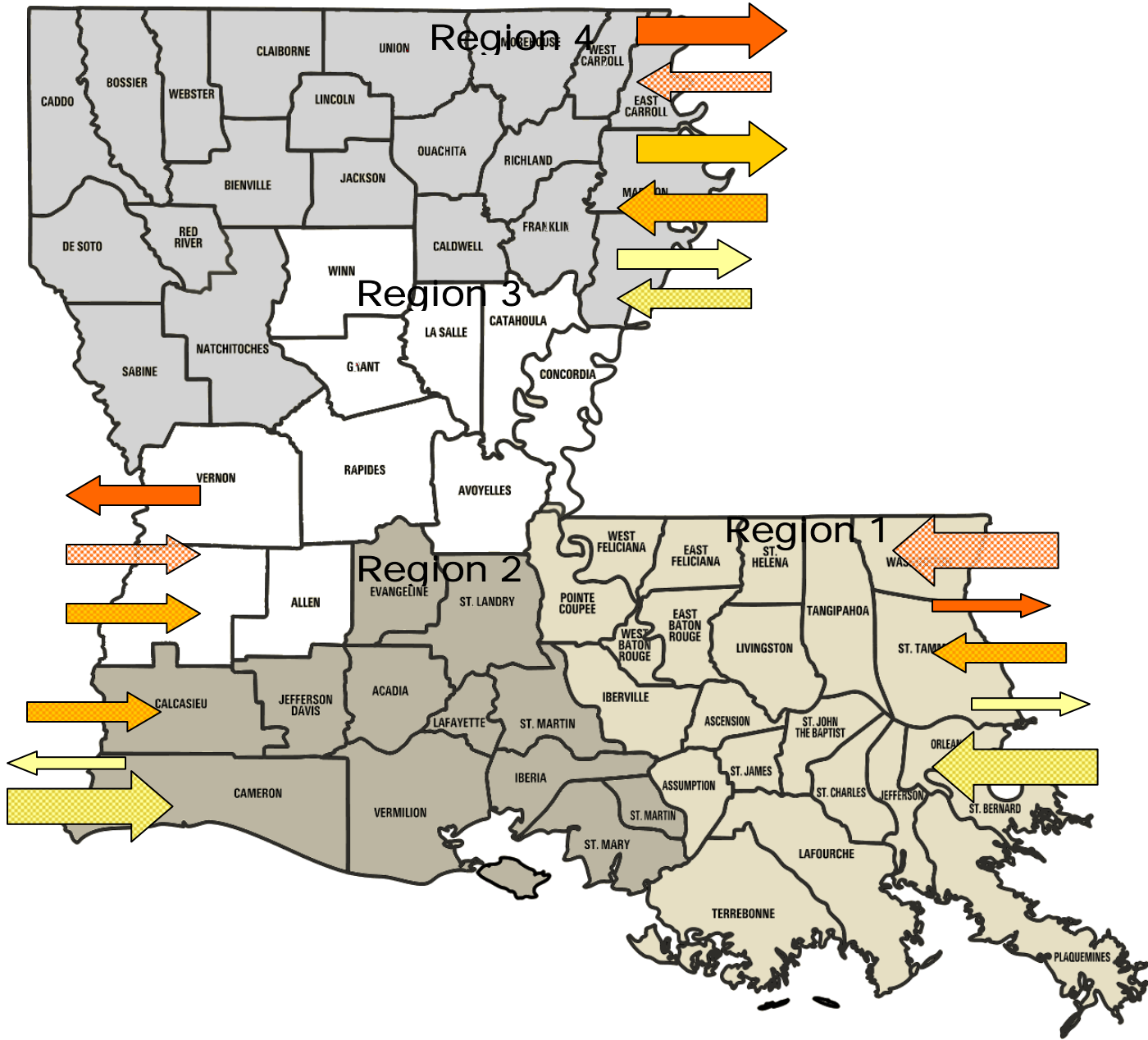
Survey Response Breakdowns

From the charts below, you can see the inconsistency in respondents answering the survey questions. As the survey progressed and more questions were asked, the respondents tended to refrain from completing the survey.

Distributors provided customer location of:	Region 1	Region 2	Region 3	Region 4
Number 1 customer by volume	15	6	1	5
Number 2 customer by volume	11	2	1	2
Number 3 customer by volume	6	1	1	1
Number 4 customer by volume	2	1	0	1
Number 5 customer by volume	3	1	0	1
Total number of distributors surveyed that provided their customer's locations	16	6	1	5

Distributors provided supplier location of:	Region 1	Region 2	Region 3	Region 4
Number 1 supplier by volume	22	12	2	12
Number 2 supplier by volume	10	12	1	4
Number 3 supplier by volume	2	6	0	0
Number 4 supplier by volume	0	3	0	0
Number 5 supplier by volume	0	2	0	0
Total number of distributors surveyed that provided their supplier's locations	22	2	2	12

Forest Products Out-of-state suppliers (pattern) and customers (solid)



- Primary Customers
 Secondary Customers
 Distributor customers
- Primary Suppliers
 Secondary Suppliers
 Distributor Suppliers

Map Descriptions

Region 1

There is large disparity between the percentage of forest product/supplies being imported and exported from out of state. The primary forest products industry and the distributors of forest products in region 1 import approximately half of their supplies from out of state. The primary forest products industry imports forty seven percent of their supplies from out of state and the distributors import forty six percent of their supplies from out of state. In comparison, only twenty seven percent of the primary forest products industry and nineteen percent of distributor's goods are exported out of state.

Region 2

There is significantly more out of state forest products/supplies being imported than exported from region 2. The distributors are the largest imports of products/supplies from out of state into region 2, followed by the secondary forest products industry. Distributors import forty six percent of their forest products products/supplies from out of state and the secondary forest products industry imports thirty three percent of their products/supplies from out of state. The distributors are the only exporters from region 2 with seventeen percent of their products being exported out of state.

Region 3

Both primary and secondary forest industries in region 3 import twenty seven percent of their products/supplies from out of state. However, the primary forest products industry is the only exporter from region 3, exporting twenty eight percent of their products of out state.

Region 4

Region 4 is the main exporter of the forest product/supplies from Louisiana to other states. Moreover, region 4 is also the most balanced region in terms of exports and imports. The primary, secondary and distributors all export approximately the same percentage of supplies as they import. The primary forest products industry export thirty six percent and import thirty three percent of their products/supplies from out of state. The secondary forest products industry export forty three percent and import thirty seven percent of their products/supplies from out of state. The distributors of the forest products industry export thirty three and import twenty five percent of their products/supplies from out of state.

Conclusions

This project involved mapping the supply chain of the forest industry in Louisiana. Telephone surveys were conducted: 1,303 calls were made and 370 surveys were completed; however, only 314 surveys contained enough information to be analyzed and included in the results. Respondents were asked to describe the locations of their top five customers and top five suppliers. Respondents were also asked to classify their company as Primary, Secondary, or Distributor. Most respondents only gave information on one or two of their customers and between two and three of their suppliers. The information was collected, analyzed, and maps were created to visually display the results of the surveys. First, the state of Louisiana was divided into four regions. The maps show how much each region imports and exports both within and outside the state of Louisiana.

The results indicate that Primary industry companies located within Region 4 export 36 percent of their products out of state. Primary companies located within Region 3 export 28 percent of their products out of state. Primary companies located within Region 2 did not export any primary forest products. Primary companies located within Region 1 export 21 percent of their products out of state.

The results show that Secondary industry companies located within Region 4 import 37 percent of their supplies from out of state. Secondary companies located within Region 3 import 27 percent of their supplies from out of state. Secondary companies located within Region 2 import 25 percent of their supplies from out of state. Secondary companies located within Region 1 import 28 percent of their supplies from out of state.

The results for the Distributor industry companies indicate that companies located within Region 4 import 25 percent of their supplies from out of state. There was not enough information from distributor companies located within Region 3 to draw any conclusions. Distributor companies located within Region 2 import 46 percent of their supplies from out of state. Distributor companies located within Region 1 also import 46 percent of their supplies from out of state.

According to these results, Primary industry companies are exporting large percentages of their products outside the state of Louisiana while Secondary and Distributor companies are importing large percentages of their supplies from outside the state as well. The value of the exported forest industry products from Louisiana could be increased if Primary industry companies exported a larger portion of their raw materials to Secondary companies within the state of Louisiana that are currently importing some of their supplies from outside the state. Another way to increase the value of the exported forest products and to reduce the need for importing from outside the state of Louisiana would be to grow the Secondary industry within the state. Products exported from Secondary industry companies have a higher value than products exported from Primary industry companies. In addition, growing the Secondary industry would also help meet the importing needs of the Distributor companies which are currently importing large portions of their supplies from outside the state of Louisiana.