Economic Contributions of the Green Industry to the Texas Economy

Report to the Texas Nursery and Landscape Association
2013

by

Marco A. Palma and Charles R. Hall
Texas A&M AgriLife Extension Service
Texas A&M University System
2124 TAMU. College Station, TX. 77843-2124
mapalma@tamu.edu

Acknowledgements

This report was made possible by a grant from the Texas Nursery and Landscape Association (TNLA). The Data was obtained from the Texas Comptrollers of Public Accounts (TCPA), Baseline data from the Green Industry Research Consortium National Nursery Survey. Others who contributed with this report include Carmen Escalante (TCPA), Dan Hanselka, Dean McCorkle, (Texas A&M AgriLife Extension Service) and Alan Hodges (University of Florida). This report complies with the terms of the TNLA contract. The authors welcome comments or information about the usefulness and implications of these findings.

Introduction

The baseline sales figures for the nursery and greenhouse sector were updated to the latest National Nursery Survey data from the Green Industry Research Consortium. This year report shows an overall increase in green industry sales to nearly $17 billion in total sales. Product and manufacturing sales decreased almost 5% for a total of $1.84 billion in 2012, down from an all-time high of $1.93 billion in 2011. The landscaping sector experienced the largest growth in sales in the last several years. Total landscaping sales were up 13.3% to $4.1 billion. Retail sales also increased almost 6% to a total of $11 billion in 2012. The net margins attributed to the retail sector accounted for $3.3 billion. This study will evaluate green industry sales in Texas by sector and then estimate economic contributions to the Texas Economy in terms of output, employment and value added.

Background trends

There are so many factors contributing to the overall health of an industry that it's shortsighted to focus solely on one specific element. For the green industry, marketplace trends encompass consumer spending and confidence in general, as well as how and where plants are purchased. At present, independent garden centers (IGCs) are holding their own in most markets and even increasing sales for the better stores, if adequate attention to merchandising, customer service and consumer trends is given. However, many firms that are using the "grow it and they will come" approach are struggling, and many IGCs are looking to complement their business with other non-plant lines.

Supply chain trends have a significant influence on the vitality of the industry, and vice versa. We continue to see a number of structural changes occurring in the green industry. The shakeout that started with the Great Recession has slowed, but nonetheless continues at all levels of the supply chain. Several more reputable growers, landscape service providers, and retailers have gone out of business since last year. Not all of this productive capacity has exited the industry, however; consolidation activity through mergers and acquisitions continues to shrink the number of industry participants, but some of the capacity is simply being operated under a different name.

Garden center trends are dependent upon a number of influences, including seasonality, climate, weather, region, competition from mass merchandisers and home centers, and consumer spending in general. The demand in the U.S. for lawn and garden plants and supplies is regional and highly dependent on climate and growing conditions. The good news is that retail sales for building material and garden equipment and supplies dealers, a potential corollary measure of garden supply demand, increased 3.7 percent in the first two months of 2013 compared to the same period in 2012. Personal consumption expenditures of flowers, seeds and potted plants, a major driver for garden centers, are forecast to grow at an annual compounded rate of 5 percent between 2013 and 2017, according to data published by First Research, a provider of industry intelligence.

Consumer desire to spend time at home and extend living space outdoors should drive sales for outdoor patio products. Demand for decorative outdoor products, such as lighting, pavers and fountains, will achieve double-digit growth each year through 2015, according to the Freedonia Group. As the housing industry rebounds and the economy improves, consumers will unleash pent-up demand for landscaping renovations and updates that may have been put off during the recession.

Landscape service trends appear to be improving; in fact, according to First Research, the output of the U.S. landscaping industry is forecast to grow about 5 percent in 2013 compared to 2012. The outlook also calls for industry output to increase at a compounded annual rate of 4 percent through 2016, indicating steady growth in the longer term. The value of nonresidential construction spending, a driver for landscaping services demand, rose 1.3 percent year-to-date in January 2013 compared to the same period in 2012. The value of residential construction spending, which impacts demand for landscaping services, rose 22.2 percent year-to-date in January 2013 compared to the same period in 2012. Which brings us to a significant driving force: the housing market.

Methodology

In order to estimate economic contributions of the Green Industry to the Texas economy sales by each green industry sector need to be measured. The North American Industry Classification System (NAICS) was used to gather data on *total green industry sales, including all sectors related to the green industry*. The data used in this report were provided by the State Comptrollers Office, baseline data from the Green Industry Research Consortium National Nursery Survey, and **includes industry sales through the end of fiscal year 2012**. Every business in the state and the country is now classified by North American Industry Classification System (NAICS), which replaced the old Standard Industrial Classification (SIC) system. NAICS was developed jointly by the United States, Canada and Mexico to provide new comparability in statistics about business activity across North America. Green industry firms fall within one of the AICS codes:

Table 1. NAICS Codes for Green Industry Sectors

Industry Sector	NAICS Code
Nursery & Greenhouse	1114
Lawn & Garden Equipment Mfg	333112
Greenhouse Manufacturing (Prefab. Metal Buildings)*	332311
Landscaping Services	561730
Landscape Architectural Services	541320
Flower, Nursery Stock And Florist Supplies Wholesalers	424930
Lawn & Garden Equipment & Supplies Stores	4442
Florists	4531
Building Material & Supplies Dealers*	4441
Food & Beverage Stores*	445
General Merchandise Stores*	452
Farm & Garden Machinery & Equipment Wholesalers*	423820

* Green industry represents a portion of overall business activity (Sectors not included in Previous Scope reports).

Green Industry Sales in Texas

When reporting sales to the State Comptroller's office, each firm must report all sales, including those sales in which sale taxes are collected and those that are not collected (wholesale). This reporting system has an area of potential slippage. For example, since wholesale growers do not collect any sales tax (for the state), some small and medium size growers are unaware of their reporting responsibilities. Not all of these firms realize that their services are subject to sale taxes. Therefore, unintended non-compliance has been a source of under reporting, which would underestimate green industry sales in Texas. Because of this potential slippage problem, additional data were used to supplement this report's methodology. Table 2 shows Total Green Industry Gross Sales in 2012, and Table 3 shows sales from 2007-2012 for each green industry sector. Table 3 shows sales for the retail industry including gross sales, and also net sales. Net sales represent the margin sales that correspond to the retail sector only.

Table 2. Total Green Industry Gross Sales in 2012		
Sector (NAICS code)	Sales	Establishments
Production/Manufacturing	**1,835,750,045**	**788**
Nursery & Greenhouse (1114) ^	1,256,813,934	694
Lawn & Garden Equipment Manufacturing (333112) ^	548,451,502	83
Prefabricated metal buildings (332311) (Greenhouses) ^*	30,484,608	11
Horticultural Services	**4,117,368,730**	**14,857**
Landscaping Services (561730)	3,898,816,573	14,255
Landscape Architectural Services (541320)	218,552,157	602
Wholesale & Retail Trade Horticulture Products (Gross)	**11,003,313,316**	**19,093**
Flower, Nursery Stock and Florist Supplies Wholesalers (424930)	637,051,072	435
Lawn & Garden Equipment & Supplies Stores (4442)	5,051,478,526	2,285
Florists (4531)	986,079,513	3,518
Building Material & Supplies Dealers (4441)*	1,585,082,005	1,850
Food & Beverage Stores (445)*	393,743,370	2,614
General Merchandise Stores (452)*	1,626,356,583	8,149
Farm & Garden Equipment Wholesalers (423820)*	723,522,247	243
Total All Sectors	**16,956,432,091**	**34,738**

^ Estimated from baseline data from National Nursery Survey, and Texas Comptroller's Office Data.
* NAICS represents a portion of Total Green Industry Sales

Table 3. Total Green Industry Sales 2007-2012					
	GROWER	LANDSCAPE	RETAIL (Gross)	RETAIL (Net)	TOTAL
2012	$1,835,750,045	$4,117,368,730	$11,003,313,316	$3,332,098,812	**$9,285,217,586**
2011	$1,927,144,158	$3,567,557,981	$10,351,246,386	$3,134,635,431	$8,629,337,571
2010	$1,537,061,928	$3,390,016,982	$9,351,749,314	$2,831,960,872	$7,759,039,782
2009	$1,336,866,584	$3,414,177,793	$9,039,697,678	$2,737,463,255	$7,488,507,632
2008	$1,575,251,701	$3,903,651,168	$8,599,018,918	$2,604,013,890	$8,082,916,760
2007	$1,498,509,647	$3,567,729,013	$8,431,798,582	$2,553,375,081	$7,619,613,741

Total industry sales, including grower, landscaping and retailing sales increased 6.55% in 2012 for a total of $16.9 billion in gross sales. The grower sector experienced a decrease of 4.98% to a total of $1.8 billion. The landscaping sector experienced the largest growth in sales since 2005. Total landscaping sales were up 13.3% in 2012 for total sales over $4.1 billion. Gross retail sales increased 5.9% to a total of $11.0 billion in 2012. Figures 1, 2, 3 and 4 represent industry sales for growers, landscaping, retailing (gross) and total gross industry sales respectively.

Figure 1. Grower Sales 2004-2012

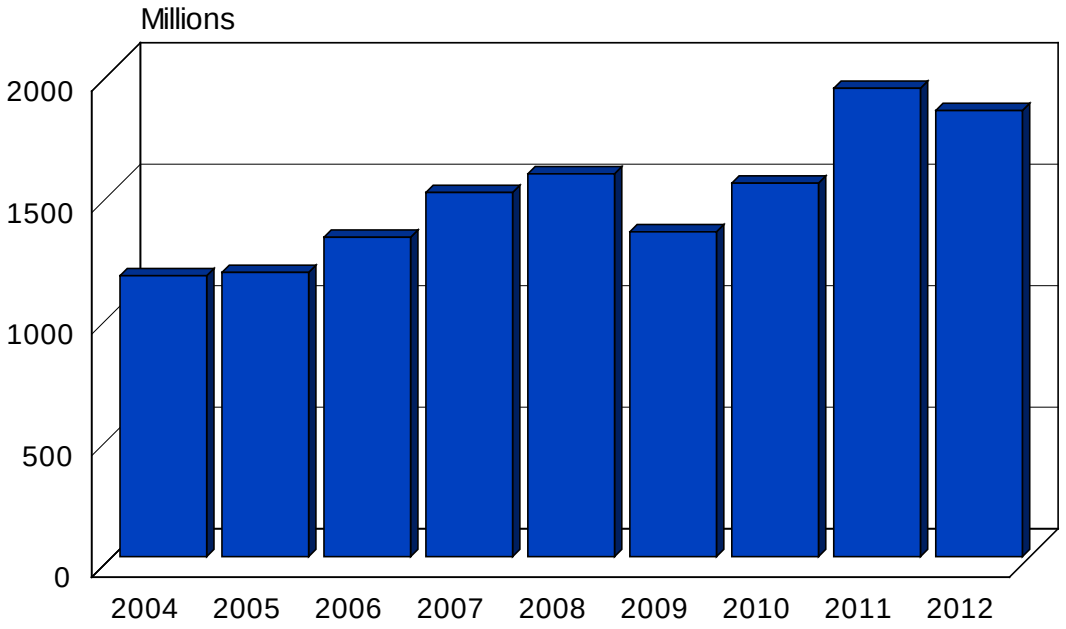


Figure 2. Landscaping Sales 2004-2012

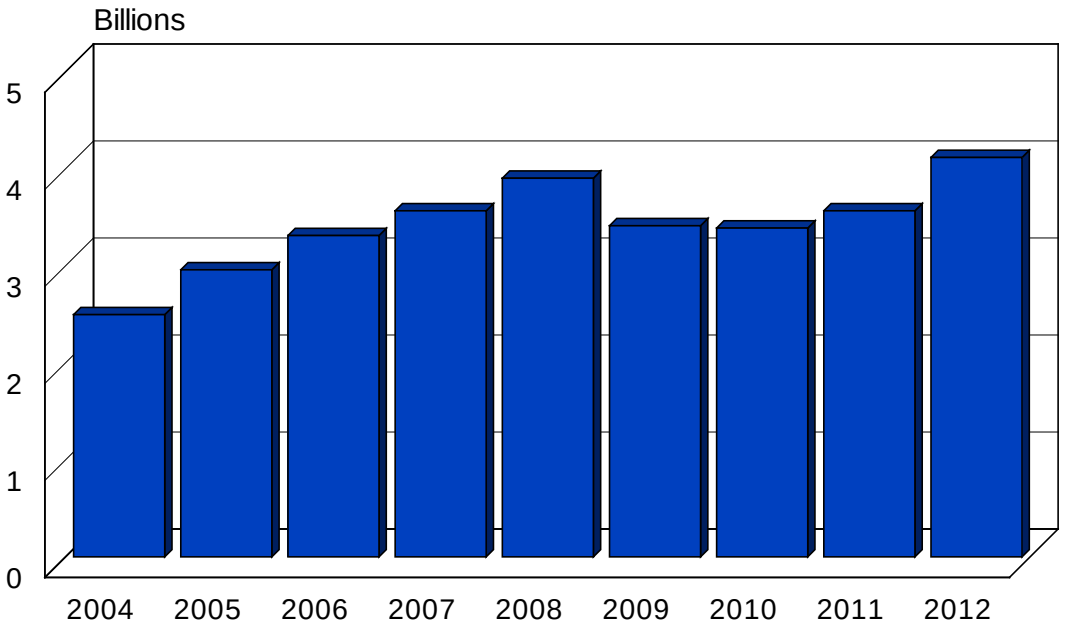


Figure 3. Retailing Sales 2004-2012

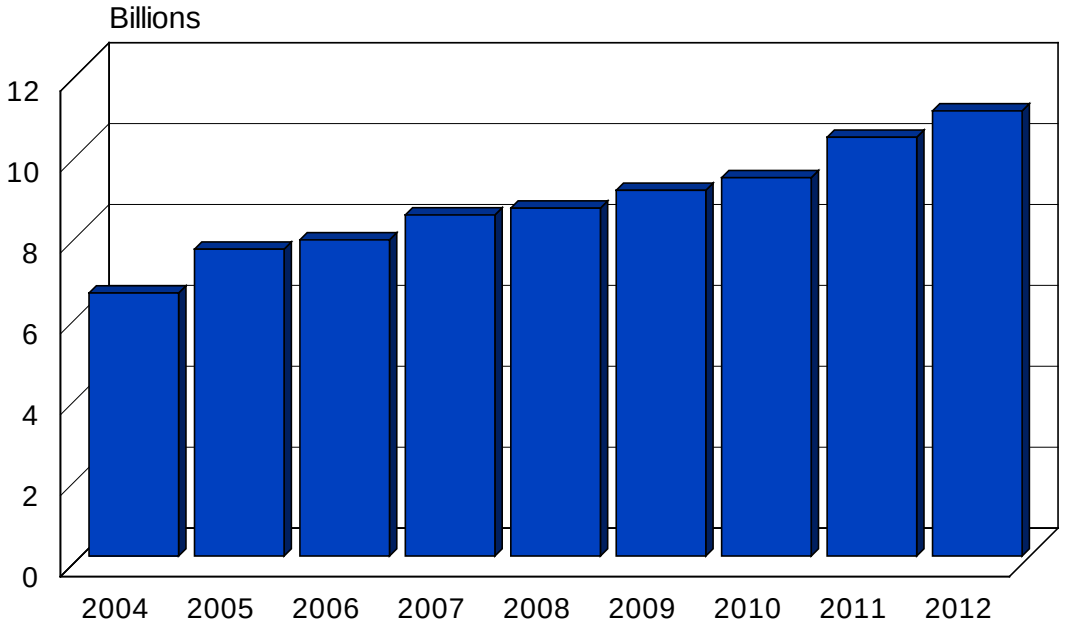


Figure 4. Total Industry Sales 2004-2012

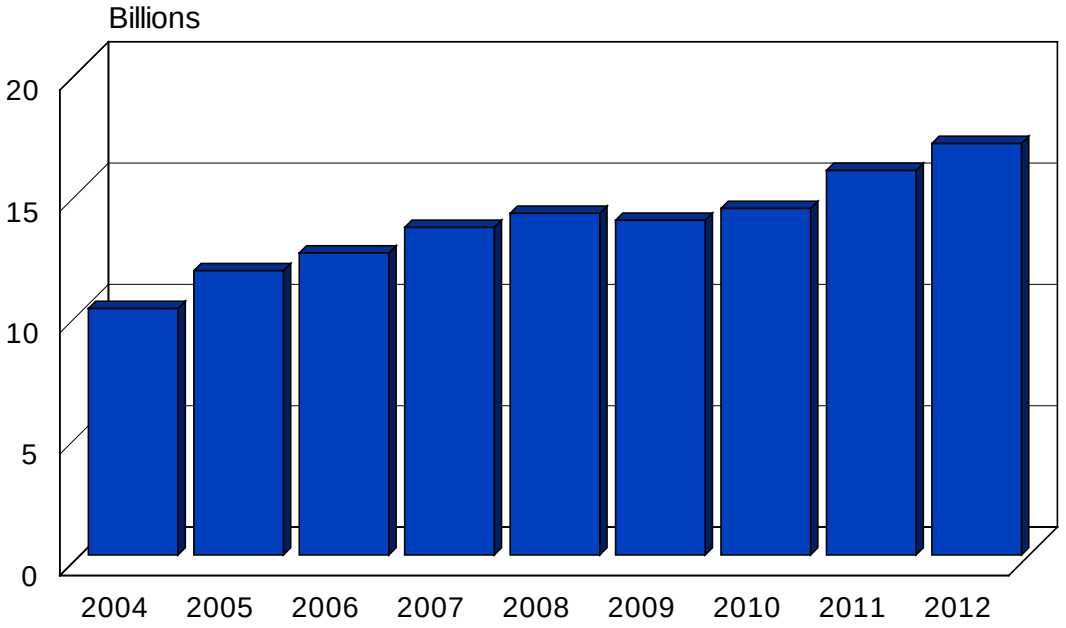


Table 4 presents green industry sales by sector and by major Metropolitan Statistical Area (MSA). There are 27 MSAs in Texas. The major MSAs are, Austin, Dallas, Ft. Worth, Houston, El Paso, and San Antonio. The economic scope reports sales in five of the major MSAs; together, the five major MSAs included in this report represent more than half of the total industry sales as shown in Figure 5. Houston and Dallas hold the largest share of green industry sales in 2012 with 19.15 and 15.10 percent respectively. Figure 6 is a graphical representation of grower, landscaping and retailing sales by MSA in Texas.

Table 4. Total Green Industry Sales by Metropolitan Statistical Area (MSA), 2012

MSA	GROWER	LANDSCAPE	RETAIL(Gross)	TOTAL	% OF TOTAL
Austin	59,111,380	476,092,181	577,424,050	1,112,627,610	6.56%
Dallas	149,594,018	915,422,566	1,494,648,554	2,559,665,137	15.10%
Ft Worth	154,739,170	292,148,062	739,893,268	1,186,780,500	7.00%
Houston	191,413,094	1,223,031,161	1,831,940,185	3,246,384,440	19.15%
San Antonio	133,184,749	312,110,497	761,661,759	1,206,957,005	7.12%
Other	1,147,707,634	898,564,263	5,597,745,501	7,644,017,398	45.08%
Total	1,835,750,045	4,117,368,730	11,003,313,316	**16,956,432,091**	100.00%

Figure 5. Total Green Industry Sales in Texas by MSA in 2012

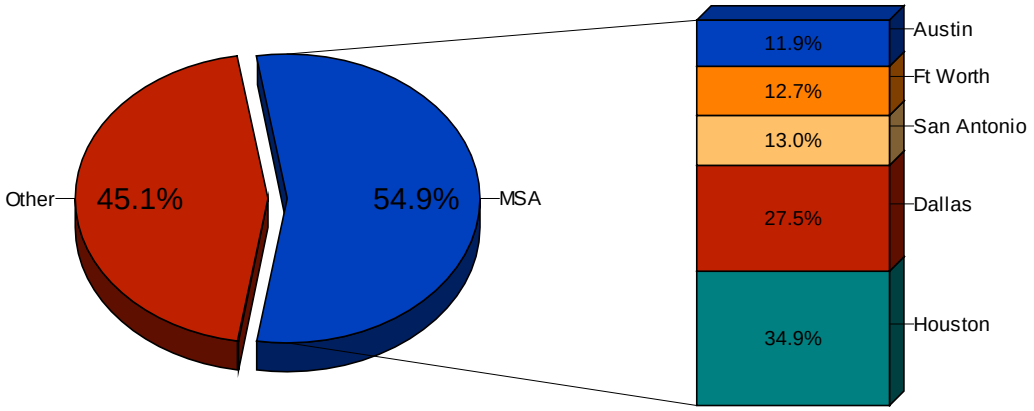
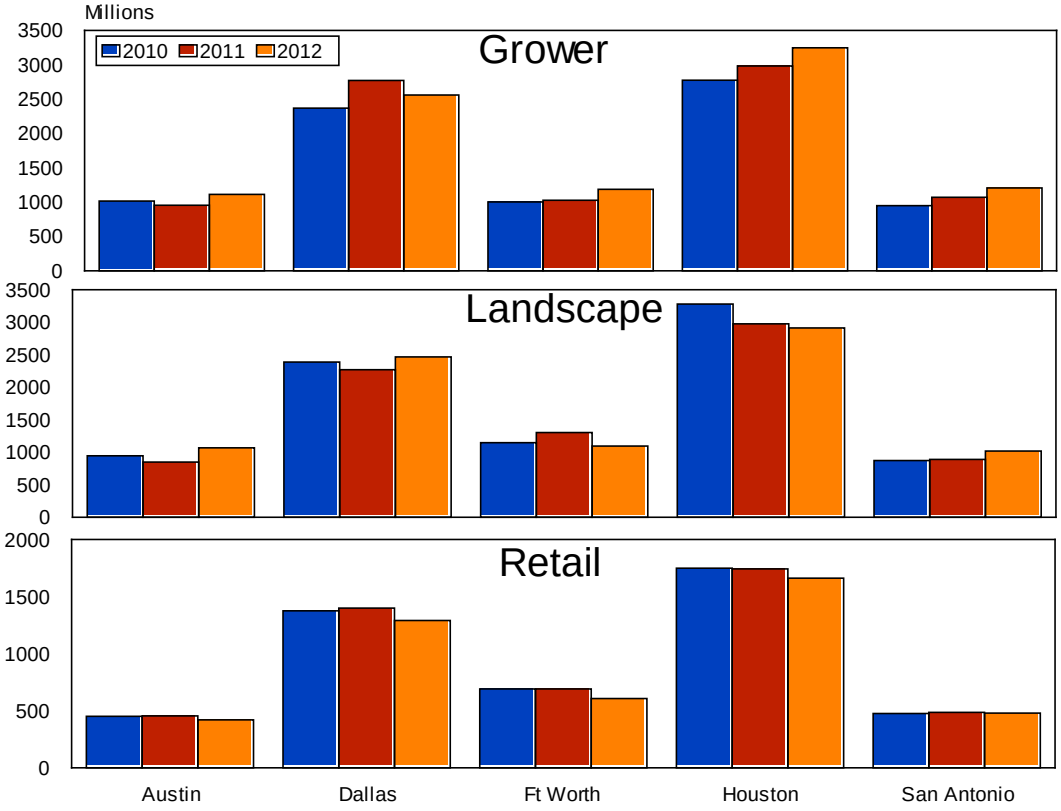


Figure 6. Green Industry Sales by Outlet and by MSA , 2010-2012



Economic Contributions of the Green Industry to the Texas Economy

The net sales data from the previous section was used to estimate total economic contributions of the Green Industry to the Texas Economy. To evaluate the economic impact contributions of the green industry to the Texas economy, economic models were developed using the Implan software system and associated Texas datasets (MIG, 2010). The Implan system includes more than 500 industries. Input-Output models represent the structure of a regional economy in terms of transactions, employees, households, and government institutions (Miller & Blair, 1985).

The economic multipliers derived from the Implan model were used to estimate the total economic activity generated in the state by sales *(output)* to final demand or exports. This includes the effects of intermediate purchases by green industry firms from other economic sectors *(indirect effects)* and the effects of green industry employee household consumer spending *(induced effects)*, in addition to direct sales by industry firms. The wholesale and retail sectors use products from the production/manufacturing and horticultural services sectors; therefore, when calculating the impacts for the wholesale and retail trade horticulture products, output (retail sales) are reduced to reflect only the gross margin on sales to those sectors, otherwise we would be double counting the economic impact stemming from those products.

Total economic contributions of the Green Industry in Texas were estimated at $18.3 billion in output; 198,978 jobs, and $10.8 billion in value added as shown in Table 5. For the production and manufacturing sectors, including nursery and greenhouse, lawn and garden equipment manufacturing, and metal building manufacturers, total output impacts were down from 2011 to a total of $3.2 billion; employment impacts were 25,782 jobs; and value added impacts were $1.7 billion. For the horticultural services sectors, including landscaping services and landscape architecture services, total output impacts were $8.7 billion; employment impacts were 103,815 jobs; and value added impacts were $4.9 billion. For the wholesale and retail trade sectors, total output impacts were $6.4 billion; employment impacts were 69,382 jobs; and value added impacts were $4.2 billion. The largest economic impact contributions for individual sectors were landscaping services, lawn and garden stores and nursery and greenhouse.

Table 5. Economic Contributions of the Green Industry in Texas, 2012

	Output ($Mn)	Employment (jobs)	Value Added ($Mn)
Production & Manufacturing	3,167	25,782	1,684
Nursery & Greenhouse	2,210	21,961	1,324
Lawn & Garden Equipment Manufacturing	897	3,501	332
Prefabricated Metal Buildings[1]	60	320	28
Horticultural Services	8,705	103,815	4,865
Landscaping Services	8,217	99,926	4,558
Landscape Architecture Services	488	3,888	307
Wholesale & Retail Trade Horticulture Products[2]	6,448	69,382	4,241
Flower Nursery Stock & Florist Supplies Wholesalers	196	1,250	139
Lawn & Garden Equipment & Supplies Stores	3,142	30,099	2,020
Florists	842	12,630	538
Building Material & Supplies Dealers[1]	999	10,237	657
Food & Beverage Stores[1]	215	2,778	147
General Merchandise Stores[1]	832	10,969	582
Farm & Garden Equipment Wholesalers[1]	222	1,419	158
Total (All Sectors)	18,320	198,978	10,790

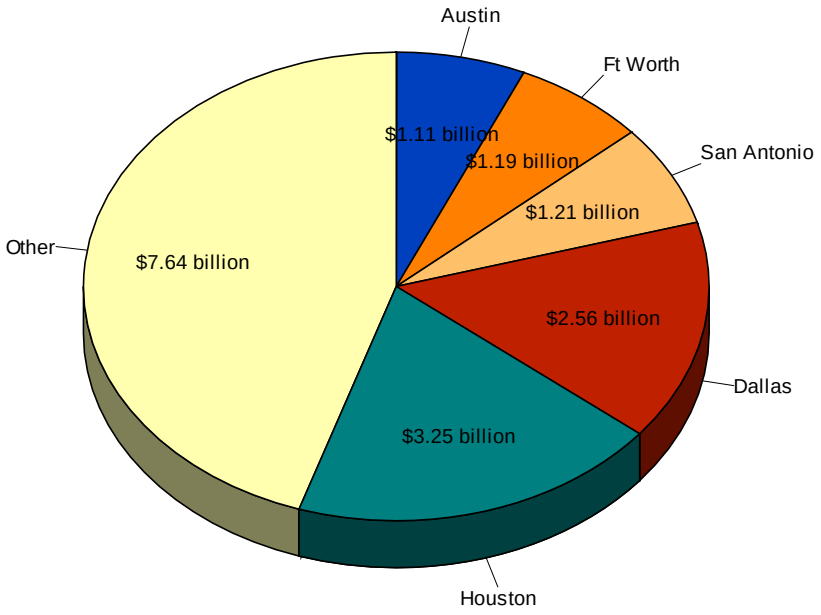


Figure 7. Green Industry Economic Contributions to the Texas Economy in 2012

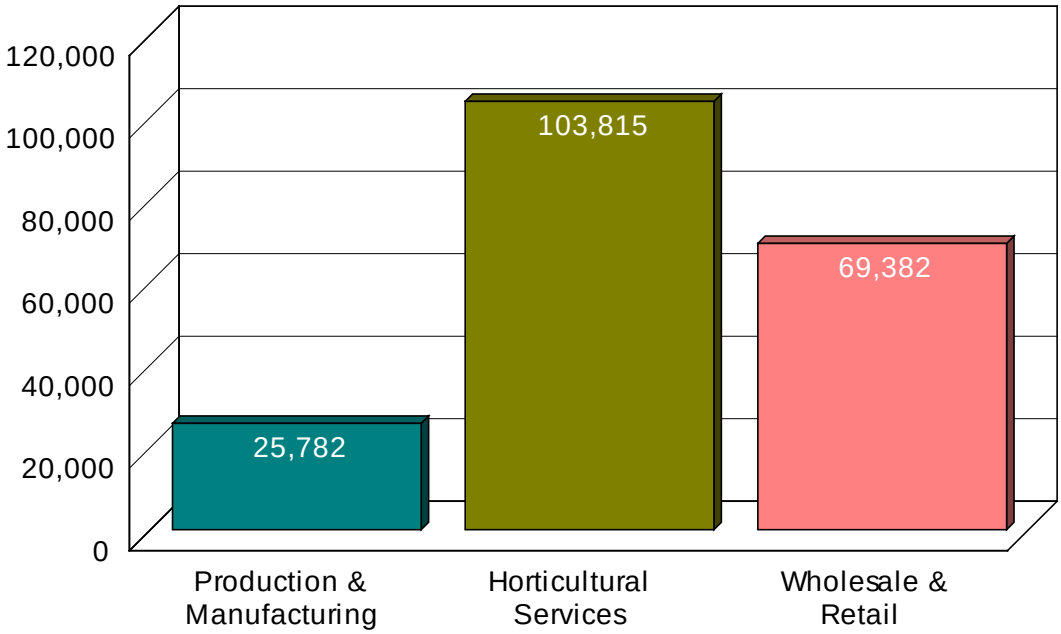


Figure 8. Number of Jobs Created by the Green Industry in Texas 2012

Economic impact results are also reported by major metropolitan statistical area (MSA) as summarized in Table 6. The MSAs with the greatest economic impact contributions to the State's economy are Houston and Dallas.

Table 6. Economic Impact Contributions of the Green Industry in Texas by MSA 2012

	Output ($Mn)	Employment (jobs)	Value Added ($Mn)
Austin	1,202	13,056	708
Dallas	2,766	30,037	1,629
Ft. Worth	1,282	13,926	755
Houston	3,507	38,095	2,066
San Antonio	1,304	14,163	768
Other	8,259	89,700	4,864
Total	18,320	198,978	10,790

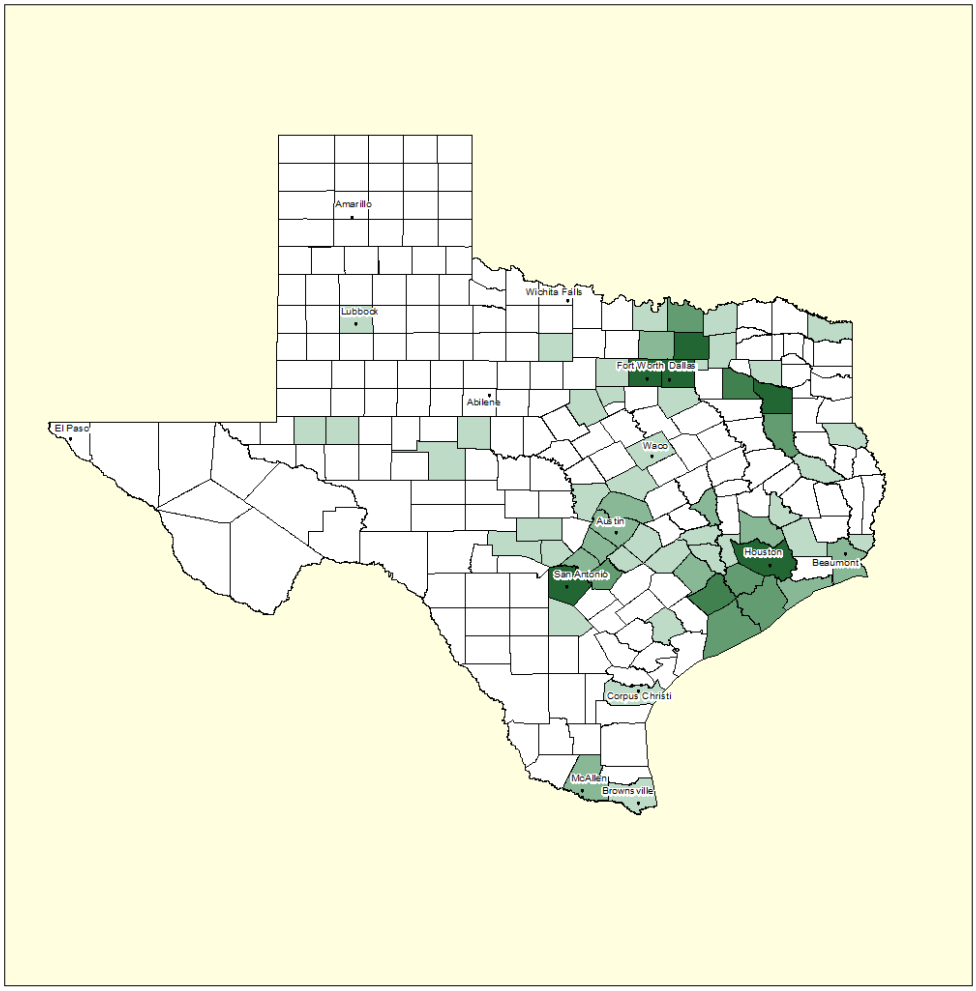
Measures of economic activity.

Sales or output is the dollar volume of a good or service produced or sold. **Final Demand** is sales to final consumers, including households, governments, and exports. **Intermediate sales** are sales to other industrial sectors. **Income** is the money earned within the region from production and sales. **Total income** includes personal income (wage and salary income, including income of sole proprietor's profits and rents). **Jobs or employment** is a measure of the number of jobs required to produce a given volume of sales/production, expressed as full time equivalents, or as the total number including part time and seasonal positions. **Value Added** is the sum of total income and indirect business taxes.

Appendix – Total Green Industry County Sales Estimates for 2012

County	Sales	County	Sales	County	Sales	County	Sales	County	Sales
Anderson	22,575,791	Deaf Smith	183,383,058	Hutchinson	1,574,775	Navarro	30,548,138	Val Verde	7,787,102
Andrews	1,190,770	Delta	294,706	Irion	0	Newton	230,182	Van Zandt	112,766,401
Angelina	53,956,714	Denton	368,718,885	Jack	1,039,806	Nolan	32,112,169	Victoria	86,140,768
Aransas	11,095,103	De Witt	-	Jackson	21,611,290	Nueces	246,223,995	Walker	33,471,403
Archer	4,425,876	Dickens	48,565	Jasper	13,162,302	Ochiltree	2,170,890	Waller	75,928,157
Armstrong	-	Dimmit	2,388,877	Jeff Davis	37,876	Oldham	0	Ward	876,421
Atascosa	40,464,655	Donley	82,844	Jefferson	172,054,714	Orange	32,624,232	Washington	50,307,209
Austin	88,952,652	Duval	295,418	Jim Hogg	181,814	Palo Pinto	12,086,559	Webb	87,159,549
Bailey	11,110,432	Eastland	12,661,517	Jim Wells	14,087,720	Panola	10,827,974	Wharton	200,425,957
Bandera	3,774,197	Ector	70,140,602	Johnson	102,241,851	Parker	61,610,909	Wheeler	289,507
Bastrop	37,833,736	Edwards	91,212	Jones	12,396,719	Parmer	151,635	Wichita	85,753,862
Baylor	64,972	Ellis	78,182,440	Karnes	21,318,751	Pecos	2,347,579	Wilbarger	1,427,877
Bee	20,437,240	El Paso	-	Kaufman	103,983,955	Polk	18,140,252	Willacy	1,172,359
Bell	127,256,255	Erath	44,793,277	Kendall	53,627,625	Potter	84,259,570	Williamson	356,104,541
Bexar	1,256,607,588	Falls	3,771,991	Kenedy	0	Presidio	552,780	Wilson	25,373,622
Blanco	4,698,233	Fannin	15,012,124	Kent	0	Rains	2,636,208	Winkler	296,299
Borden	-	Fayette	20,090,921	Kerr	32,195,538	Randall	88,639,067	Wise	51,824,780
Bosque	3,890,282	Fisher	-	Kimble	198,114	Reagan	51,139	Wood	25,995,753
Bowie	119,464,293	Floyd	245,629	King	0	Real	125,506	Yoakum	11,624,446
Brazoria	168,578,118	Foard	-	Kinney	0	Red River	583,953	Young	8,569,628
Brazos	209,432,026	Fort Bend	331,649,263	Kleberg	9,441,429	Reeves	1,270,236	Zapata	718,940
Brewster	1,673,161	Franklin	4,355,981	Knox	90,812	Refugio	170,506	Zavala	195,369
Briscoe	-	Freestone	14,546,576	Lamar	51,686,809	Roberts	0		
Brooks	503,362	Frio	1,804,209	Lamb	26,797,119	Robertson	7,630,387		
Brown	8,983,521	Gaines	27,609,574	Lampasas	12,940,087	Rockwall	47,026,281		
Burleson	34,356,059	Galveston	179,052,514	La Salle	0	Runnels	9,098,927		
Burnet	29,253,079	Garza	63,212	Lavaca	8,380,257	Rusk	14,281,247		
Caldwell	16,685,449	Gillespie	22,515,539	Lee	12,875,411	Sabine	1,115,818		
Calhoun	7,561,463	Glasscock	-	Leon	1,498,756	San Augustine	396,900		
Callahan	6,758,827	Goliad	84,857	Liberty	41,996,208	San Jacinto	1,183,137		
Cameron	123,844,500	Gonzales	13,090,998	Limestone	16,181,387	San Patricio	140,088,624		
Camp	1,682,524	Gray	15,200,573	Lipscomb	47,655	San Saba	159,100		
Carson	83,089	Grayson	93,717,873	Live Oak	2,989,610	Schleicher	54,696		
Cass	7,632,099	Gregg	149,311,369	Llano	3,067,192	Scurry	3,140,291		
Castro	27,531,835	Grimes	14,839,230	Loving	0	Shackelford	95,300		
Chambers	65,252,267	Guadalupe	118,060,855	Lubbock	209,551,357	Shelby	18,253,056		
Cherokee	50,139,807	Hale	72,839,623	Lynn	0	Sherman	52,387		
Childress	974,357	Hall	35,233	Madison	756,862	Smith	327,090,167		
Clay	577,313	Hamilton	536,516	Marion	206,265	Somervell	1,022,450		
Cochran	14,880	Hansford	394,349	Martin	122,875	Starr	9,614,516		
Coke	166,109	Hardeman	90,984	Mason	544,104	Stephens	2,995,860		
Coleman	548,582	Hardin	11,941,093	Matagorda	49,854,488	Sterling	0		
Collin	536,442,960	Harris	2,516,402,529	Maverick	10,393,569	Stonewall	19,785		
Collingsworth	137,515	Harrison	84,288,091	McCulloch	8,545,492	Sutton	229,558		
Colorado	46,267,448	Hartley	-	McLennan	222,897,745	Swisher	121,631		
Comal	100,192,847	Haskell	259,880	McMullen	0	Tarrant	1,161,391,763		
Comanche	7,282,789	Hays	96,466,253	Medina	15,720,958	Taylor	108,156,160		
Concho	-	Hemphill	210,219	Menard	35,596	Terrell	0		
Cooke	106,465,054	Henderson	31,647,515	Midland	101,914,084	Terry	25,797,515		
Coryell	15,278,490	Hidalgo	302,583,547	Milam	6,599,490	Throckmorton	0		
Cottle	-	Hill	25,524,975	Mills	674,662	Titus	17,329,661		
Crane	-	Hockley	23,299,929	Mitchell	244,260	Tom Green	138,525,893		
Crockett	70,464	Hood	25,886,519	Montague	9,310,567	Travis	759,548,151		
Crosby	60,051	Hopkins	48,637,051	Montgomery	325,593,982	Trinity	2,127,778		
Culberson	45,483	Houston	18,271,484	Moore	216,266,818	Tyler	2,150,904		
Dallam	389,945	Howard	23,105,928	Morris	3,159,411	Upshur	9,830,099		
Dallas	1,817,201,186	Hudspeth	47,623	Motley	0	Upton	29,611		
Dawson	1,120,927	Hunt	73,449,621	Nacogdoches	27,308,456	Uvalde	5,884,365		

Grower Sales



Grower Sales for 2012

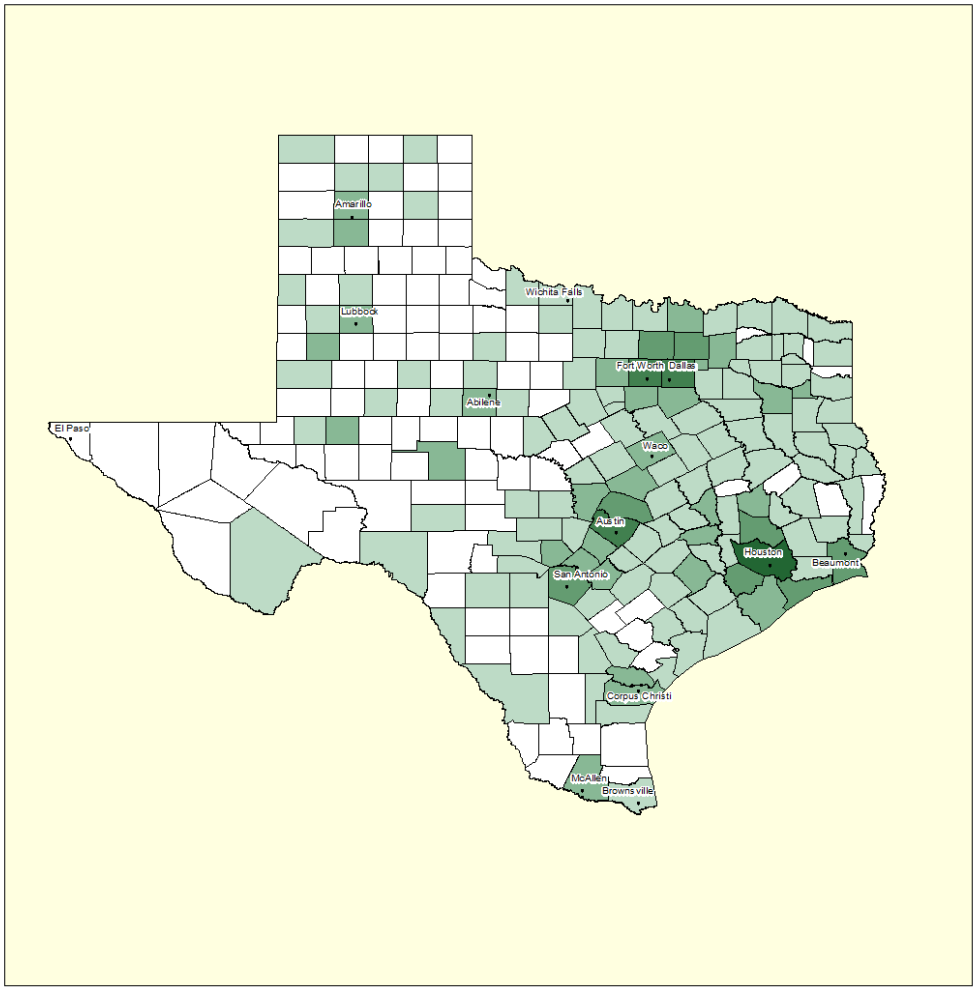
- No sales reported
- Less than $10,000,000
- $10,000,001 - $25,000,000
- $25,000,001 - $50,000,000
- $50,000,001 - $100,000,000
- $100,000,001 - $375,000,000

N W E S

0 50 100 200 300 400 Miles

Developed by Daniel Hanselka, Texas A&M AgriLife Extension Service

Landscaping Sales



Landscaping Sales for 2012

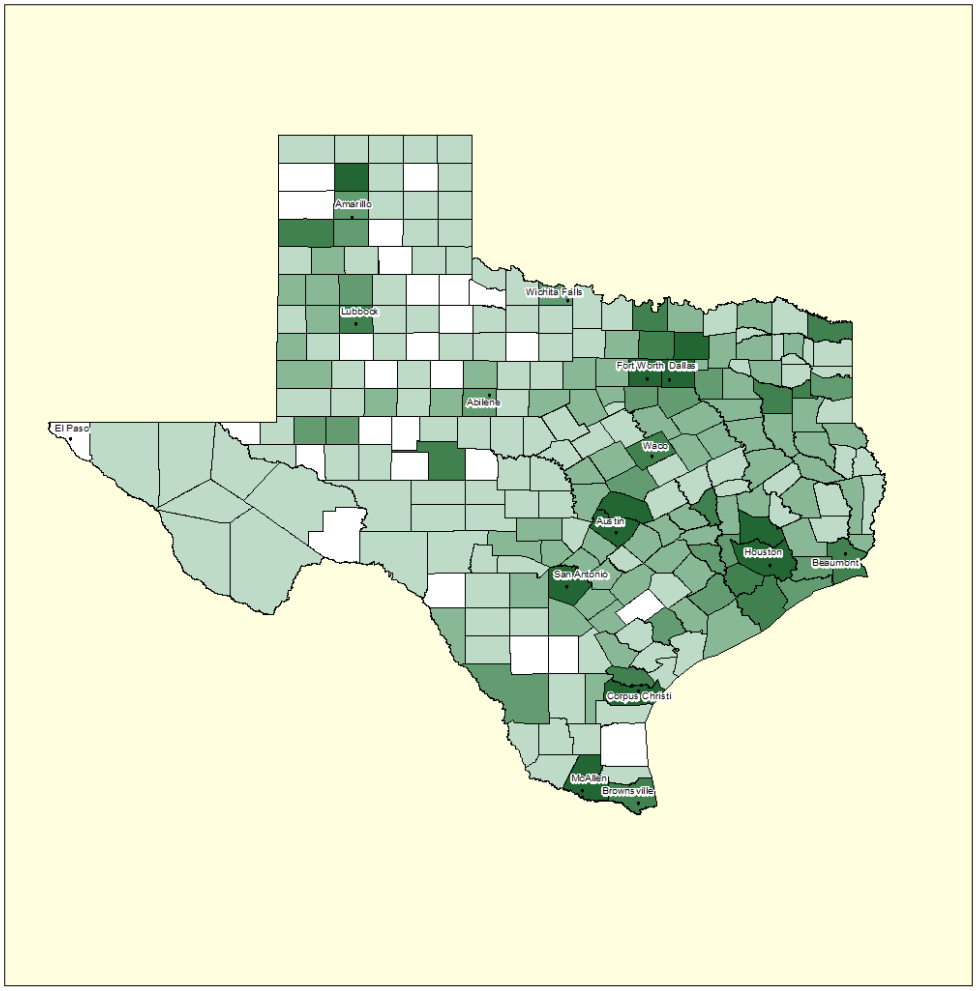
- No sales reported
- Less than $10,000,000
- $10,000,001 - $50,000,000
- $50,000,001 - $250,000,000
- $250,000,001 - $500,000,000
- $500,000,001 - $1,000,000,000

N W E S

0 50 100 200 300 400 Miles

Developed by Daniel Hanselka, Texas A&M AgriLife Extension Service

Retail Sales



Retail Sales for 2012

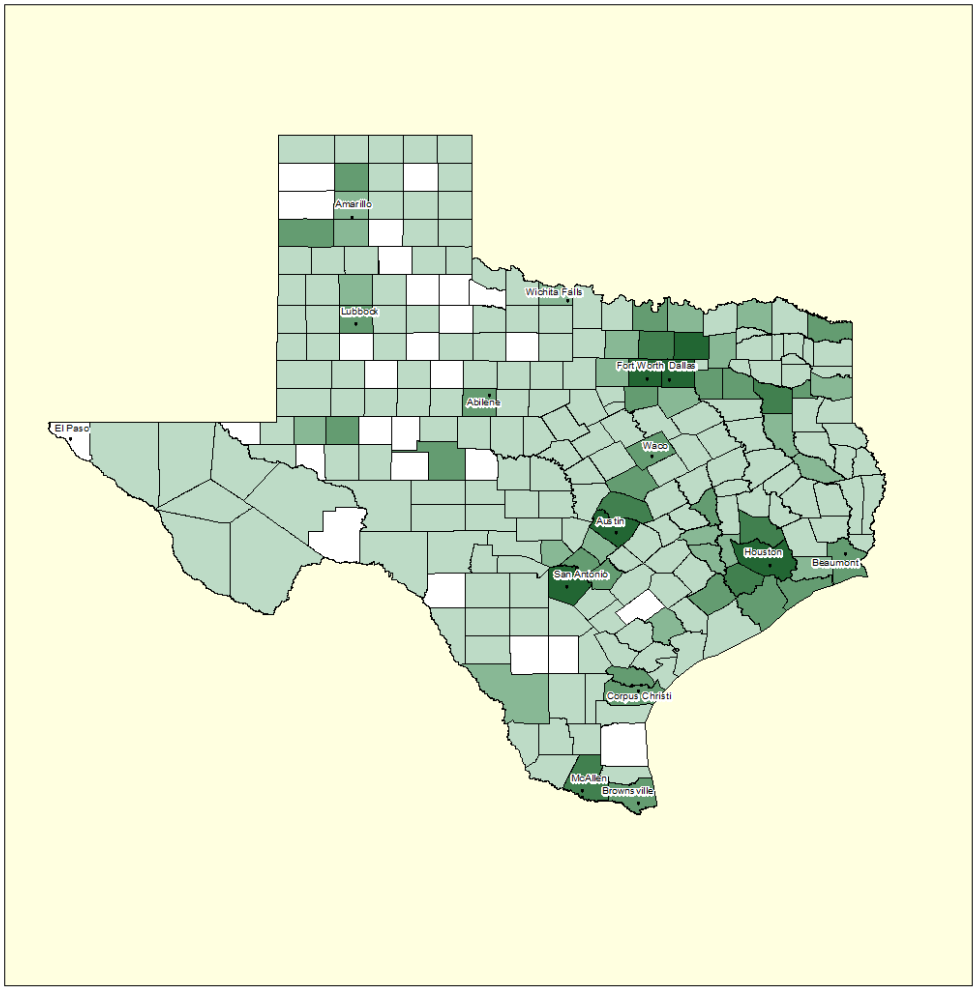
- No sales reported
- Less than $10,000,000
- $10,000,001 - $50,000,000
- $50,000,001 - $100,000,000
- $100,000,001 - $200,000,000
- $200,000,001 - $1,300,000,000

N W E S

0 50 100 200 300 400 Miles

Developed by Daniel Hanselka, Texas A&M AgriLife Extension Service

Total Sales



Total Sales for 2012

- No sales reported
- Less than $50,000,000
- $50,000,001 - $100,000,000
- $100,000,001 - $250,000,000
- $250,000,001 - $500,000,000
- $500,000,001 - $2,750,000,000

N W E S

0 50 100 200 300 400 Miles

Developed by Daniel Hanselka, Texas A&M AgriLife Extension Service