Economic Contributions of Urban Forests in Texas

2019

Texas A&M Forest Service

Texas

29 million Texans

over **1300** cities and towns

10.3 million acres of urban lands

Urban Forests

Contribute **$4.7** billion to the economy & create **57,645** jobs with **$2.1** billion in labor income

Every **$1** spent on urban & community forestry generates an additional **$0.96**

$$$
$$$
$$$

City governments spend an average of **$5.83** per capita on community forestry

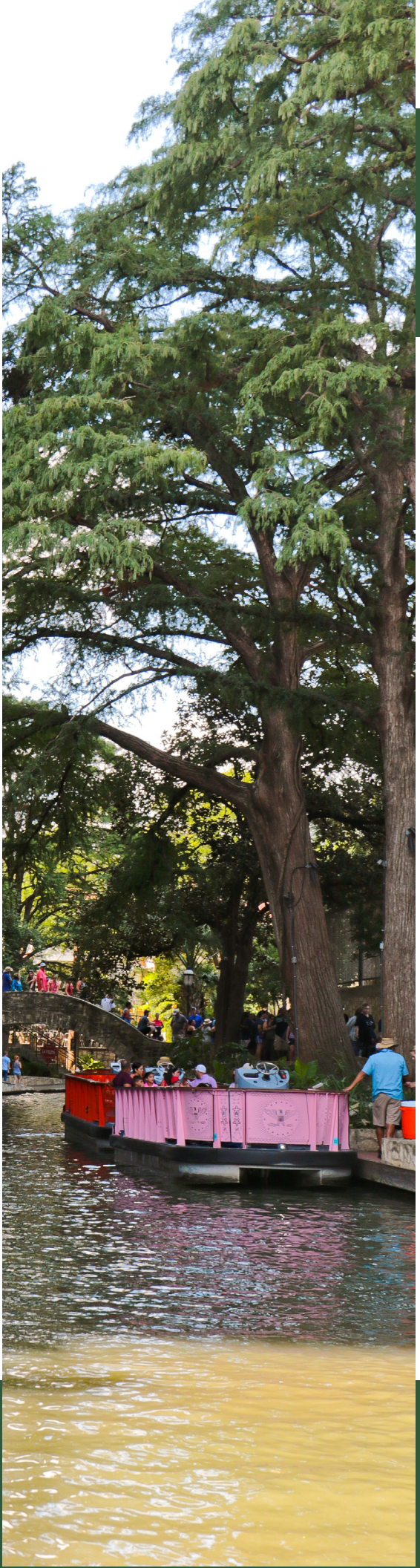

Table of Contents

Executive Summary

As the state forestry agency, Texas A&M Forest Service provides statewide leadership to assure the state's trees, forests and related natural resources are protected and sustained for the benefit of all. Urban and community forests are a critical component of Texas' natural resources. They provide substantial benefits to society from environmental, social, and economic perspectives. While there is a growing public understanding of the numerous environmental and human health benefits of urban forests, limited work has been done to assess and quantify the economic contribution of this sector in Texas. An original and comprehensive study was conducted to estimate this value in Texas utilizing two major data sources:

1) annual tree care expenditures by counties, cities, higher education campuses, and households from direct surveys; and

2) sales of ornamental trees and arboricultural services reported in the 2017 IMPLAN database and adjusted to 2019 dollars.

The results of this analysis indicated that urban forests directly contributed $2.4 billion of industry output to the Texas economy and employed over 43,470 people with a payroll of $1.4 billion. Including direct, indirect, and induced effects, Texas urban forests had a total economic contribution of $4.7 billion in industry output and supported 57,645 jobs with $2.1 billion in labor income. This information can help support and sustain urban forests in the future.

Introduction

Urban forests represent the collection of trees found throughout our communities, including in parks, green spaces, streets, school and corporate campuses, and even neighborhoods. These forests occur on public and private land, and form the basis of a community's green infrastructure network.

Urban forests contribute to human well-being by providing scenic beauty, recreational opportunities, community revitalization, positive physical and mental health influences, clean air and water, carbon capture, energy savings, and storm water mitigation, as well as economic benefits[1,2]. From 2000 to 2010, urban land in the U.S. increased by 17% percent from 58 million acres to 68 million acres[1]. When including community lands, currently, more than 130 million acres of forests are located in cities or communities within the United States. Over 80 percent of the U.S. population lives in urban areas and this trend is increasing[1,2]. As the country becomes more urbanized, urban forests become increasingly important. Therefore, it is imperative that policy makers, community planners, and conservation groups understand and appreciate the social, environmental, and economic benefits of urban forests.

Previous studies have documented the importance of urban forests in providing forest products, aesthetic, recreational, health, environmental, social and specific economic benefits[3,4,5,6,7,8]. However, economic benefits are complex and include not just the direct effects resulting from commercial sales and jobs for arborists, nursery operators, and urban foresters, but indirect and induced effects as well[9,10,11] (Figure 1). Direct effects are the set of expenditures made by producers and consumers at the initial level of the industry. This includes expenses such as salaries, supplies, raw materials, and operating expenses. Indirect effects are the business to business purchases in the supply chain that stem from the initial or direct expenditures. Induced effects are the values stemming from household spending of labor income.

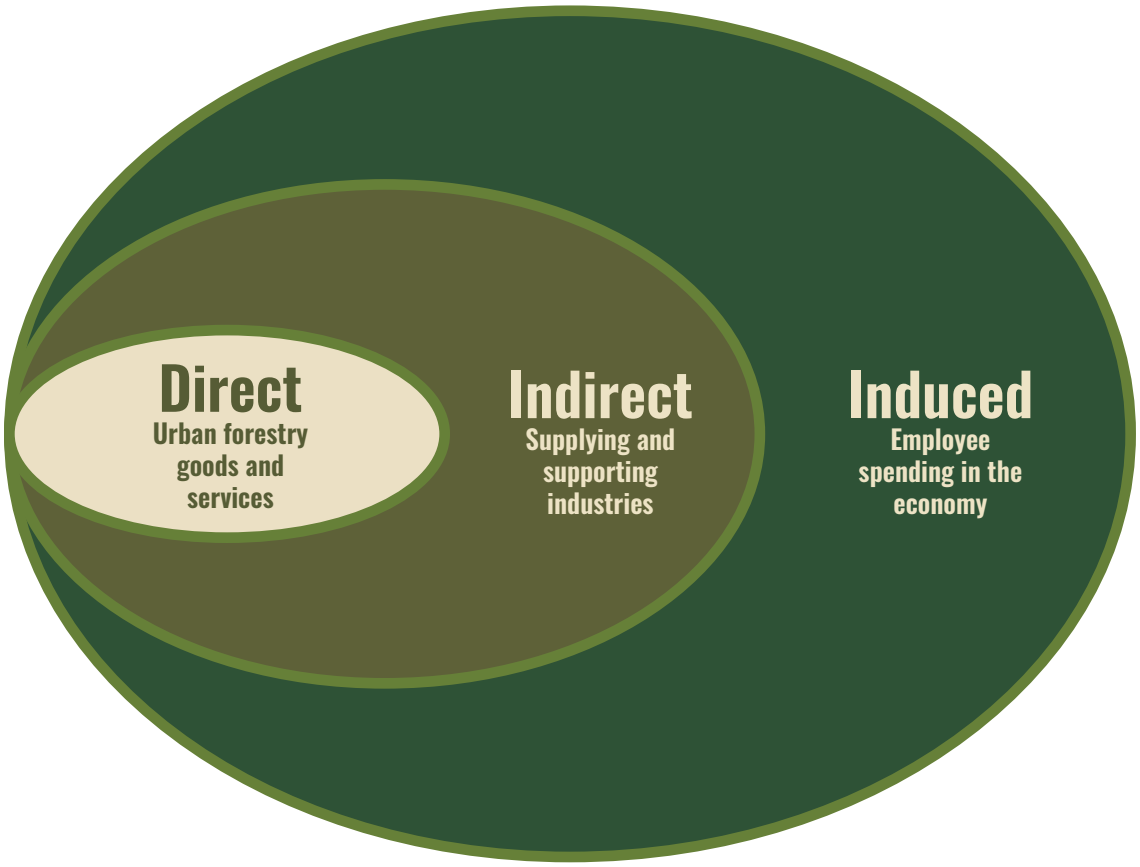

Figure 1. Visual representation of the different economic impacts

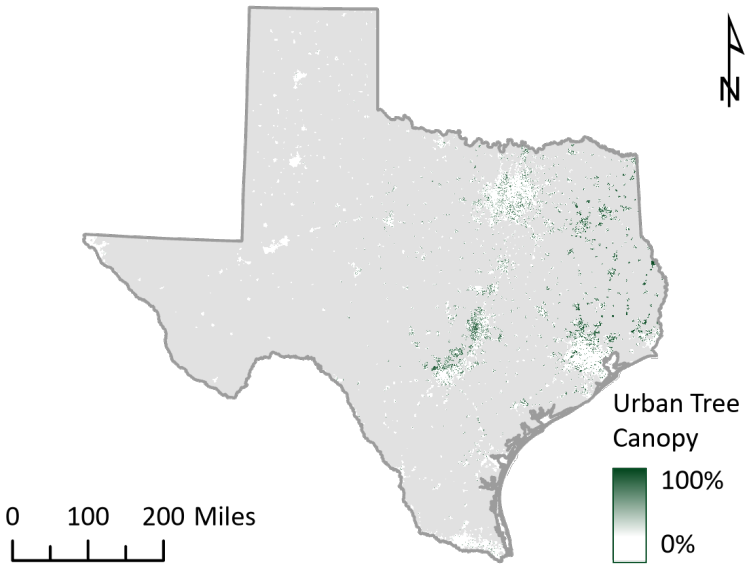

Figure 2. Distribution of urban forests in Texas

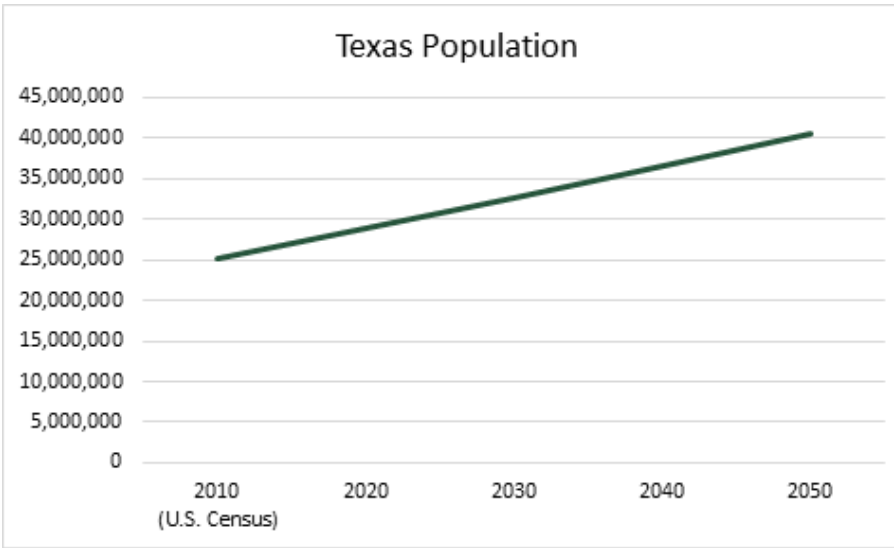

Figure 3. Texas population projections through 2050

The value of traditional forest products has long been recognized to be of economic importance. Texas A&M Forest Service (TFS) has a history of tracking timber price data, dating all the way back to 1984. Additionally, TFS economic contributions studies of the Texas forest sector have been conducted regularly since 1999. The most recent analysis determined the Texas forest sector directly contributed $18.9 billion of industry output to the Texas economy[12]. While the importance of traditional forestry is well-documented, Texas policy makers, stakeholder groups and related industries lack quantitative information about the economic contribution and activity associated with urban forestry.

Texas is the second largest state in the country, both in terms of land area and population, trailing only Alaska and California, respectively. Urban land accounts for approximately six percent (10.3 million acres) of the land area in Texas, with urban forests covering 23 percent, or 2.4 million acres of this total[13] (Figure 2). The state's population is projected to reach 47 million by 2050, an increase of 89 percent from the 2010 Census (Figure 3). Growth is concentrated in the "Texas Triangle", a region formed by Dallas-Fort Worth, Houston, and Austin-San Antonio. These five cities are in the top fifteen most populated areas in the country, making Texas an excellent test site for quantifying the economic importance of the urban forest sector.

Several states have estimated the economic contributions of urban forestry, though results vary widely (Table 1). For instance, the total output of economic contributions in Illinois was $180 million with 2,696 jobs created[15], while the total output from urban forests in Florida was $8.4 billion and 80,808 jobs[18]. Some inconsistency might be expected across states with disparate tree cover or population; however, when equalized for population, jobs per capita ranged from 0.21 jobs per 1000 residents in Illinois to 4.38 jobs per 1000 residents in Georgia.

Table 1. Comparison of economic contributions of urban forestry within the United States

States	Year	Jobs	Jobs/1,000 Residents	Labor Income*	Value Added*	Output*
California[14]	2009	58,769	1.59	3.27	3.53	No Data
Illinois[15]	2010	2,696	0.21	0.07	0.10	0.18
New Jersey[16]	2012	17,408	1.97	0.68	1.02	1.72
Georgia[17]	2016	45,096	4.38	1.75	No Data	4.01
Florida[18]	2019	80,808	3.76	3.46	5.15	8.40
United States[19]	2002	259,224	0.90	9.93	14.12	21.02

*Billions of dollars

There is a need to refine and standardize the estimation process in order to make this information more accessible and comparable regionally. As local, national, and global tree planting campaigns to mitigate climate, health, and equity issues take root, it is critical that economic contribution information about the urban forest industry at large is available to more efficiently plan, manage and sustain this resource now and into the future.

Study Design

Process Model

This study utilized two major sources of data to estimate the economic contribution of the urban forest industry in Texas. Local governments across the state were surveyed to determine annual expenditures on tree related activities in fiscal year 2017. This information was combined with economic data generated from the 2017 IMPLAN (impact analysis for planning) input-output modeling system. Figure 4 shows the process model used in this analysis.

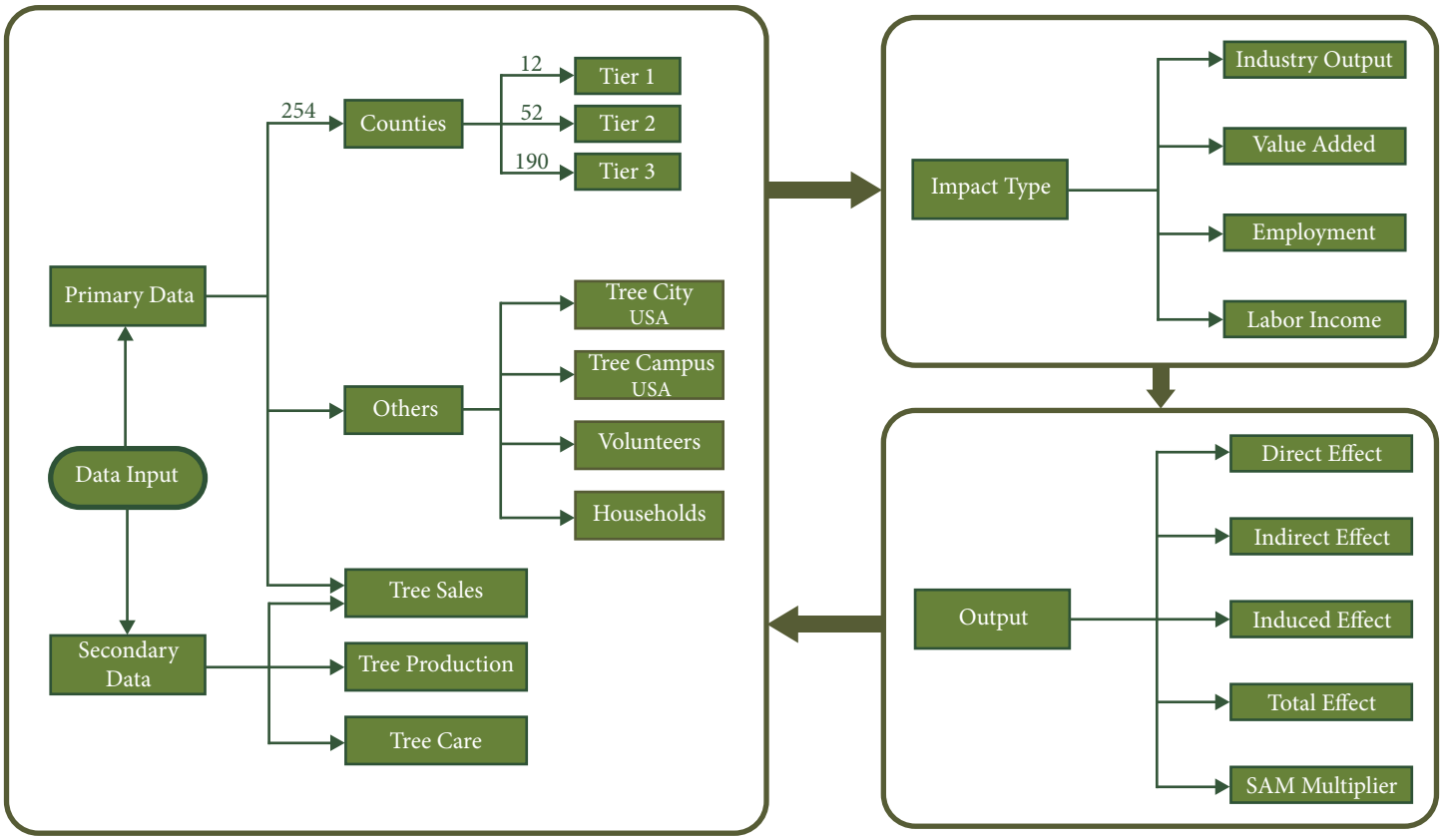

Figure 4. Data flow process model (study design - IMPLAN model)

Input Data

The primary data source was a survey of Texas counties, cities, and higher education campuses to determine annual expenditures on tree related activities, such as pruning, planting, irrigation, mulching, tree removal, and debris disposal. Additionally, data on tree sales from Texas nurseries, urban forestry volunteers (number of volunteers and total working hours), and household expenses related to tree-care activities were collected through a network of stakeholder groups and the U.S. Department of Agriculture's Census of Horticultural Specialties[20].

Texas counties were segmented into three tiers based on their population. Tier 1 consisted of the top twelve populated counties, while Tier 2 (52 counties) and Tier 3 (190 counties) represented middle and lower populations, respectively. The survey was administered to all Tier 1 counties, twenty-one percent of Tier 2 counties, and six percent of Tier 3 counties, for a total of 34 counties (Figure 5). TFS urban and community forestry personnel conducted face-to-face interviews with county judges and their designees to obtain this information.

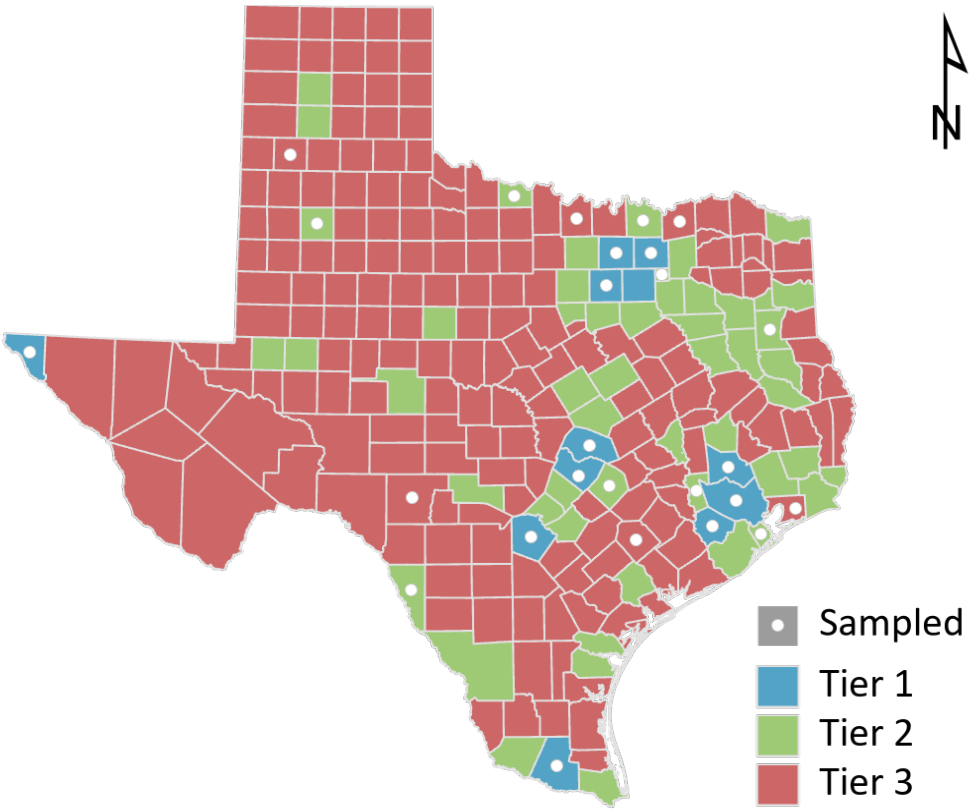

Figure 5. Survey sites of the three tiers of Texas counties

Cities and campuses designated as Tree City USA and Tree Campus USA report annual urban forestry expenditures as part of their recertification for the recognition programs. Eighty-five (85) Texas cities and thirty-two (32) campuses participated in the recognition programs in 2017. These annual reports formed the basis of the city and campus survey data.

The secondary data source for this analysis was obtained from the 2017 IMPLAN software and respective database. IMPLAN is an input-output model that is used widely across many different research fields to conduct economic simulations due to its time and cost efficiencies[21,22,23,24,25,26,27,28]. The model simulates a sector's overall impact on the state's economy by estimating how the sector's direct effects contribute to the indirect effects of supporting sectors and induced effects of consumption by households. Employment, labor income, value added, and industry output data are used to estimate these effects.

The North American Industrial Classification Scheme (NAICS) is a standard used by statistical agencies in classifying business establishments for the purpose of collecting and analyzing economic statistical data. Due to the inherent diversity of the industry, urban forestry does not fit neatly into a single sector. Two NAICS sectors were used in the model: landscape and horticultural services (Sector 469) and greenhouse, nursery, and floriculture production (Sector 6).

Results were specifically calculated for Texas in a manner to avoid over-estimation[29,30,31]. Table 2 shows a summary of the data used in this analysis.

Table 2. Input summary for the Texas Urban forestly Industry

NAICS Sector	Description of Sector	Service/Product Type	Sales ($)	Source
469	Landscape and horticultural services	Tree care services	1,657,467,096	IMPLAN
6	Greenhouse, nursery, and floriculture production	Tree Production	158,866,102	IMPLAN
399	Retail building material and garden equipment and supplies stores	Tree Sales	111,272,000	USDA
19	Support activities for agriculture and forestry	Tree City USA	165,054,072	Survey
19	Support activities for agriculture and forestry	Tree Campus USA	21,099,063	Survey
19	Support activities for agriculture and forestry	Volunteers	629,150	Survey
19	Support activities for agriculture and forestry	Counties	28,285,287	Survey
19	Support activities for agriculture and forestry	Households	334,245,100	Survey

*Millions of dollars

Results

Economic contributions of the urban forest industry

In 2017, the urban forest industry directly contributed $2.4 billion of industry output to the Texas economy, employing 43,470 people with a payroll of $1.4 billion (Table 3), reported in 2019 dollars. The state received $1.6 billion in value added impact directly from this sector through payroll, other employee compensation, and property taxes. Supplying industries of this sector indirectly contributed $788 million of industry output to the state's economy, providing 4,076 jobs with $256 million of labor income and $445 million in value added. Together, these effects generated the induced effects of $1.5 billion output, 10,100 job opportunities, $503 million in labor income, and $882 million in value added to the Texas gross domestic product (GDP). Including direct, indirect, and induced impacts, the urban forest sector had a total economic contribution of $4.7 billion in industry output, supporting 57,645 jobs (2.04 jobs/1,000 Texans) with a payroll of $2.1 billion and $2.9 billion in value added.

A Social Accounting Matrix (SAM) multiplier is used to reflect the additional jobs, labor income, value added, and industry output created by a sector to the local economy[31]. Applying the SAM multiplier, every job created by the Texas urban forest sector resulted in an additional 0.33 jobs, $0.55 in payroll and $0.82 in value added in Texas (Table 3). While not additive, ultimately, every dollar generated by this sector contributed to an additional $0.96 to the rest of the state economy.

Table 3. The economic contribution of urban forestry in Texas

Impact Type	Jobs	Labor Income*	Value Added*	Output*
Direct Effect	43,470	1,369.65	1,608.87	2,404.71
Indirect Effect	4,076	256.33	444.93	787.94
Induced Effect	10,100	502.84	881.76	1,523.97
Total Effect	57,645	2,128.83	2,935.56	4,716.62
SAM	1.33	1.55	1.82	1.96

*Billions of dollars

Economic impacts on the top ten related industries

The Texas urban forest industry indirectly contributes to other key industries in the state, including greenhouse, nursery, and floriculture (Sector 6), support activities for agriculture and forestry (Sector 19), and landscape and horticultural services (Sector 469). As expected, the landscape and horticultural services sector was the most positively impacted by urban forestry, contributing $1.7 billion in industry output, 27,485 jobs, $0.8 billion in labor income, and $1.0 billion value added (Table 4).

Table 4. Economic impact of urban forestry on the top ten impacted industries in Texas

NAICS Sector	Sector Description	Jobs	Income*	Added*	Output*
469	Landscape and horticultural services	27,485	811.48	1,029.66	1,664.22
19	Support activities for agriculture and forestry	14,538	513.37	510.50	562.93
6	Greenhouse, nursery, and floriculture production	1,780	51.34	69.13	180.68
440	Real estate	769	24.39	95.46	137.97
501	Full service restaurants	634	16.36	17.99	33.23
395	Wholesale Trade	607	55.23	118.99	164.65
502	Limited-service restaurants	607	13.26	30.10	53.07
399	Retail building material and garden equipment	458	20.52	32.79	52.52
482	Hospitals	404	34.40	35.87	66.64
464	Employment services	355	16.18	24.74	31.98

*Millions of dollars

Interestingly, some industries seemingly unrelated to agricultural were affected by the Texas urban forest sector, such as real estate, full-service restaurants, and wholesale trade. The real estate and the full-service restaurant sectors ranked fourth and fifth among all affected sectors, generating $1.4 billion (769 jobs created) and $0.3 billion (634 jobs created) in total output, respectively. This impact correlates with the value of landscape trees in enhancing places where people live and go about their business.

Discussion

The results of this study were compared with economic contribution studies of the traditional forest sector and green industry in Texas to gauge their reliability (Table 5). The total urban forest industry output when compared to the forest sector and green industry was 14.5% and 20.6%, respectively. Employment ratios were much higher, indicating the urban forest sector is likely more efficient in job creation.

As previously discussed, the urban forest industry is actually comprised of multiple NAICS sectors. However, if the urban forest industry were compared to the 2,083 total NAICS industries in Texas, it would rank in the top twenty percent in terms of both direct employment and labor income.

Table 5. Comparison of economic contributions between Texas analyses

Sector	Total Output (billions of $)	Ratio*	Jobs	Ratio*
Forest Sector	32.50	14.52%	144,500	39.89%
Green Industry	22.87	20.64%	229,880	25.08%
Urban Forest	4.72	-	57,645	-

*Ratio estimated by dividing the value of urban forestry into the other sector

The economic contribution is likely underrepresented as reported county, city and campus per capita expenditures vary widely across and within each class. Most counties do not have a dedicated forestry department and many county respondents stated that tree related activities and expenditures were not tracked separately from other land management activities. These counties reported expenses based on a percentage of resources estimated to be spent on tree issues. The Tree City USA and Tree Campus USA programs require a minimum level of expenditures to meet the standard for recognition. Often, a community or a campus will collect expense data until they reach the required $2.00 per capita minimum and then report that for the year.

In general, counties spend less per resident on urban forestry activities than cities or campuses (Table 6). Average county expenditures were $2.15 per resident. Expenses ranged from $0.03 to $21.90 per capita. While it's true that larger population counties had greater total expenses than lower population counties, per capita expenses were higher for smaller population counties, suggesting an economy of scale. This expense rate was independent of the relative geographical size of the county. Cities averaged $5.83 per capita spending on urban and community forestry activities while college and university campuses averaged $10.70 per full-time student.

Additionally, annual community forestry expenses reported through Tree Line USA, a recognition program for electric utilities was not included in this report despite their significant involvement in vegetation management and community forestry support within cities. Future analyses of the economic contribution of the urban forest in Texas should include this segment of the industry.

Table 6. Per capita expenses of counties, cities, and campuses ($/person)

	Ratio*	Jobs	Ratio*
Counties	2.15	0.03-21.90	1.33-4,600,000
Cities	5.83	2.00-80.80	648-2,100,000
Campuses	10.70	1.86-36.78	712-64,000

The urban forest sector is an important economic contributor to many state and local economies across the country. As noted, several states have conducted urban forest economic contribution studies, with inconsistent results. One reason is that different data sources and methodologies are used. There is no specific data designated for the urban forest sector in the IMPLAN database, making it easy to over-estimate the economic contribution if only applying this type of data. For example, Sector 467 in the IMPLAN database denotes landscape and horticultural services, which not only includes activities related to urban forestry but those unrelated, such as cemetery plot care services, snow plowing services, landscaping services, and others[31]. Standardizing the analysis for these studies, much like the Southern Group of State Foresters has done with the traditional forest sector, can help increase the credibility of the results and comparability among the states. The methodology used by this study provides a pathway for urban forest economic contribution analysis standardization.

Data and results are useful in communicating the importance of this industry to policy makers and can help drive economic development through advocacy and dedicated funding. At minimum, it should serve to influence university and vocational programs to equip people in working in this environment.

Conclusion

The urban forest sector contributes substantially to the state's economy not only through the creation of green jobs and associated spending, but also tax revenue and value added impact. Additionally, this sector provides value from environmental and social perspectives, though these attributes do not always appear in the ledger book.

TFS initiated this economic study to quantify the contribution of this industry to the state's economy in order to raise awareness of the importance of this sector. The analysis applied the 2017 IMPLAN model with original survey data collected by TFS. Results, adjusted to 2019 dollars, indicate this sector contributed $4.7 billion of industry output and generated over fifty thousand jobs. This sector provides a good return on investment, creating an additional 96 cents for every dollar generated within the industry.

This study contributes new information to the literature. The methodology developed to collect data for the economic simulations can be applied to other programs and states. It rectifies issues associated with urban forestry not specifically designated as a sector in the IMPLAN database. It also establishes a baseline for future Texas studies as well as a benchmark for other state and national assessments.

Due to data limitations on the non-market goods and services, economic contributions from ecosystem services relative to Texas urban forestry, such as social and environmental benefits, were not considered. Therefore, studies including the estimation of non-market benefits along with economic impacts to generate the overall economic contributions of the urban forest sector in Texas would be the next logical research step.

References

1. Nowak, D.J. and Greenfield, E.J. 2018 US urban forest statistics, values,and projections. Journal of Forestry, 116 (2), 164-177.

2. Robertson, G. and Mason, A. 2016 Assessing the sustainability of agricultural and urban forests in the United States No. FS-1067.

3. Nowak, D.J. and Dwyer, J.F. 2007 Understanding the benefits and costs of urban forest ecosystems. In Urban and community forestry in the northeast, Springer, pp. 25-46.

4. Tyrväinen, L., Pauleit, S., Seeland, K. and de Vries, S. 2005 Benefits and uses of urban forests and trees. In Urban forests and trees, Springer, pp. 81-114.

5. Dwyer, J.F., McPherson, E.G., Schroeder, H.W. and Rowntree, R.A. 1992 Assessing the benefits and costs of the urban forest. Journal of Arboriculture, 18, 227-227.

6. Bernath, K. and Roschewitz, A. 2008 Recreational benefits of urban forests: Explaining visitors' willingness to pay in the context of the theory of planned behavior. Journal of Environmental Management, 89 (3), 155-166.

7. Elmqvist, T., Setälä, H., Handel, S., Van Der Ploeg, S., Aronson, J., Blignaut, J.N. et al. 2015 Benefits of restoring ecosystem services in urban areas. Current opinion in environmental sustainability, 14, 101-108.

8. McPherson, E.G., Xiao, Q., van Doorn, N.S., de Goede, J., Bjorkman, J., Hollander, A. et al. 2017 The structure, function and value of urban forests in California communities. Urban Forestry & Urban Greening, 28, 43-53.

9. Perkins, H.A., Heynen, N. and Wilson, J. 2004 Inequitable access to urban reforestation: the impact of urban political economy on housing tenure and urban forests. Cities, 21 (4), 291-299.

10. Westphal, L.M. 2003 Social aspects of urban forestry: Urban greening and social benefits: A study of empowerment outcomes. Journal of Arboriculture 29 (3): 137-147, 29 (3).

11. Song, X.P., Tan, P.Y., Edwards, P. and Richards, D. 2018 The economic benefits and costs of trees in urban forest stewardship: A systematic review. Urban forestry & urban greening, 29, 162-170.

12. Parajuli, R., Zehnder, R. and Carraway, A.B. 2017 Economic Impact of the Texas Forest Sector, 2015. Texas A&M Forest Service.

13. USDA Forest Service. 2019 USFS 2016 Percent Tree Canopy Cover (Analytical Version). Salt Lake City, UT.

14. Templeton, S., Campbell, W., Henry, M. and Lowdermilk, J. 2013 Impacts of Urban Forestry on California's Economy in 2009 and Growth of Impacts During 1992–2009. Cal Fire, Clemson, SC, 44.

15. Henderson, J. and Munn, I. 2012 Forestry in Illinois: The Impact of the Forest Products Industry on the Illinois Economy: An Input-Output Analysis. Illinois Forestry Development Council.

16. Enterprise Innovation Institute and Georgia Institute of Technology. 2017 2016 Economic Benefits of the Forest Industry in Georgia. Goergia Forestry Commission.

17. New Jersey Forest Service. 2012 Economic Impact of Urban Forestry in New Jersey. New Jersey Department of Environmental Protection.

18. Hodges, A.W. and Court, C.D. 2019 Economic Contributions of Urban Forestry in Florida in 2017. Florida Forest Service.

19. Hall, C.R., Hodges, A.W. and Haydu, J.J. 2006 The economic impact of the green industry in the United States. HortTechnology, 16 (2), 345-353.

20. USDA, N. 2014 Census of Horticultural Specialties. 2014. USDA: Washington, DC.

21. Steinback, S.R. 1999 Regional economic impact assessments of recreational fisheries: an application of the IMPLAN modeling system to marine party and charter boat fishing in Maine. North American Journal of Fisheries Management, 19 (3), 724-736.

22. Prato, T. and Hey, D. 2006 ECONOMIC ANALYSIS OF WETLAND RESTORATION ALONG THE ILLINOIS RIVER 1. JAWRA Journal of the American Water Resources Association, 42 (1), 125-131.

23. O'Hara, J.K. and Pirog, R. 2013 Economic impacts of local food systems: Future research priorities. Journal of Agriculture, Food Systems, and Community Development, 3 (4), 35–42-35–42.

24. Johnson, R.L. and Moore, E. 1993 Tourism impact estimation. Annals of Tourism Research, 20 (2), 279-288.

25. Chhabra, D., Sills, E. and Cubbage, F.W. 2003 The significance of festivals to rural economies: Estimating the economic impacts of Scottish Highland Games in North Carolina. Journal of travel research, 41 (4), 421-427.

26. Parajuli, R., Henderson, J.E., Tanger, S., Joshi, O. and Dahal, R. 2018 Economic Contribution Analysis of the Forest-Product Industry: A Comparison of the Two Methods for Multisector Contribution Analysis Using IMPLAN. Journal of Forestry, 116 (6), 513-519.

27. Joshi, O., Henderson, J.E., Tanger, S.M., Boby, L.A., Pelkki, M.H. and Taylor, E.L. 2017 A Synopsis of Methodological Variations in Economic Contribution Analyses for Forestry and Forest-Related Industries in the US South. Journal of Forestry, 115 (2), 80-85.

28. Shrestha, A. and Mehmood, S.R. 2018 Economic Impacts of the Shortleaf-Bluestem Community Restoration Project. Journal of Forestry, 116 (6), 505-512.

29. Hall, C.R., Haydu, J.J. and Hodges, A.W. 2005 Economic impacts of the green industry in the United States: Final report to the National Urban and Community Forestry Advisory Committee. University of Tennessee, Extension Service.

30. Palma, M.A. and Hall, C.R. 2013 Economic contributions of the green industry to the texas economy. Report to the Texas Nursery and Landscape Association 2013.

31. IMPLAN Group. 2017 LLC. 2009. IMPLAN System (data and software). 16740 Birkdale Commons Parkway, Suite 206, Huntersville, NC 28078.

Glossary of Terms

Direct effect:
The results of money initially spent by the businesses or organizations within the industry being studied. This includes money spent to pay for salaries, supplies, raw materials, and operating expenses.

Greenhouse, nursery, and floriculture production:
The key word here is production. In other words, this is money injected in the economy as companies are producing what they will eventually sell – buying seed; planting; watering; fertilizing; pruning; transplanting; etc. – which is different than the sale of that plant material, hence the separate category of Tree Sales.

Indirect effect:
Changes in business-to-business transactions indirectly caused by the direct effects. Businesses initially benefiting from the direct effects will subsequently purchase goods and services from other businesses.

Induced effect:
Changes in spending of labor income by employees working in the indirectly-impacted industries, under the assumption that the more income households earn, the more money those households spend. Note that IMPLAN does not assume that 100% of labor income is spent, nor that it is spent locally. IMPLAN removes payroll taxes, personal income taxes, savings, in-commuter income, and non-local purchases.

Input-output analysis:
An economic analysis model used to estimate impacts to the economy. Inputs are qualifying expenditures and outputs are the total impact of an industry to the economy as a result of industry spending.

Landscape and horticultural services:
These are contracted services by tree care companies which include consulting/planning, planting, irrigation, mulching, removal/pruning, etc., i.e., tree care services after applying the 27.1%.

SAM multiplier:
A numeric way of describing the secondary impacts stemming from a change in the economy. The SAM multiplier (where SAM stands for Social Accounting Matrix) is a ratio of the size of the indirect and induced effects to the direct effects.

Tree City USA, Tree Campus USA, and Counties:
Tree City USA and Tree Campus USA are recognition programs sponsored by the Arbor Day Foundation. Cities, campuses and counties are different jurisdictions. In other words, city expenses are not included in county expenses, so must be considered separately and independently. City, campus, and county expenses are associated with paying their staff and purchasing materials to manage their trees. A very small portion of the budget may go to purchasing trees, so while there is some chance of double-counting with Tree Sales, it is not considered significant.

Value added impact:
An estimate of the increase in the state's gross domestic product (GDP) due to the industry being studied.

Urban & community forest:
All the trees and associated vegetation within cities, communities, and subdivisions where people live, work and play.