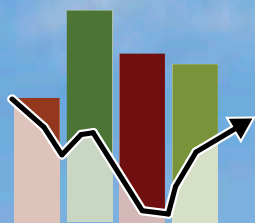


Texas Land Trends



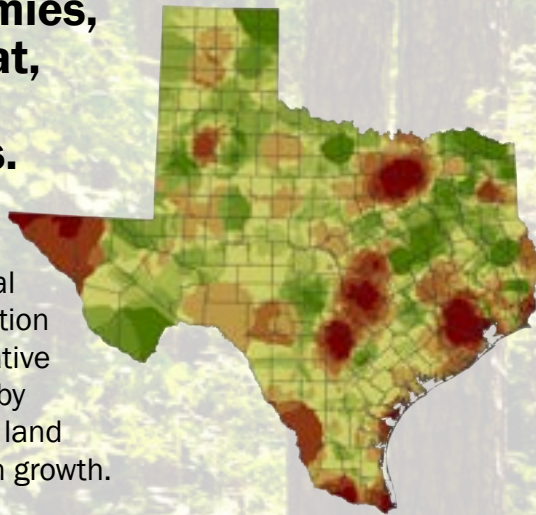
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**Status update and
trends of Texas rural
working lands**

What are working lands?

Working lands are privately owned farms, ranches, and forests that produce food and fiber, support rural economies, and provide wildlife habitat, clean air and water, and recreational opportunities.

Texas working lands are undergoing a fundamental change, one that has implications for rural economies, national security and food security, and conservation of water and other natural resources. Native landscapes are increasingly threatened by suburbanization, rural development and land fragmentation driven by rapid population growth.



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Status update and trends of Texas rural working lands

Foreword

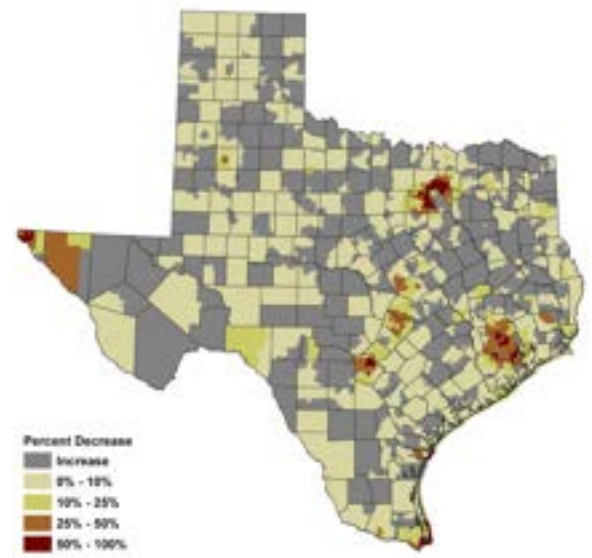
The *Texas Land Trends* report has informed private and public decision-makers about the status and trends of our state's farms, ranches, and forests, collectively known as working lands. Since its inception under the leadership and vision of Dr. Neal Wilkins, the *Texas Land Trends* report has been used in guiding conservation efforts and natural resource policy development for nearly two decades. *Texas Land Trends* also evolved from a paper-based report to an interactive website and database allowing users to query data and better understand changes in Texas' rural landscapes. Published every five years, following the U.S. Department of Agriculture (USDA) National Agricultural Statistics Service's (NASS) Census of Agriculture data release, the comprehensive dataset from Texas Land Trends serves to inform key and complicated Texas natural resource issues through the power of a "good map."

The *Texas Land Trends* report is in its third publication. Previous reports have been single and comprehensive works. A change with the 2014 *Texas Land Trends* release is the development of a series of reports, rather than a single report released every five years, to better understand the status of Texas lands from the perspective of key issues (e.g., water, energy, etc.). This inaugural issue is focused on the five-year trends update of Texas rural working lands. Furthermore, part of the new 2014 *Texas Land Trends* report will include a completely redesigned interactive website to be launched later this year. Stay tuned for future updates from *Texas Land Trends*.

Roel Lopez
Director

About the 2014 Texas Land Trends Report

The *Texas Land Trends* report is published every five years, following the availability of the USDA NASS Census of Agriculture data, and serves to describe the status and recent changes in land use, ownership size, and land values of privately owned Texas farms, ranches, and forests, collectively known as *working lands*. The goal of the *Texas Land Trends* report is to provide public and private decision-makers with timely information to support the conservation of Texas working lands. Primary data sources used in the 2014 report include the Texas State Comptroller of Public Accounts (i.e., 1997-2012 annual compilation of land use and land value data from all independent school districts), and the NASS Census of Agriculture 2012 data. We also used data from the U.S. Census Bureau, USDA National Resources Inventory (NRI), and the U.S. Department of Commerce/Bureau of Economic Analysis-Regional Economic Information System.





REPORT HIGHLIGHTS

Population Growth

- According to a U.S. Census Bureau study from 2013, Texas has seven of the 15 most rapidly growing cities in the nation.
- From 1997 to 2012, the Texas population increased from 19 million to 26 million residents, an increase of 36 percent or approximately 500,000 new residents annually.
- The majority (87 percent) of the population increase occurred within the state's top 25 highest growth counties.

Land Loss

- From 1997 to 2012, there was a net loss of approximately 1.1 million acres of working lands, converted to non-agricultural uses. From 2007 to 2012, nearly 100,000 acres of Texas working lands were converted to non-agricultural uses, a significant decline from previous reporting periods (approximately 500,000 acres per 5-year period).
- More than 54 percent of total land conversion occurred in the state's 25 fastest growing counties (percent change). During this period (1997-2012), approximately 590,000 acres were lost from the agricultural land base in these counties.
- Texas continues to lead the nation in the loss of working lands (total acres). From 1982 to 2010, the USDA National Resources Inventory (NRI) data reported the conversion of more than 4.1 million acres of Texas working lands to urban uses, with significantly higher conversion rates occurring from 1992 to 2007 (USDA 2013).

Land Values

- In 2012, the average appraised market value of Texas working land was \$1,573 per acre, a 36-percent increase since 2007 and a 214-percent increase over the 15-year period. The largest increases in land values were observed surrounding major metropolitan growth areas.
- The significant decline in the conversion of Texas working lands from 2007 to 2012 (nearly 100,000 acres) may be attributed to a weak economy resulting from the economic recession that occurred during a portion of this period. With Texas' current economic growth, acceleration in working lands loss may be anticipated in the future.

Ownership Size

- Texas gained about 1,400 new working farms and ranches annually while the land base for Texas agriculture decreased by approximately 1.1 million acres (1997-2012).
- Average ownership size declined from 581 acres in 1997 to 521 acres in 2012.
- By the end of 2012, the USDA Census of Agriculture accounted for nearly 249,000 farming and ranching operations in the state, representing a 9 percent increase since the 1997 census.



INTRODUCTION

Former President Lyndon B. Johnson and native Texan once said, “Saving the water and the soil must start where the first rain drop falls.”

In Texas, where more than 95 percent of the land is private, that raindrop is likely to fall on a privately owned farm, ranch, or forest, collectively known as *working lands*. These working lands produce food and fiber, support rural economies, and provide wildlife habitat, clean air and water, and recreational opportunities for many Texans. Many of these working lands also have long and rich family history dating back many generations.

Texas private lands provide vital wildlife resources and much of the native flora and fauna is of national and even international significance. Yet these lands are under increasing land conversion pressure driven by rapid population growth, suburbanization, and rural development, all of which have implications for the state’s rural economies, national security and food security, and the conservation of natural resources.

In this report, we summarize land demographic data related to Texas’ changing “working lands” landscape in three primary sections: land loss, land values, and ownership size. Findings from the 2014 report also are compared to previous *Texas Land Trends* reports to determine current and historic land use trends.



Texas Land Trends

Overview

Texas is comprised of 142 million acres of private farms, ranches and forests, leading the nation in land area devoted to privately owned working lands. These working lands account for 83 percent of the state's entire land area and provide substantial economic, environmental, and recreational resources that benefit many Texans. According to a U.S. Census Bureau study, seven of the 15 fastest growing cities in the nation, from July 1, 2012 to July 1, 2013, were in Texas (U.S. Census Bureau 2014) (Table 1 and Figure 1). From 1997 to 2012, the Texas population grew from 19 million to 26 million residents, an increase of 36 percent or approximately 500,000 new residents annually. From the *Texas Land Trends* data, the majority of the population increase (87 percent or six million new residents) occurred within the state's top 25 highest total population growth counties (Figure 2). These counties account for only 10 percent of the total land area of the state, yet 73 percent of all Texans reside within these 25 counties (Figures 3 and 4). The state's increasing population, particularly within or in surrounding urban centers, continues to have significant influence on the continued loss of working lands, changing ownership sizes, and land values.

Table 1. The 15 fastest growing large cities with populations of 50,000 or more from July 1, 2012 to July 1, 2013

Rank	Area Name	Percent Increase	2013 Total Population
1	San Marcos, Texas	8.0	54,076
2	Frisco, Texas	6.5	136,791
3	South Jordan, Utah	6.1	59,366
4	Cedar Park, Texas	5.6	61,238
5	Lehi, Utah	5.5	54,382
6	Goodyear, Arizona	4.8	72,864
7	Georgetown, Texas	4.5	54,898
8	Gaithersburg, Maryland	4.4	65,690
9	Mount Pleasant, South Carolina	4.1	74,885
10	Meridian, Idaho	4.0	83,596
11	Odessa, Texas	4.0	110,720
12	Gilbert, Arizona	4.0	229,972
13	McKinney, Texas	3.9	148,559
14	Franklin, Tennessee	3.9	68,886
15	Pearland, Texas	3.8	100,065

Source: U.S. Census Bureau, Population Division, Vintage 2013 Population Estimate

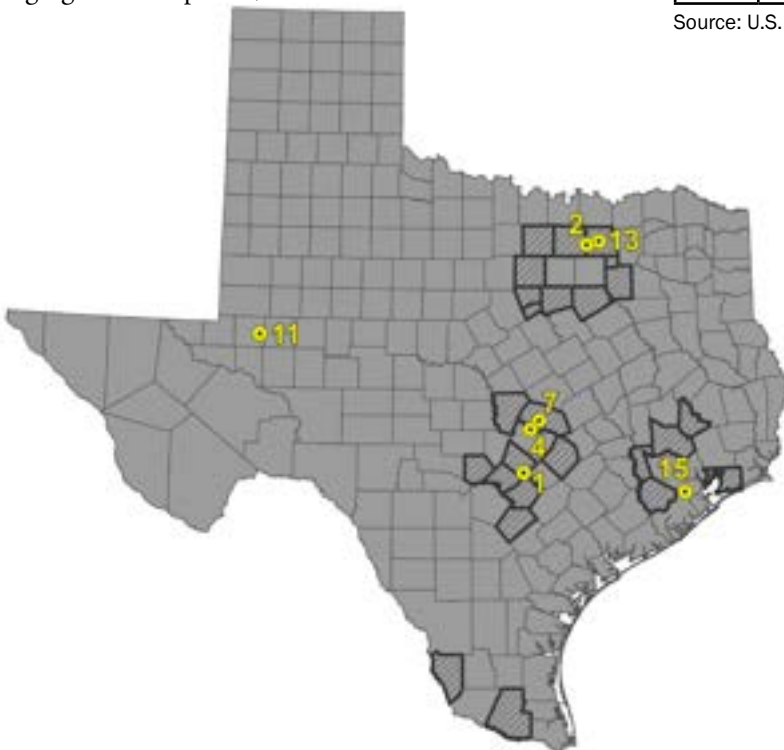


Figure 1. The top 25 fastest growing counties in Texas in 2012, with seven of the fastest-growing large cities in the U.S., as listed in Table 1



(1997-2012)

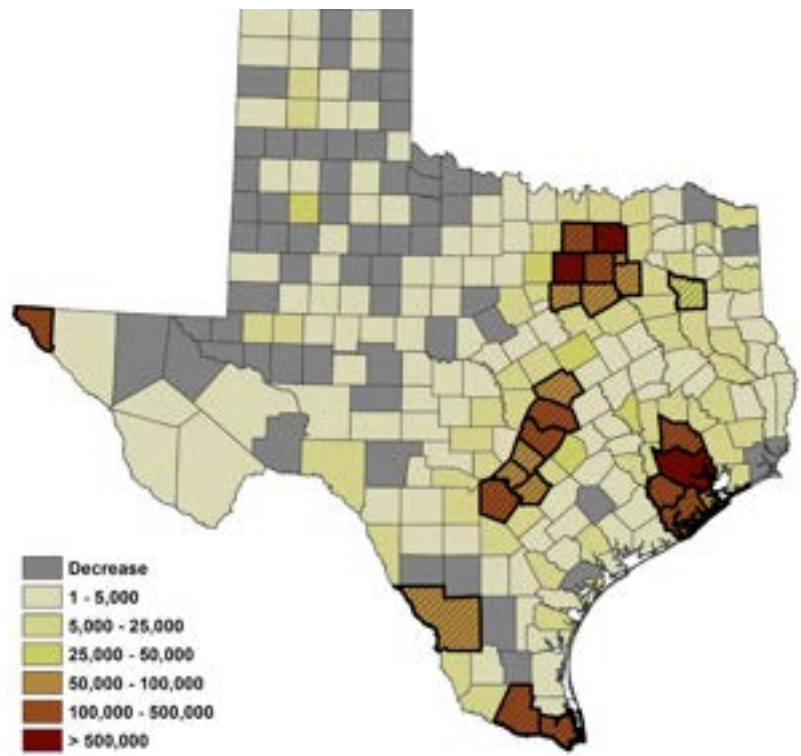


Figure 2. Statewide change in total population by county from 1997-2012. Top 25 highest total population growth counties highlighted

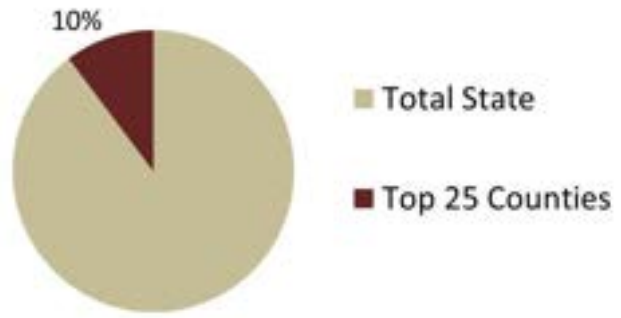


Figure 3. Texas land area (acres) in the top 25 highest population growth counties

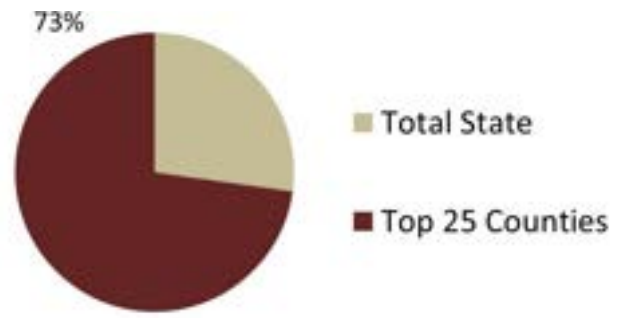


Figure 4. Texas population in the top 25 highest population growth counties



Working Land Loss

Working land loss has continued since the last *Texas Land Trends* report, with a net loss of nearly 100,000 acres over the most recent 5-year period (2007-2012). The rate of working land loss, however, was significantly lower when compared to previous reporting periods (i.e. 1997-2002 and 2002-2007), where the average land loss was nearly 500,000 acres per 5-year reporting period or 100,000 acres annually (Figures 5 and 6). The decreased rate of land loss in the current reporting period (2007-2012) may be attributed to the economic recession that occurred during this same period. If the economy is a major factor in land loss, the more recent economic growth suggests future working land loss may increase during the next *Texas Land Trends* reporting cycle (i.e., 2012-2017).

Texas continues to lead all other states in the loss of working land acreage. The total net loss in Texas working lands from 1997 to 2012 was nearly 1.1 million acres. USDA NRI data supports this land loss trend, which reports from 1982 to 2010 more than 4.1 million acres of rural land was converted in Texas to urban uses, with significantly higher rates of conversion occurring from 1992 to 2007 (USDA 2013). From the *Texas Land Trends* data (1997-2012), the majority of land conversion (87 percent or approximately 950,000 acres of 1.1 million acres converted) occurred in the state's top 25 highest population growth counties (Figure 7). Fifty-four percent of land conversion occurred in the state's 25 fastest growing counties (Figure 8). As in previous *Texas Land Trends* reports, working land loss in the state is closely related to population growth.

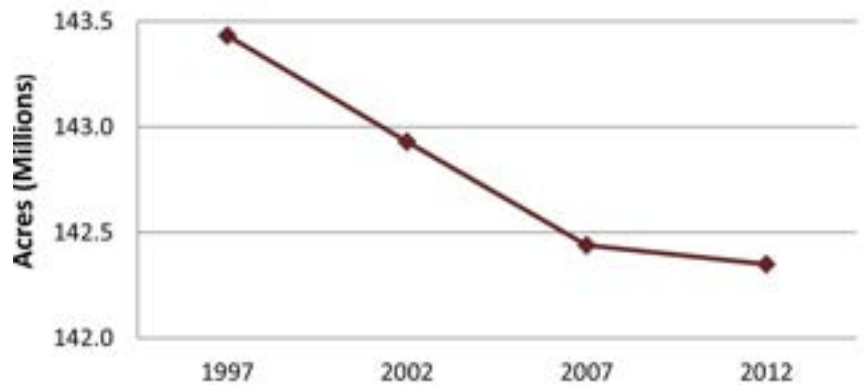


Figure 5. Total working lands in Texas from 1997-2012

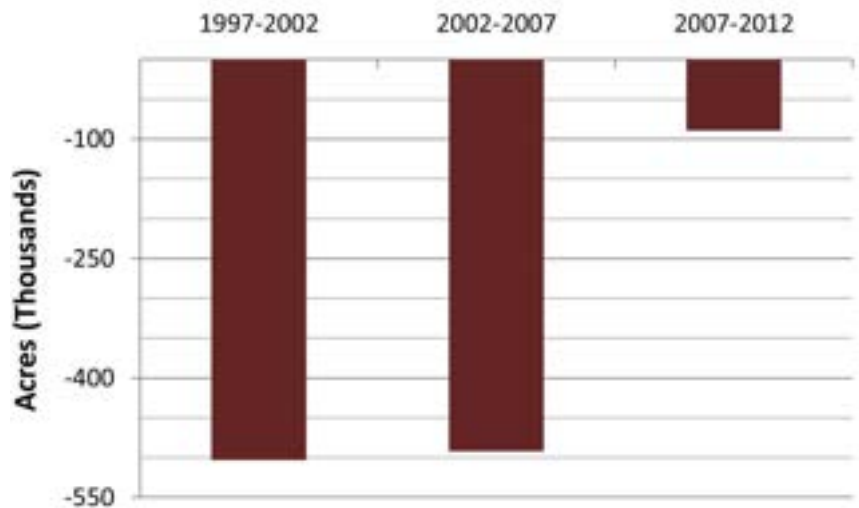


Figure 6. Net loss of working lands in Texas from 1997-2012

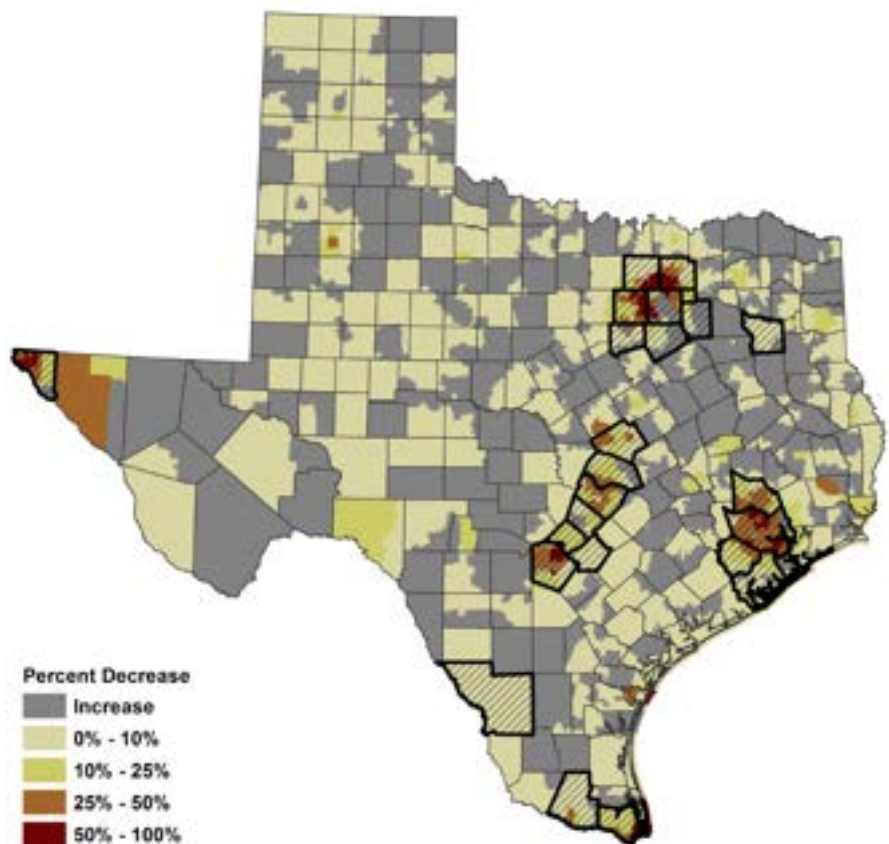


Figure 7. Loss of working lands in Texas from 1997-2012 within the top 25 highest total population growth counties

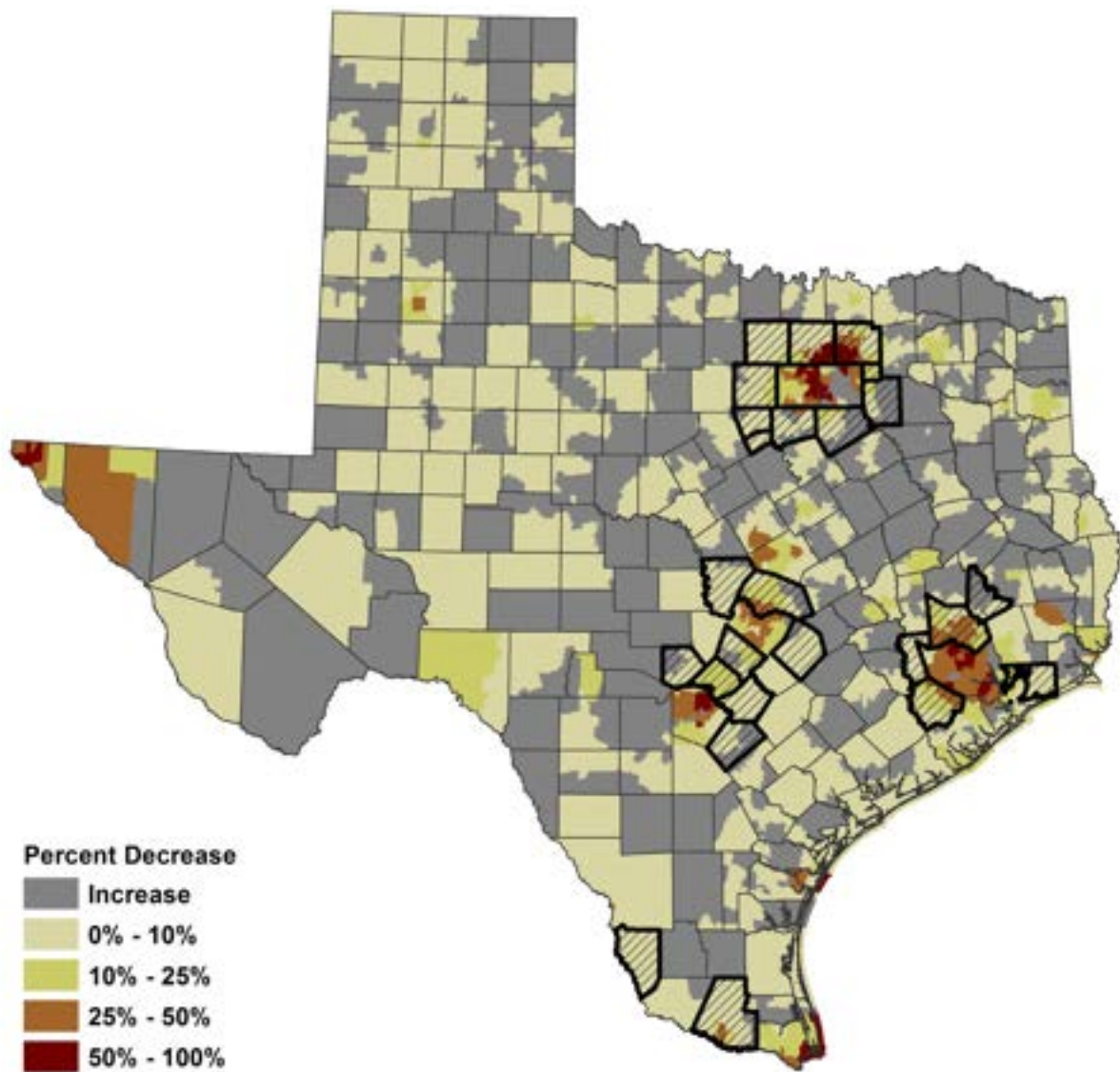


Figure 8. Loss of working lands in Texas from 1997-2012 within the top 25 fastest growing counties

Land Values

Land market values, as reported here, are based on recent land sales of farms, ranches and forests and have historically served as a strong indicator in the measure of demand for rural land. Like more traditional home real estate values, rural land market values vary by location, land use, property size, and other market factors. From the *Texas Land Trends* data, the average appraised market value for Texas working lands was \$1,573 per acre in 2012. On average, this represents a 36-percent increase in land value since 2007, and a 214 percent increase over the 15-year period (Figure 9). As in previous *Texas Land Trends* reports, changes in market value was closely tied to distance from major metropolitan growth areas (Figure 10). The average land value, for example, within the top 25 fastest growing counties was \$5,266 per acre in 2012, compared to the statewide average of \$1,573 per acre. During this same period the productivity value of the land (i.e. the value of the land based solely on the ability to produce commodities such as food and fiber) has remained largely unchanged. The average statewide productivity value in 1997 was \$84 per acre, compared

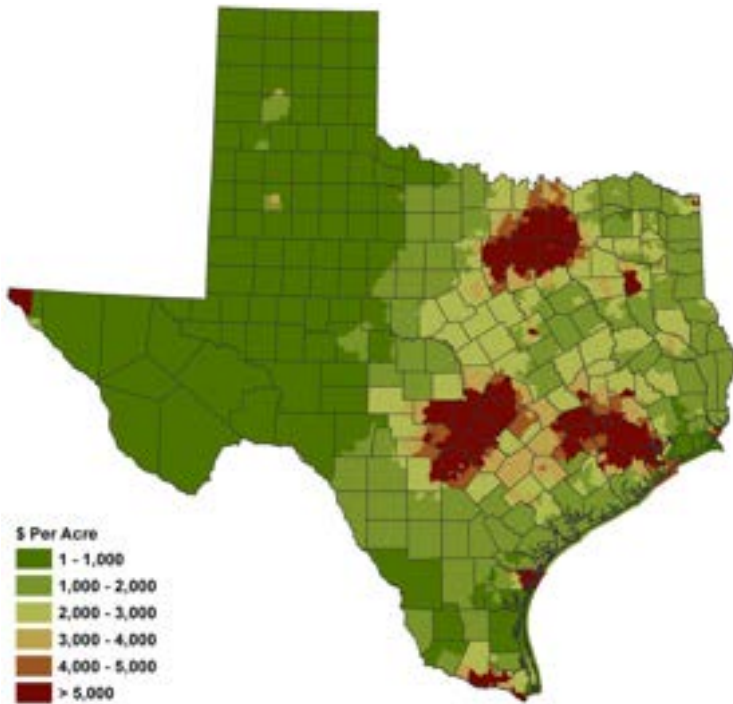
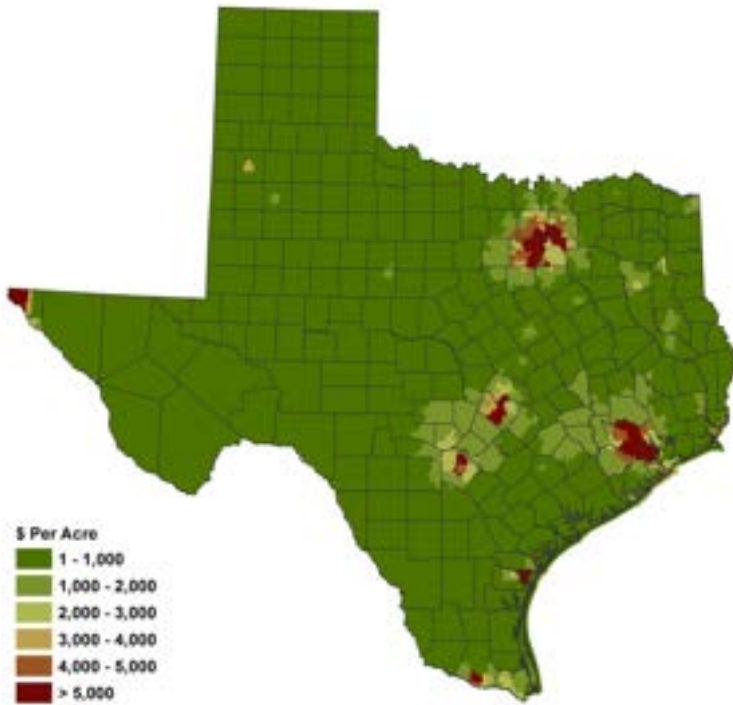


Figure 9. Market value (\$/Acre) for 1997 (top) and 2012 (bottom)

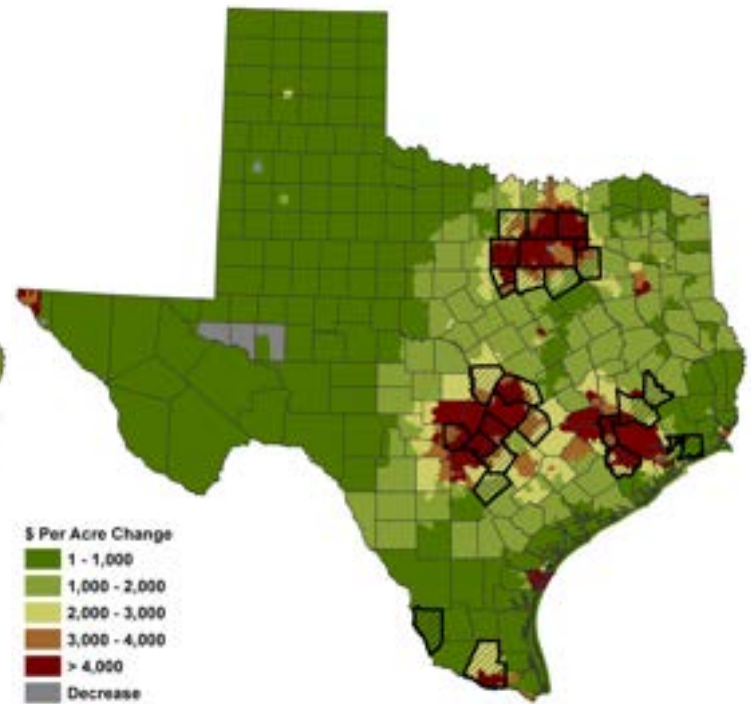


Figure 10. Change in market value (\$/Acre) from 1997-2012 with the top 25 fastest growing counties

to \$93 per acre in 2012. Relatively static productivity values and rapidly rising market values are likely underlying drivers of land use conversion and ownership fragmentation.

Noteworthy regional trends in land values were observed from the overall *Texas Land Trends* data period (1997-2012, Figure 11). Land values in the Blackland Prairie and Oak Woods and Prairie Ecoregions increased nearly 250 percent over the 15-year period (Figure 12). The increase in value within these regions may be attributed to the close proximity of urban areas. Similarly, the Edwards Plateau, Llano Uplift, Gulf Coast Prairies, Rolling Plains, and South Texas Brush Country Ecoregions also witnessed a two to three fold increase in land values over the 15-year period. The increase also may be attributed to their proximity to urban areas, in addition to the desirable recreational value of those lands. Finally, the Trans Pecos and High Plains had only slight increases in land values over the 15-year period, compared to other parts of the state (Figure 12).

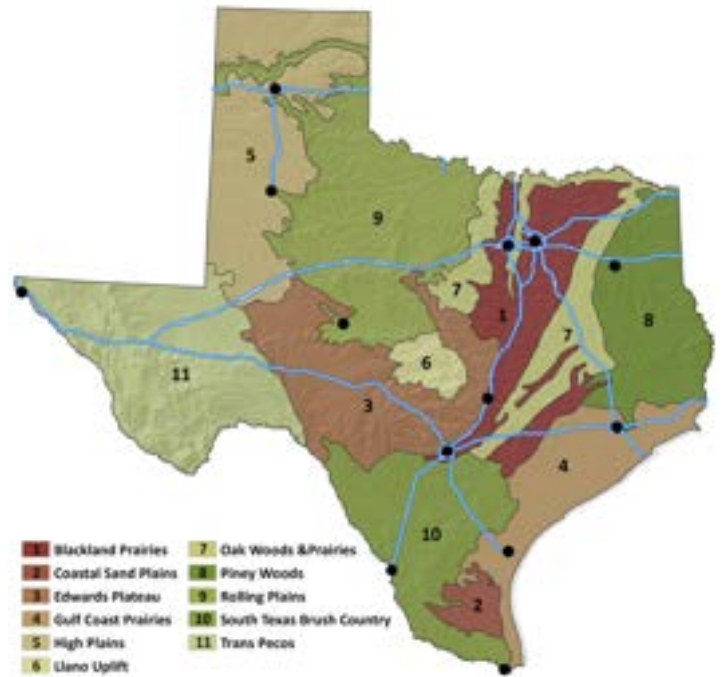


Figure 11. Texas ecoregions

Ownership Size

By the end of 2012, the USDA Census of Agriculture accounted for nearly 249,000 farm and ranch operations in the state. This represents a 9-percent increase, or the addition of approximately 1,400 new farms and ranches added annually, since the 1997 census. In contrast, the land base for Texas agriculture decreased by 1.1 million acres during the same period. Average ownership size decreased from 581 acres in 1997 to 521 acres in 2012 (Figures 13 and 14).

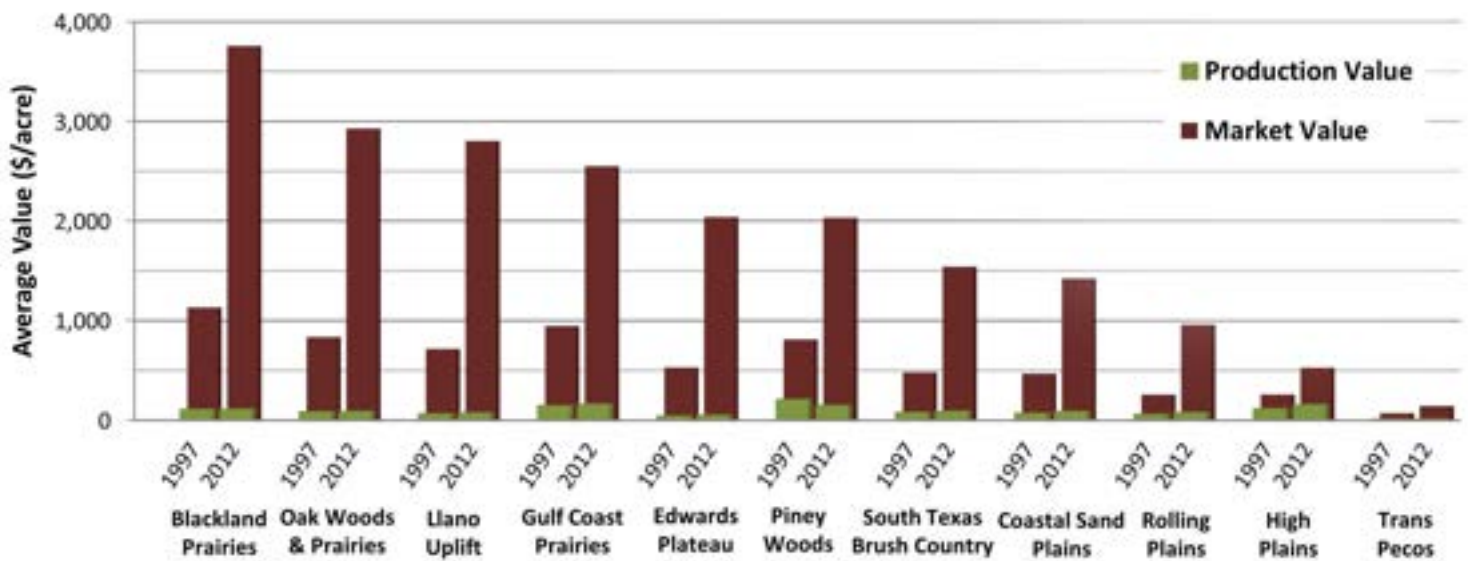


Figure 12. Regional difference in market and productivity value of working lands in 1997 and 2012





Statewide trends in ownership fragmentation were observed from the *Texas Land Trends* data (1997-2012), with a net increase of >500,000 acres for ownerships comprised of <100 acre tracts, and nearly 26,000 individual operations—an increase of more than 20 percent since 1997. The total number of individual small ownerships (all tracts <500 acres in size) in 2012 included nearly 210,000 individual operations or approximately 17 percent of the acres devoted to working land. This is further evidence of continued ownership fragmentation; however, the rate of fragmentation has decreased in recent years with only a 1.1 percent increase from 2007-2012 compared to 10.4 percent from 2002-2007. The decreased rate of ownership fragmentation in the current reporting period (2007-2012) may be attributed to the economic recession that occurred during this same period.

Mid-sized working lands (those properties 500 to 2,000 acres in size) experienced the greatest decline in ownership acres and total operations from the *Texas Land Trends* data (1997-2012). The amount of land for mid-sized farms and ranches declined at the rate of about 220,000 acres annually. Mid-sized working lands accounted for over 27 million acres of land statewide or approximately 21 percent of the total working land base. Over 3,400 mid-sized operations representing 3.3 million acres shifted to smaller or larger ownership classes between 1997 and 2012 or were converted to other non-working lands uses (Figures 15 and 16). For both small and mid-sized ownership classes, ownership fragmentation appears to be closely related to proximity to major urban areas and/or transportation corridors (Figure 17).

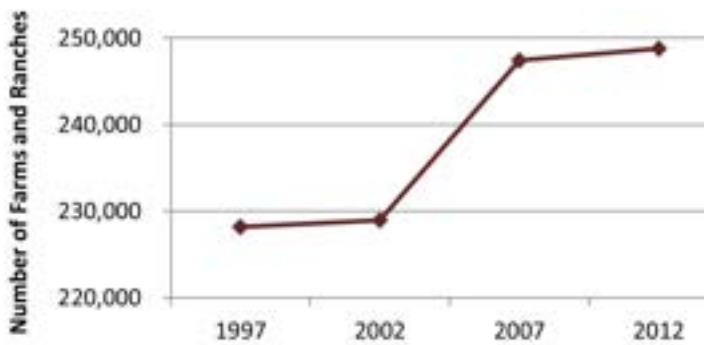


Figure 13. Total farm and ranch count from 1997-2012

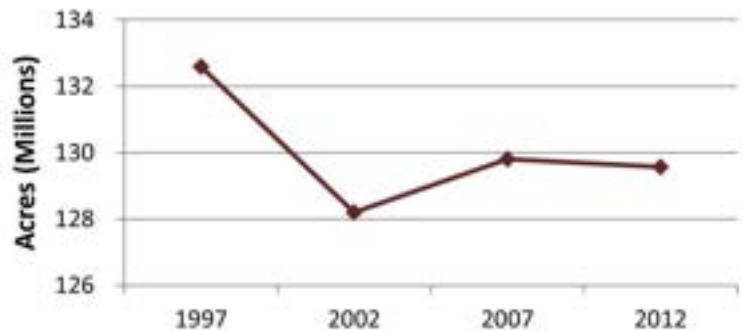


Figure 14. Total farm and ranch acres from 1997-2012

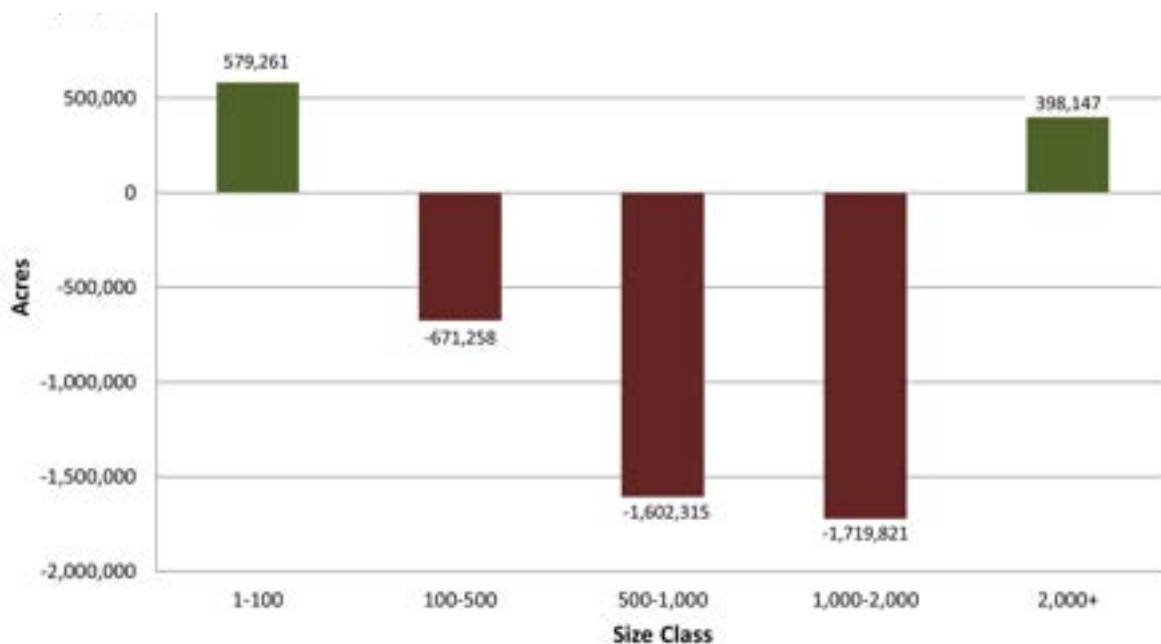


Figure 15. Change in acreage of farms and ranches by size class from 1997-2012

Consolidation of large ownerships (>2,000 acres) were observed from the *Texas Land Trends* data (1997-2012) with a net increase of nearly 400,000 acres and approximately 200 individual operations in this category. Large ownerships comprised more than 80 million acres of land statewide, or approximately 62 percent of the total working land base, with only 10,810 individual operations. Consolidation of large ownerships occurred in a few regions of the state and likely may be attributed to investment opportunities pursued by prospective buyers where (1) overall average land values are lower, and (2) opportunities for consolidation are more likely (i.e., larger ownership sizes) (Figure 18). Lower average land values and larger ownership sizes are found in regions such as the High Plains (productive agriculture operations) and South and West Texas, where hunting enterprises appear to be expanding. Consolidation may be driven by the ability of prospective buyers to capitalize on both land values and land availability in the aggregation of large ownerships.

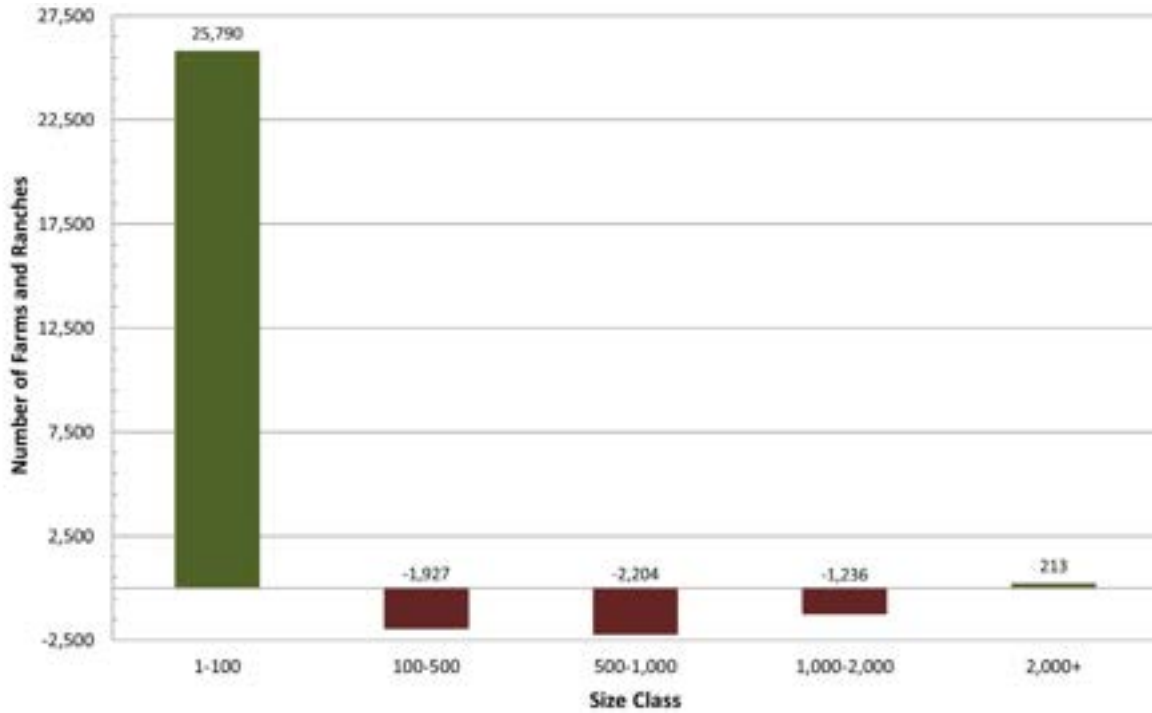


Figure 16. Change in number of farms and ranches by size class from 1997-2012

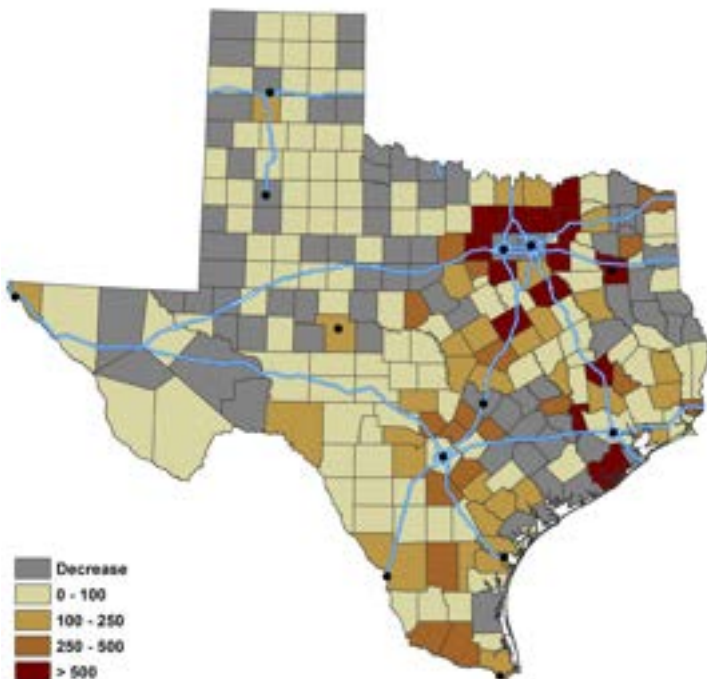


Figure 17. Increase in number of farms <500 acres in size from 1997-2012 indicating areas of possible land fragmentation

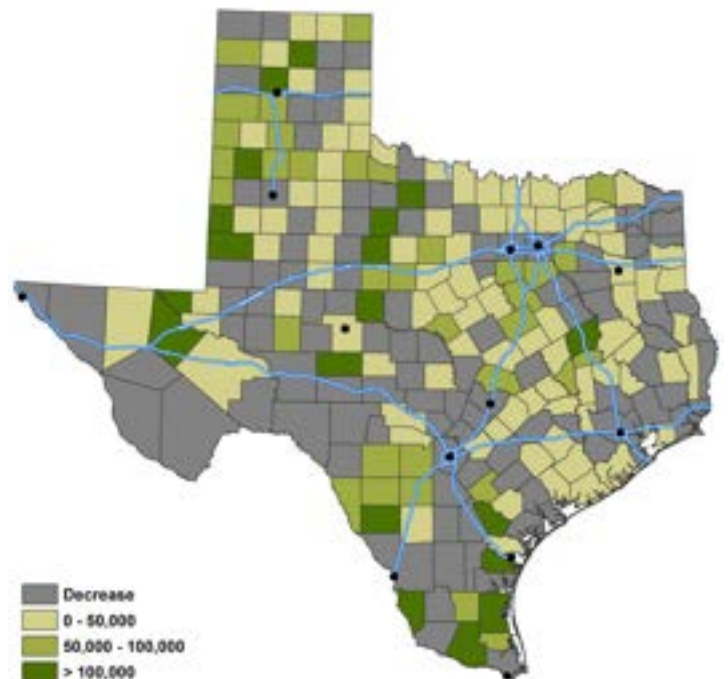


Figure 18. Increase in acreage of farms and ranches in the >2,000 acre size class from 1997-2012

Finally, *Texas Land Trends* data (1997-2012) found an association between the profitability of a farm or ranch operation and ownership size. When considered statewide, more than half of all farms and ranches larger than 500 acres reported positive net proceeds (Figure 19). Conversely, small ownerships (i.e., <150 acres) reported increasing net losses on farm and ranch proceeds (Figure 19). Thus, the shift in ownership category or loss of larger ownerships through fragmentation may have potential implications for profitability and continued stability of working lands. Likewise, consolidation into larger operations may be associated with more profitable agricultural operations.

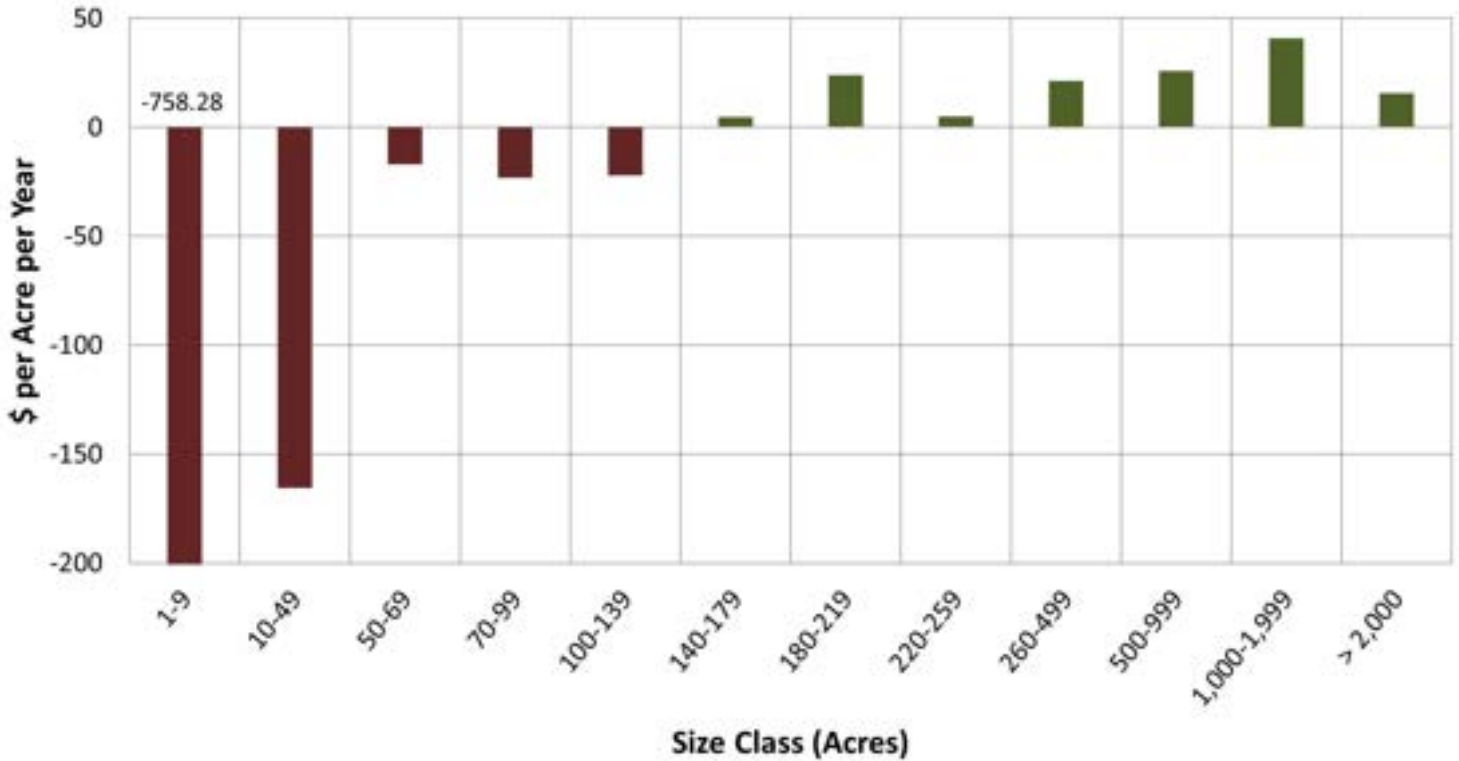


Figure 19. Average annual net proceeds per acre for different farm and ranch size classes



Future Outlook

Since 2000, Texas has been one of the fastest growing states, with a population growth rate that is nearly double, when compared to the rest of the nation (12.7 percent versus 6.4 percent). The Office of the State Demographer projects the state's population will increase to 41.3 million by 2050—a 191-percent increase from the 1980 population of 14.2 million. Since working land loss is directly related to population growth and associated urban development, future growth in the state will continue to have profound impacts on Texas working lands. With the recent economic recession, a brief pause in working lands conversion and ownership fragmentation occurred; however, with an improved state economy, a return to the trend of rapid working land loss may be anticipated.

Acknowledgments

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Definitions

Consolidation: the combining of smaller farms, ranches, and forests to create larger ownerships.

Fastest growing counties: counties that have the highest rate of change in population (percent change).

Fragmentation: the break-up of large farms, ranches, and forests into smaller ownership sizes.

Highest population growth counties: counties that show the highest increase in total population (number of people).

Working lands: privately owned farms, ranches, and forests that produce food and fiber, support rural economies, and provide wildlife habitat, clean air and water, and recreational opportunities.

References

- Potter, L.B., Hogue, W. 2013. Texas Population Projections, 2010 to 2050, Texas State Data Center and Office of the State Demographer, Austin, TX. http://osd.state.tx.us/Publications/2013-01_ProjectionBrief.pdf
- U.S. Department of Agriculture. 2013. Summary Report: 2010 National Resources Inventory, Natural Resources Conservation Service, Washington, DC, and Center for Survey Statistics and Methodology, Iowa State University, Ames, IA. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1167354.pdf
- U.S. Census Bureau. 2014. South, West Have Fastest-Growing Cities, Census Bureau Reports; Three of Top 10 are in Texas Capital Area, U.S. Census Bureau, Population Division, 2013 Population Estimates, Washington, DC. <https://www.census.gov/newsroom/press-releases/2014/cb14-89.html>





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