East Texas, 2011

Jason A. Cooper and James W. Bentley

Forest Inventory & Analysis Factsheet

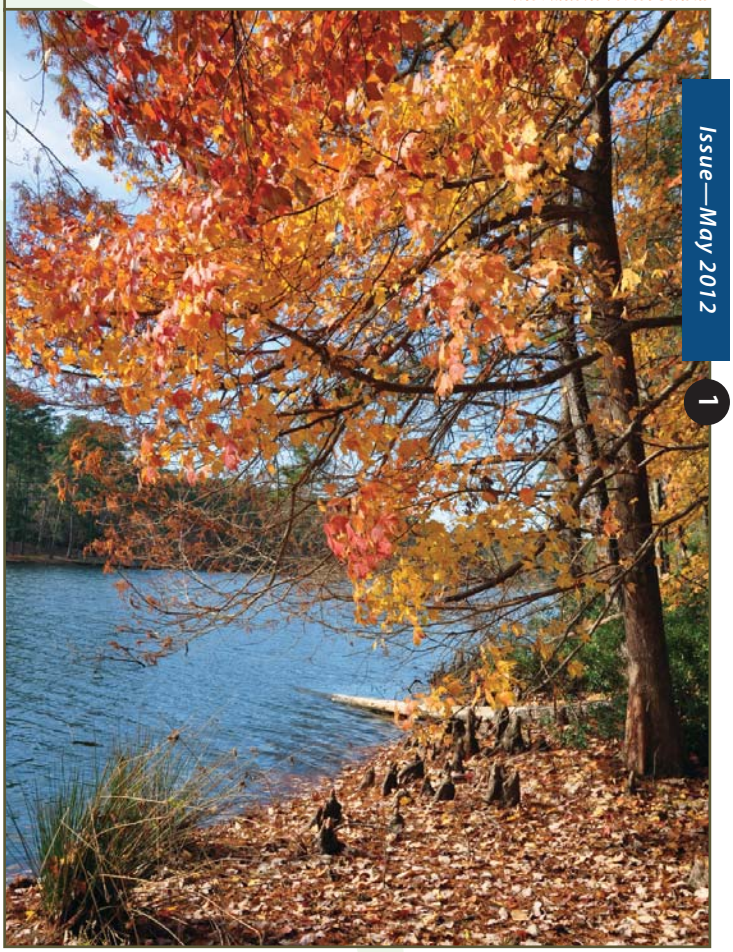
FIA
The Nation's Forest Census

Issue—May 2012

Introduction

This science update summarizes the findings of the annual inventory conducted by the Southern Forest Inventory and Analysis (FIA) Program in cooperation with the Texas Forest Service of the forest resource attributes in east Texas. The 254 counties of Texas are consolidated into 7 FIA survey units—southeast (unit 1), northeast (unit 2), north central (unit 3), south (unit 4), west central (unit 5), northwest (unit 6), and west (unit 7). East Texas is made up of units 1 and 2 with a total of 43 counties, while the central and west Texas consists of units 3 thru 7 (fig. 1). This overview represents the 2007-11 moving average for east Texas provided by a remeasurement of annual inventory plots.

Figure 1—Survey units of east and central/west Texas, 2011.



Maples at Ratcliff Lake, Houston County, TX. (photo by Ron Billings, Texas Forest Service)

Forested Area

Total forest area amounted to 12.1 million acres in 2011 and occupied 56 percent of the land area in east Texas. Nearly 12.0 million acres, or 99 percent, of the forest land is considered timberland. The area of forest land in east Texas has remained relatively stable since 1992 (table 1).

Table 1—Area by land class and survey year, east Texas

Land class	1992	2003	2008	2011
	million acres			
Forest land				
Timberland	11.77	11.66	11.96	11.93
Other/reserved	0.17	0.21	0.16	0.13
Total forest land	11.94	11.86	12.13	12.06
Nonforest land	9.65	9.59	9.35	9.38
Total land area	21.59	21.46	21.48	21.44
Percent forested	55	55	56	56

Numbers in columns may not sum to totals due to rounding.

Forest Ownership

Nonindustrial private landowners control the majority (52 percent) of east Texas' 12.0 million acres of timberland. Another 33 percent is controlled by private corporations, while forest industry controls 6 percent of the timberland. Only 9 percent of east Texas' timberland is publicly owned and includes national forest lands, other Federal land, State, and local lands (fig. 2). East Texas has undergone major shifts in ownership over the past decade, primarily a transfer of land from forest industry to other corporate owners (fig. 3). Forest industry ownership has seen a sharp decline (77 percent) in the past decade from 3.4 million acres in 2003 to 769,200 acres in 2011. During that same time other corporate ownership has shown more than a threefold increase from 1.2 to 4.0 million acres. National forest and other public ownership as well as nonindustrial private ownership has been stable during the last decade.

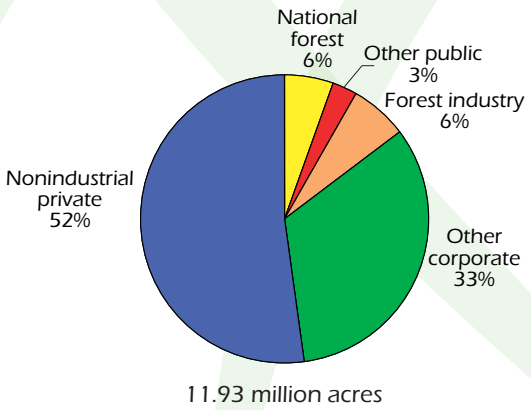


Figure 2—Timberland area by ownership class, east Texas, 2011.

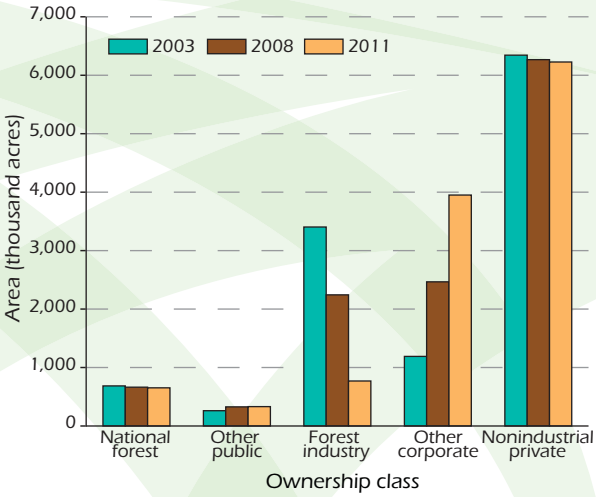


Figure 3—Area of timberland by ownership class and survey year, east Texas, 2011.

Forest-Type Composition

Hardwood timber types comprise the majority of timberland area in east Texas, accounting for 6.5 million acres (fig. 4). Softwood forest types occupy 5.3 million acres of east Texas' timberland area. Loblolly-shortleaf pine is the most abundant forest-type group with 5.1 million acres and comprises the majority (96 percent) of all softwood forest-types. East Texas' softwood timberland area is split nearly equally between natural pine stands (2.6 million acres) and planted pine stands (2.7 million acres). Oak-hickory is the predominant hardwood forest-type group with 2.8 million acres, followed by oak-pine (1.5 million acres) and oak-gum-cypress (1.4 million acres).

Unthinned loblolly pine, Montogomery County, TX. (photo by Ron Billings, Texas Forest Service)

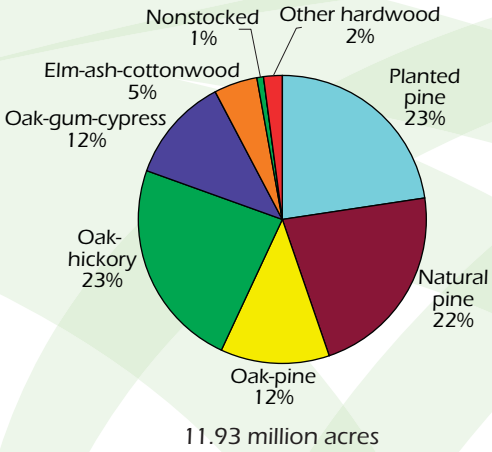


Figure 4—Timberland area by major forest-type groups, east Texas, 2011.

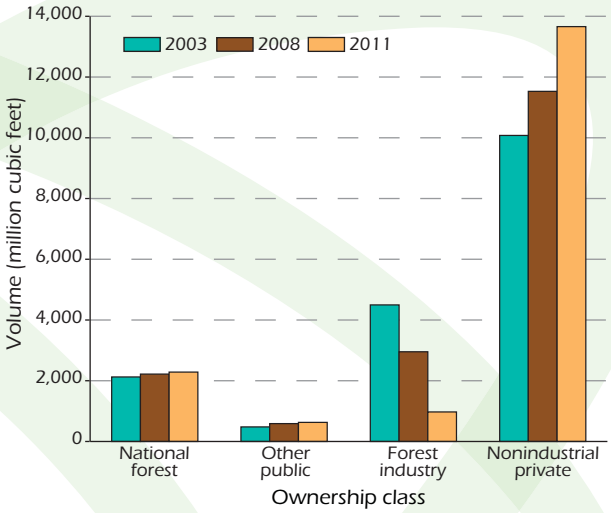


Figure 6—Net volume on timberland by ownership class and survey year, east Texas.

Inventory Volume

Total all-live volume on timberland was 17.5 billion cubic feet, remaining relatively stable since the 2008 survey (fig. 5). All-live volume in softwood species amounted to 9.6 billion cubic feet, while hardwood species totaled 8.0 billion cubic feet. Loblolly-shortleaf pine forest-type group accounted for 9.3 billion cubic feet (93 percent) of the all-live softwood volume. Since 2008, volume for forest industry has decreased from 4.5 billion cubic feet to 971,000 cubic feet in 2011 (fig. 6). During this same time, volume for nonindustrial private ownership increased from 10.1 to 13.7 billion cubic feet.

All-live volume of softwoods has increased in nearly all diameter classes since 2008, with the largest increases occurring in the 7.0- to 8.9- and 9.0- to 10.9-inch classes (fig. 7). Volume by 2-inch diameter class shows the majority (60 percent) is centered within the 7.0- to 16.9-inch diameter classes. All-live volume of hardwoods by diameter classes has remained fairly stable since 2003 (fig. 8).

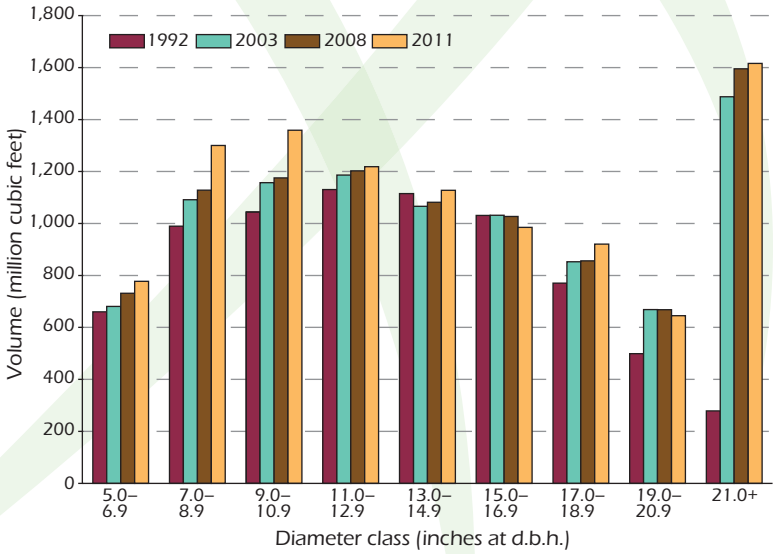


Figure 7—Softwood volume by diameter class and survey year on timberland, east Texas.

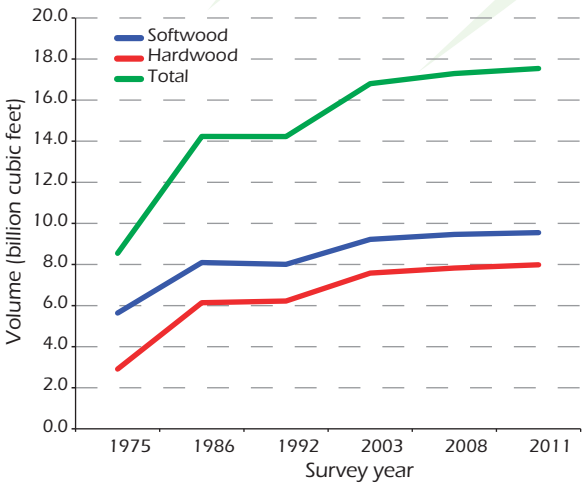


Figure 5—Net volume of live trees on timberland by species group and survey year, east Texas.

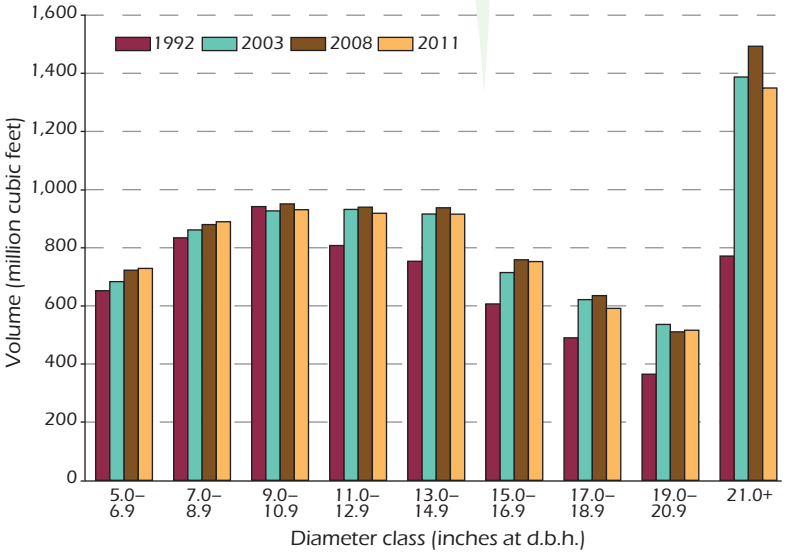
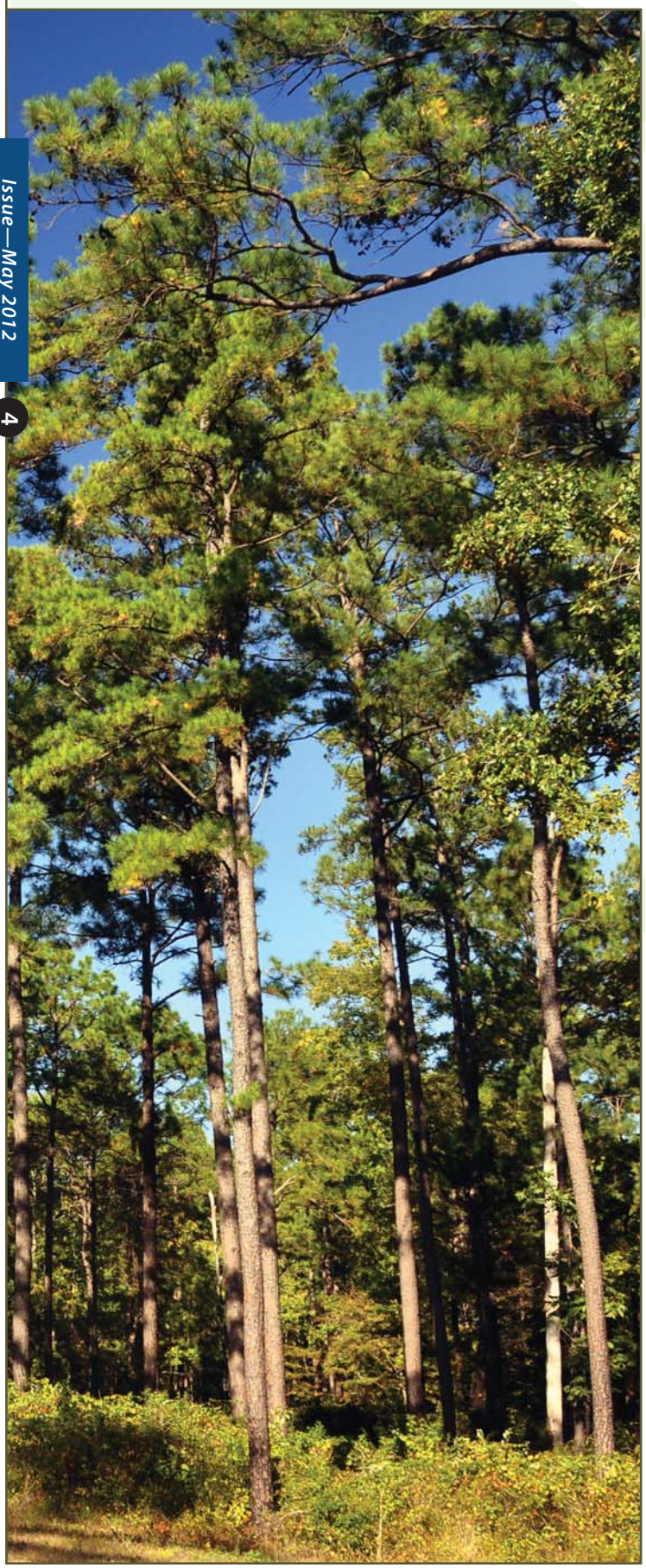


Figure 8—Hardwood volume by diameter class and survey year on timberland, east Texas.



Longleaf pine, Newton County, TX.
(photo by Ron Billings, Texas Forest Service)

Annual Growth, Removals, and Mortality

In 2011, total average annual net growth for all-live trees on timberland was 750.1 million cubic feet (fig. 9). Total annual removals for all-live trees on timberland were 645.9 million cubic feet per year, while mortality averaged 260.8 million cubic feet per year. Average annual net growth for all-live softwood species on timberland averaged 621.8 million cubic feet per year, a decrease of 4 percent since 2008. Average annual softwood removals was 490.7 million cubic feet per year, a decline of 10 percent since 2008, while average annual softwood mortality was 92.0 million cubic feet per year showing a 25-percent increase during the same timeframe. Average annual net growth for hardwood species averaged 128.3 million cubic feet per year, a 60-percent decrease since 2008. Average annual removals of hardwood species decreased 16 percent from the 2008 data to 155.2 million cubic feet per year. Average annual hardwood mortality on the other hand increased more than twofold to 168.8 million cubic feet per year since 2008.

Average annual net growth for all ownership groups has declined 23 percent since 2008, with forest industry showing the largest decline from 215.4 million cubic feet per year in 2008 to 64.4 million cubic feet per year in 2011 (fig. 10). The

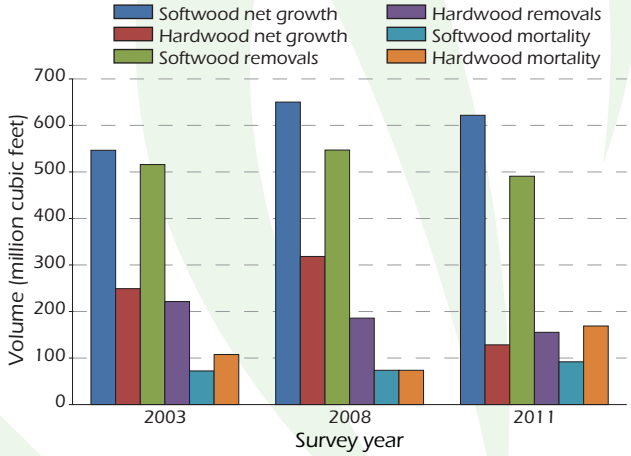


Figure 9—Average annual net growth, removals, and mortality for all-live trees on timberland by survey year, east Texas.

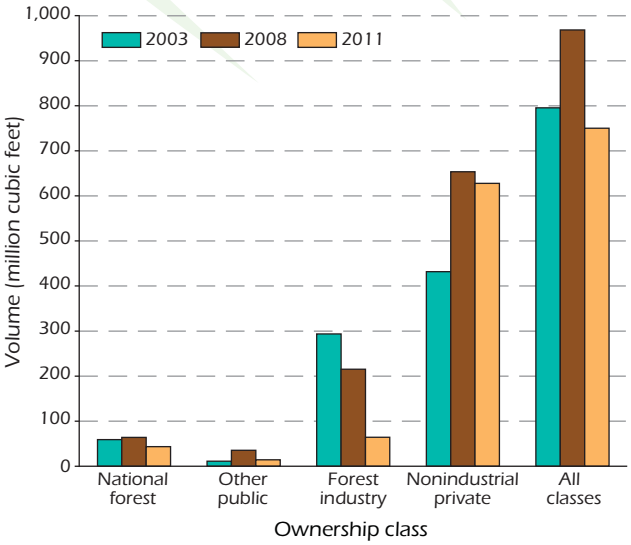


Figure 10—Average annual net growth for all-live trees on timberland by ownership class and survey year, east Texas.

decline in growth is not due to growth issues, but rather a large change in ownership in the past decade from forest industry to nonindustrial ownership. Average annual net growth for nonindustrial ownership has shown a decline from 653.7 million cubic feet per year in 2008 to 628.0 million cubic feet per year in 2011, but has shown a 31-percent increase from 431.8 million cubic feet per year in 2003 to 628.0 million cubic feet per year in 2011.

Average annual removals have decreased 11 percent for all ownership classes from 733.1 million cubic feet per year in 2008 to 645.9 million cubic feet per year in 2011 (fig. 11). During that time period forest industry showed the largest decline from 215.1 million cubic feet per year in 2008 to 89.6 million cubic feet per year in 2011. All ownership classes have shown increases in annual mortality from 2008 to 2011 except forest industry (fig. 12). Nonindustrial private ownership accounted for the largest increase in annual mortality from 100.6 million cubic feet per year in 2008 to 210.0 million cubic feet per year in 2011 (fig. 12). The largest changes in growth, removals, and mortality were due to ownership shifts from forest industry to nonindustrial private ownership.

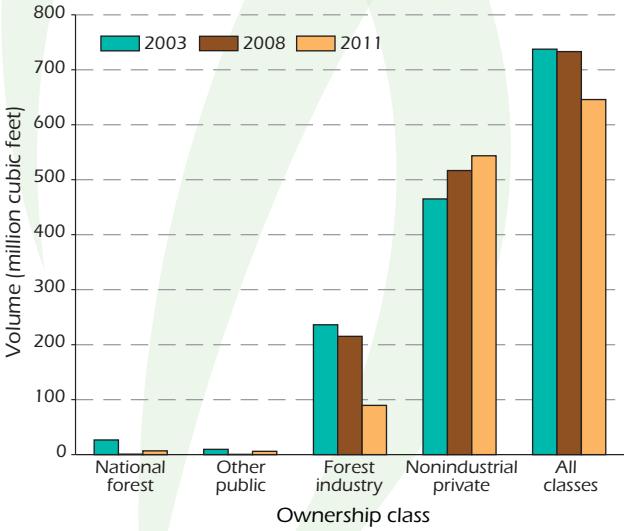


Figure 11—Average annual removals of live trees on timberland by ownership class and survey year, east Texas.

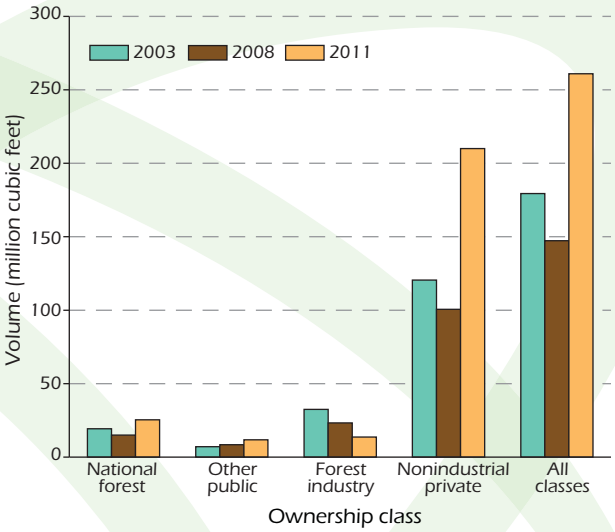


Figure 12—Average annual mortality for all-live trees on timberland by ownership class and survey year, east Texas.

How to Cite This Publication

Cooper, Jason A.; Bentley, James W. 2012. East Texas, 2011 forest inventory and analysis factsheet. e-Science Update SRS–052. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 5 p.

How do you rate this publication?
Scan this code to submit your feedback or go to www.srs.fs.usda.gov/pubeval

You may request additional copies of this publication by email at pubrequest@fs.fed.us

Chinese tallowtree in Houston County, TX. (photo by Ron Billings, Texas Forest Service)

Contact Information

James W. Bentley, Forester
Forest Inventory and Analysis
Southern Research Station, USDA Forest Service
4700 Old Kingston Pike
Knoxville, TN 37919
Phone: 865-862-2056 / Fax: 865-862-0262
Email: jbentley@fs.fed.us
Southern FIA: http://srsfia2.fs.fed.us
National FIA: http://fia.fs.fed.us

Chris Brown, FIA Coordinator
Texas Forest Service
John B. Connally Bldg.
301 Tarrow, Suite 364
College Station, TX 77840
Phone: 979-458-6666 / Fax: 979-458-6633
Email: cbrown@tfs.tamu.edu
http://www.texasforestservice.tamu.edu