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Oklahoma's Forests, 2019

Kerry Dooley

AUTHOR

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Cover photo: The southeast part of the State is home to diverse forests and species, such as cypress. (Courtesy photo by Carri Abner, Oklahoma Forestry Services)

Following page photo: Witchita Mountains National Wildlife Refuge (Courtesy photo by Carri Abner, Oklahoma Forestry Services)

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FOREWORD

The U.S. Department of Agriculture, Forest Service, Southern Research Station's (SRS) Forest Inventory and Analysis (FIA) research work unit and cooperating State forestry agencies conduct annual forest inventories of resources in the 13 Southern States (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia), the Commonwealth of Puerto Rico, and the U.S. Virgin Islands. In order to provide more frequent and nationally consistent information on America's forest resources, all research stations and their respective FIA work units conduct annual surveys with a common sample design. These surveys are mandated by law through the Agricultural Research Extension and Education Reform Act of 1998 (Farm Bill) (AREERA 1998) and updated in Title VIII of the 2014 U.S. Farm Bill (Agricultural Act of 2014).

The primary objective in conducting these inventories is to gather the multiresource information needed to formulate sound forest policies, provide information for economic development, develop forest programs, and provide a scientific basis to monitor forest ecosystems. These data are used to provide an overview of forest resources that may include, but is not limited to, forest area, forest ownership, forest type, stand structure, timber volume, growth, removals, mortality, management activity, down woody material, carbon storage and sequestration, and invasive species. The information presented is applicable at the State and survey unit level; although it provides the background for more intensive studies of critical situations, it is not designed to reflect resource conditions at small scales.

More information about Forest Service resource inventories is available in Forest Resource Inventories: An Overview (USDA Forest Service 1992). More detailed information about sampling methodologies used in the annual FIA inventories can be found in "*The Enhanced Forest Inventory and Analysis Program–National Sampling Design and Estimation Procedures*" (Bechtold and Patterson 2005) and "*Sampling and Estimation Documentation for the Enhanced Forest Inventory and Analysis Program: 2022*" (Westfall et al. 2022).

Data tables included in FIA reports are designed to provide an array of forest resource estimates, but additional data and information can be obtained from the "Data and Tools" section of the national FIA program website (USDA Forest Service 2025a). Additional information about the FIA program can be obtained at the USDA Forest Service Research and Development website (USDA Forest Service 2025b).

Additional information about any aspect of Southern Research Station FIA surveys may be obtained from:

Forest Inventory and Analysis Research Work Unit

U.S. Department of Agriculture
Forest Service
Southern Research Station
2730 Cherokee Farm Way
Knoxville, TN 37920

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Program Manager

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The following individuals made field measurements, including quality assurance measurements, for this survey:

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SRS FIA appreciates their hard work and their consistent efforts to obtain high-quality data. FIA also thanks the public agencies and the many private landowners who provided access to measurement plots for this survey.

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HIGHLIGHTS FROM THE 2019 FOREST INVENTORY OF OKLAHOMA

- This report covers the first complete annualized inventory of central and western Oklahoma.
- There are more than 11.7 million acres of forest land in Oklahoma—greater than one-fourth of the State's area.
- Most of the forest land (88 percent) in Oklahoma is owned by private individuals, families, corporations, or partnerships.
- Oak/hickory is the most common forest-type group, accounting for 55 percent of the forest area, with post-oak/blackjack oak being the most common specific forest type.
- On the whole Oklahoma's forests are evenly distributed amongst broad stand-size classes. This is less true when looking at specific forest-type groups.
- There are 5.5 billion trees, comprising 95 unique species in the State. The most common species by count is post oak (*Quercus stellata*).
- Net volume of trees ≥5.0 inches, excluding rotten, missing, and defect cull, was 10.3 billion cubic feet. Contributing most to this total were private owners (ownership group); post oak (individual species); other white oaks (species group). Loblolly and shortleaf pine species groups contributed the greatest volume on timberland.
- The total dry weight of live trees (≥1.0 inch) on forest land in Oklahoma is 298.3 million short tons aboveground, and 60.7 million short tons belowground.
- Change estimations based on imagery evaluation estimate minimal change in forest land in Oklahoma compared to 2008 (net increase of 0.14 percent).
- Net change = gross growth - mortality - removals. Average annual net change was 93.9 million cubic feet (sound bole volume, ≥5.0 inches diameter) on forest land for all live trees.
- In total 3.31 million acres were found to have had at least one disturbance occur over this survey period, with weather being the most common disturbance type.
- A total of 18,826 instances of damage on trees (more than one instance per tree can be reported) were recorded in this survey, with diseases being the most common broad category of damage.
- Three species of oak accounted for more than half of the count of standing dead trees observed in this survey.
- Chinese lespedeza (*Lespedeza cuneata*) was observed the most often and covered the greatest area, among the nonnative invasive plant species surveyed.

INTRODUCTION

With land and water area covering over 44.7 million acres, Oklahoma is the second largest State in the southern FIA region. It is also topographically and ecologically diverse. Forest Inventory and Analysis (FIA) surveys the State in seven distinct units, roughly following ecological zones (fig. 1). Much of the State is emblematic of the Great Plains, being mostly flat or with gently rolling hills, and with moderate temperatures and rainfall averaging between 25 and 45 inches per year. At its far western edge, Oklahoma extends into the Black Mesa complex, reaching its highest elevation point (4,973 feet). This part of the State averages <20 inches of precipitation per year, and the tree species are more typical of the west or southwest than the Southern or Southeastern United States. The eastern side of Oklahoma also climbs out of the plains into the Ouachita Mountains in the southeast and the Ozark Plateau in the northeast. These far eastern portions contain the majority of timberland in the State.

This report is titled Oklahoma's Forests, 2019, but the data were collected over several years using an annual collection method, where a portion of the plots are collected each year. For the Southeast unit (unit 1) and Northeast unit (unit 2), data were collected over approximately 5 years starting in 2015, with roughly 20 percent of the plots measured each year. For the 5 survey units of central and western Oklahoma, data were collected over about 10 years, starting in 2010 with approximately 10 percent of the plots measured each year. This is the first report on a complete cycle of annualized data from central and western Oklahoma. The earliest collection date for the data in this report was January 13, 2010, and the last collection date was July 6, 2021.

Because this is the first time the plots in central and western Oklahoma were measured, tree-level change data—such as growth and removals—is not yet available for those units and will only be reported for the northeast and southeast regions (units 1 and 2). However, in partnership with Geospatial Technology and Applications Center (GTAC), FIA staff used imagery from 2008 and 2019 to estimate changes in land use, land cover, and drivers of change across the State. This will give readers a sense of area-level change—e.g., acres changing to and from forest—allowing some aspect of trend while we await plot remeasurement.

Figure 1—FIA survey units of Oklahoma.

FOREST AREA

Oklahoma comprises more than 11.7 million acres of forest land, >26 percent of the State's total area. Timberland—land which can produce at least 20 cubic feet per acre per year and is not classified as reserved from timber production per statute or administrative designation—and total forest land area are most concentrated in the Southeast survey unit, and least prevalent in the High Plains survey unit, which covers the Oklahoma panhandle (fig. 2).

Ownership

Private individuals, groups, corporations, or other nonpublic entities own the majority of forest land (88 percent) (fig. 3). Timberland was similarly dominated (86 percent) by private ownership. Within the FIA program, a branch of research is focused on forest and woodland ownership. For more granular information about ownership, see the National Woodland Owner Survey program page (USDA Forest Service 2025c) and the National Woodland Owner Survey Dashboard (USDA Forest Service 2025d).

Forest Type

Oklahoma's forests include a remarkably diverse mix of 42 distinct forest types, grouped into 13 broader forest-type groups. On timberland alone, 38 of these forest types fall within 11 groups,

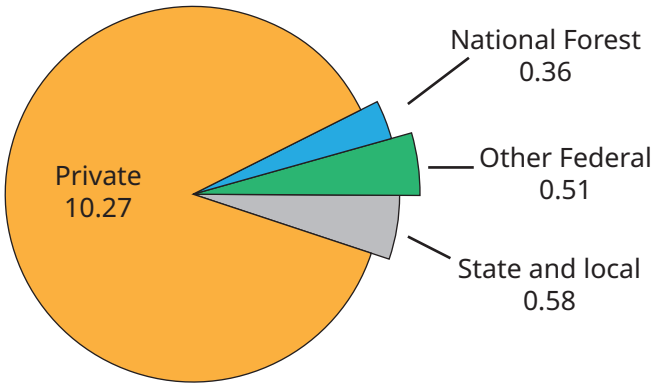

Figure 3—Forest land area by ownership group, Oklahoma, 2019.

highlighting the ecological variety and structural complexity across the State's wooded landscapes.

The oak/hickory forest-type group is the most prevalent, representing 55 percent (6.4 million acres) of all forest area, and 51 percent (3.4 million acres) of timberland (fig. 4). Only three other forest-type groups contributed to more than 5 percent of total forest area: elm/ash/cottonwood (12 percent), loblolly/shortleaf pine (11 percent), and oak/pine (8 percent). Likewise, in timberland area all but these four forest-type groups were <5 percent of the total, though the rank and proportion of the four groups was slightly different: oak/hickory (51 percent), loblolly/shortleaf (18 percent), elm/ash/cottonwood (17 percent) and oak/pine (10 percent).

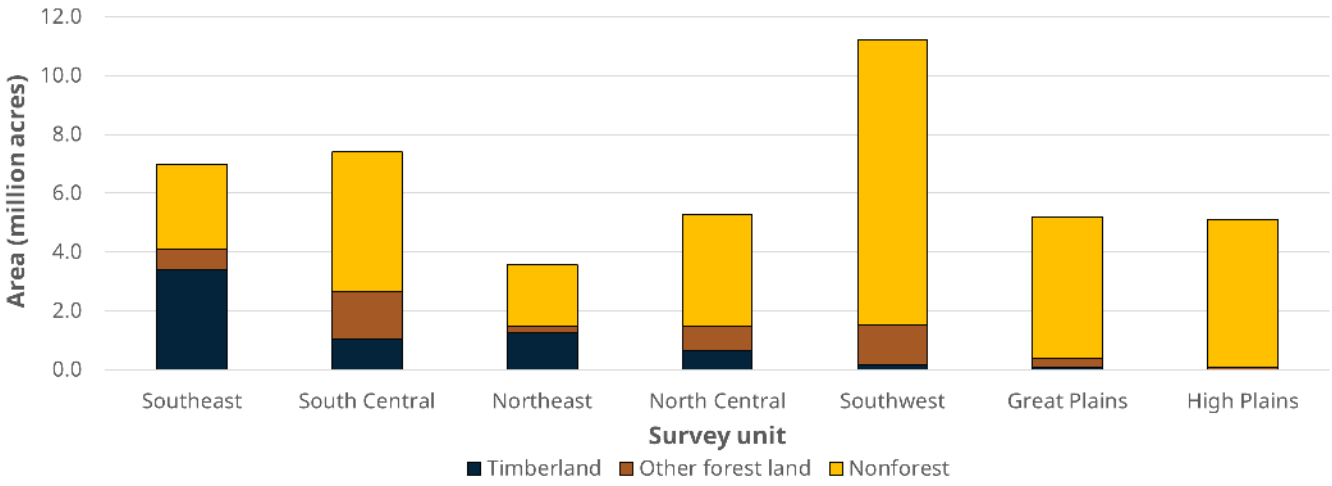

Figure 2—Timberland, forest land, and total area by survey unit, Oklahoma, 2019.

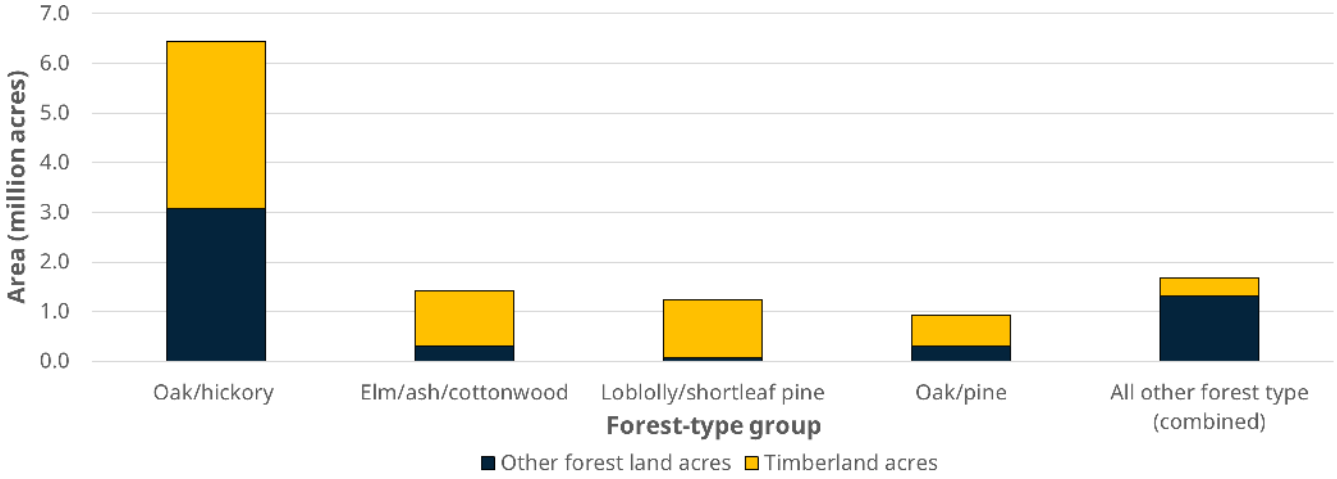

Figure 4—Timberland and forest land area by forest-type group, Oklahoma, 2019.

Forest-type groups are comprised of forest types. Specific forest type on all forest land is similarly, though less dramatically, skewed. Post oak/blackjack oak accounted for 29 percent (3.4 million acres), white oak/red oak/hickory 11 percent (1.3 million acres), and 6 percent each for sugarberry/hackberry/elm/green ash and loblolly pine (fig. 5). All other forest types each accounted for 5 percent or less of the area.

On timberland, post oak/blackjack oak is again the most common specific forest type with 1.3 million acres (19 percent) of total timberland area represented by this forest type (fig. 6). But the timberland area by forest type is overall more balanced with seven forest types individually contributing greater than 5 percent of the total area.

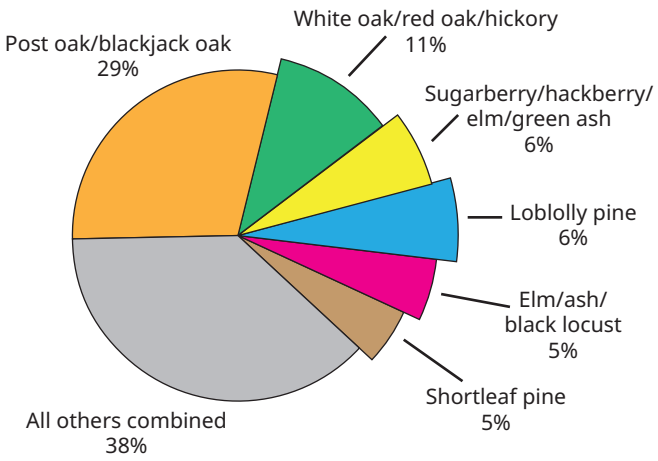

Figure 5—Forest land area by forest type, Oklahoma, 2019.

Stand Origin

More than 761,000 acres (6 percent) of forest land showed clear evidence of artificial regeneration (table 1). Almost all the artificially regenerated (planted) forest was timberland. Of the 42 forest types observed in this survey, 17 types included artificially regenerated stands. Loblolly pine was the most common forest type with artificial regeneration, having 80 percent (96 percent according to the field called forest type) of the planted acres being on this forest type. The other southern-pine forest types—shortleaf pine, loblolly pine/hardwood, and shortleaf pine/oak—together accounted for an additional 11

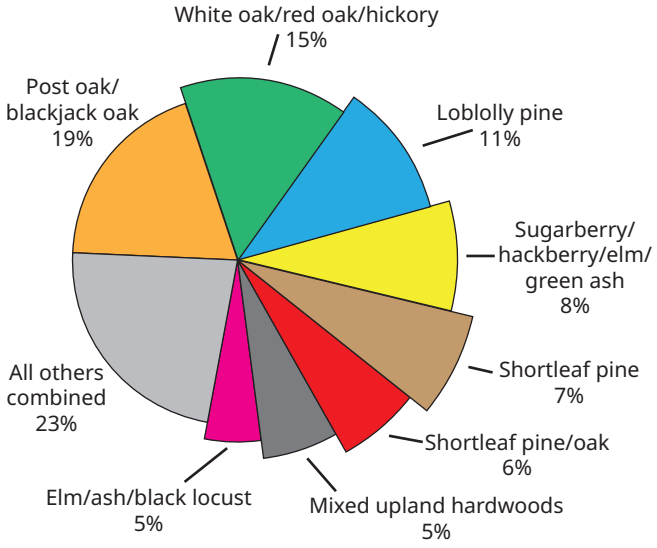

Figure 6—Timberland area by forest type, Oklahoma, 2019.

Table 1—Artificially regenerated forest land area by forest-type and stand origin, Oklahoma, 2019

Forest type	Natural stands field call	Clear evidence of artificial regeneration field call	Natural stands algorithm	Clear evidence of artificial regeneration algorithm
	acres			
Total	10,957,172	761,137	10,957,172	761,137
Loblolly pine	79,064	729,865	98,396	607,160
Shortleaf pine	515,735	8,867	509,206	26,640
Black locust	56,244	7,468	50,529	2,996
Loblolly pine/hardwood	53,814	6,780	41,071	55,550
Shortleaf pine/oak	519,545	5,909	454,735	0
Sweetgum/yellow poplar	15,007	1,477	37,736	1,915
Eastern redcedar/hardwood	608,210	772	386,050	772
White oak/red oak / hickory	1,774,997	0	1,224,638	33,673
Cherry / white ash / yellow poplar	0	0	61,500	6,411
Mixed upland hardwoods	866,482	0	514,362	5,978
Chestnut oak/black oak/scarlet oak	0	0	36,409	5,909
Elm /ash/ black locust	32,884	0	612,311	4,472
Post oak / blackjack oak	2,732,091	0	3,432,904	3,627
Nonstocked	0	0	367,579	2,954
Eastern redcedar	700,252	0	508,190	1,603
White oak	5,909	0	123,109	1,477

percent (additional 3 percent by field call) of total planted acres, leaving only 8 percent (1 percent by field call) of planted acres to all other forest types combined (table 1). This is unsurprising, as loblolly (*Pinus taeda*) and shortleaf pine (*Pinus echinata*) have historically been the economically important timber crop trees for the region, and therefore are the most likely species for which a site is to be managed (Liechty et al. 2002, Talbert et al. 1985, Zeide and Sharer 2002). Even on sites where the forest type was not pine, these were the planted species on all but 9,000 acres of forest (table 2). It is important to note that FIA's sampling intensity and frequency will not always capture less common practices or emerging trends; there are likely plantations of hardwood species, but unless or until they become common, they may be missed in the sampling.

Table 2—Area of artificially regenerated forest land by regeneration species, Oklahoma, 2019

Regeneration species	Acres
Loblolly pine	738,894
Shortleaf pine	13,299
Sweetgum	1,477
Black locust	7,468
Total	761,137

Stand Size and Age

Overall, the forests of Oklahoma are fairly evenly distributed among the size classes (fig. 7). However, some specific forest-type groups are more skewed in size-class distribution. About half or more of oak/gum/cypress, loblolly/shortleaf pine, and elm/ash/cottonwood groups are in the large diameter size class, while woodland hardwoods and other eastern softwoods groups have more than 40 percent in the small diameter size class (fig. 8). Some of these variances can be attributed to natural differences in growing site and species attributes. For example, many of the oak/gum/cypress and to some extent the elm/ash/cottonwood forests are found in riparian or bottomland sites. In these sites, the alluvial soils support growth, while the moist, often sloped ground, offers some resistance to disturbances such as fire, and makes harvesting unlikely, all of which may contribute to larger diameter trees (Little 1980a). Meanwhile, woodland hardwoods, and in many cases other eastern softwoods (such as eastern redcedar, *Juniperus virginiana*) grow in harsher climates and terrain, and the lifeform of these plants—particularly in the less hospitable sites—can resemble shrubs more than trees (Little 1980b). For loblolly/shortleaf, their status as important timber crop species may contribute to the size class distribution observed. These forests are often more intensively managed than nonmarket forests, and therefore the trees on them achieve large size faster. The majority of stands in the large diameter size class may also indicate trees being left to grow rather than being harvested. The decision to delay a harvest will be based on several factors, including demand for different products, cost of harvest and transportation, mill locations, and potential for healthy, sustained growth of the trees if the stand is left uncut (Brandeis and Hodges 2015, Brandeis et al. 2012).

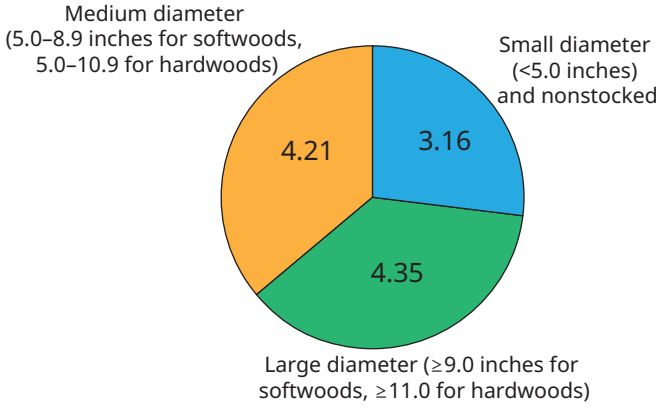

Figure 7—Forest land area, in millions of acres, by stand-size class, Oklahoma, 2019.

Based on field coring and stand age estimation, the age of most forests in Oklahoma is less than 80 years (fig. 9). But, as with size class, we see differences in distribution between the forest-type groups. Loblolly-shortleaf pine, the most common softwood forest-type group, skews younger, with 65 percent of the acres being aged 40 years or

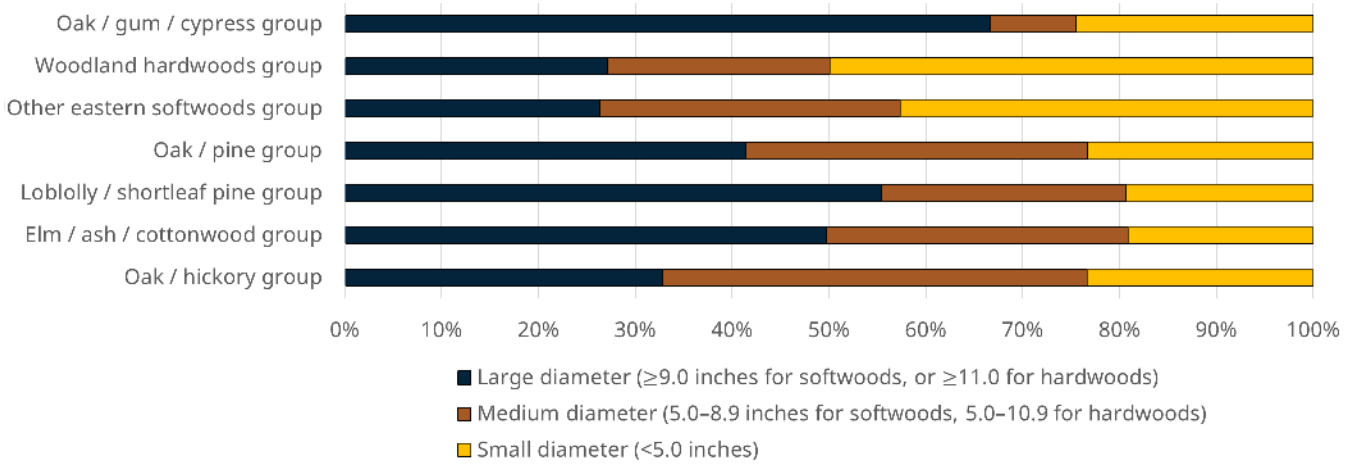

Figure 8—Forest land area by forest-type group and stand-size class, Oklahoma, 2019.

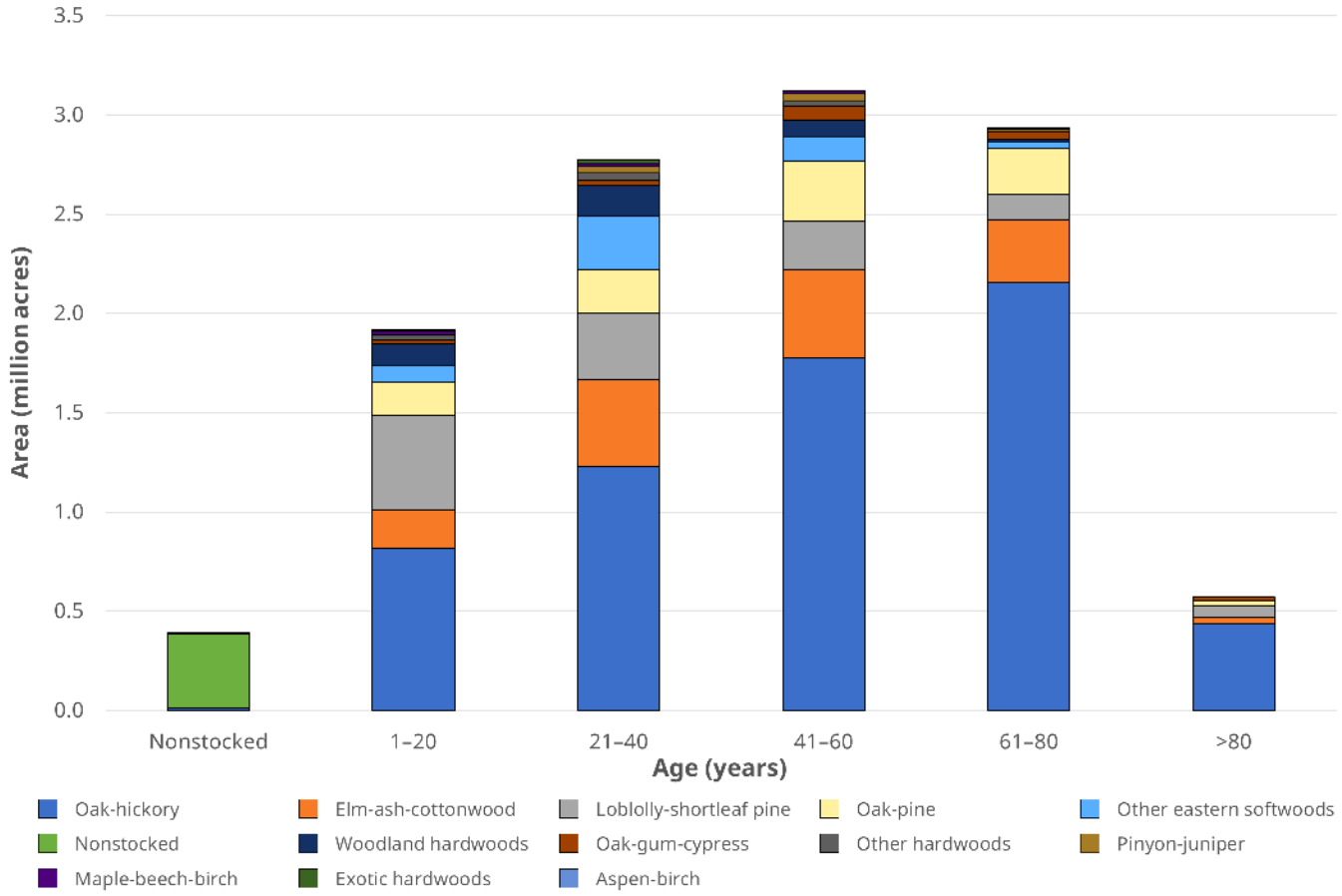

Figure 9—Forest land area by stand-age bracket and forest-type group, Oklahoma, 2019.

less. In contrast, the most common hardwood forest-type group, oak-hickory, has 68 percent of acres with stand age older than 40 years, and 40 percent of stands older than 60 years. The post oak/blackjack oak forest type accounts for more than half of the area occupied by the oak/hickory forest-type group. The post oak/blackjack oak is the dominant forest type found in the Cross Timbers ecoregion. The estimations of old-age predominance for this forest type aligns with other studies of the Cross Timbers. The interplay of humans with forest land—e.g., lower value as timber will reduce likelihood of harvest, presence of permanent infrastructure will increase wildfire suppression—has led to large tracts left to age for long periods of time (Johnson et al. 2010, Therrel and Stahle 1998). While field coring and stand age estimation in the FIA program becomes challenging above roughly 75 years for slow growing stands such as these, tree ring analyses at tree ring laboratories have found stands of 200–400 year old post oak (*Quercus stellata*) throughout the region (Therrell and Stahle 1998).

NUMBER OF TREES, VOLUME, AND BIOMASS

Tracking the number and volume of trees on forest land shifts the focus from area (e.g., acres of land) to trees and tree components, yielding information on the available amount of timber and other woody fiber, as well as species abundance and diversity. Readers may notice that with the shift from acres to number or volume, a shift was also made in the descriptive categories from "forest type" or "forest-type group" to "species" or "species group". This distinction is purposeful and important. The names for many of the forest-type groups and species groups are similar and there is a relationship between

them, but they cannot be used as proxies for one another. While the forest type will be based on the dominant species, each forest-type group is made up of many tree species. If forest types were used as surrogates for tree species and species groups in the analysis of volume, weight, and number of trees, there would be risk of over- or underestimating the true measurement (Rose et al. 2015).

Number of trees

The number of live trees gives us an estimated count of how many live trees of at least 1.0-inch diameter at breast height (d.b.h.), or in the case of woodland species diameter at root collar (d.r.c.), are present on forest land in Oklahoma. This measurement for number of trees is useful for getting a complete picture of how dense and diverse the forest lands are in Oklahoma. Including saplings (trees 1.0 inch to <5.0 inches diameter), there are 5.5 billion trees, comprising about 95 unique species in the State. It should be noted that this includes a "species" category labeled as "unknown or other", which has the possibility of being either a species already listed or of being more than one additional species. Post oak was the most common species, and accounted for 752.6 million trees (13.6 percent of total). The top three species combined—post oak, winged elm (*Ulmus alata*), and eastern redcedar (*Juniperus virginiana*)—accounted for more than one-third

Field crews measure and record a variety of data on FIA plots. (Courtesy photo by Carri Abner, Oklahoma Forestry Services)

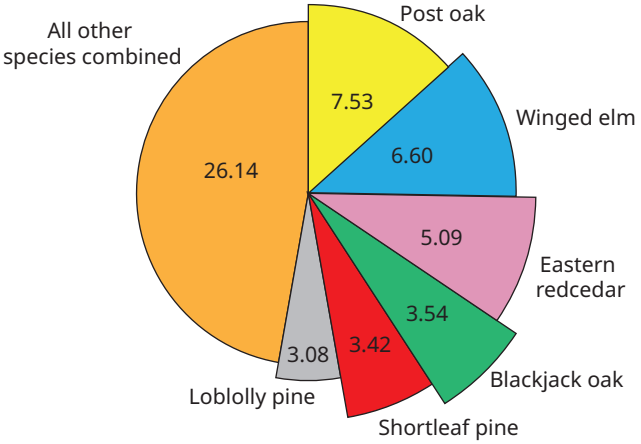

Figure 10—Number of live trees (≥1 inch diameter), in millions, by species on forest land, Oklahoma, 2019.

of all trees by number, and the top six species—blackjack oak, shortleaf pine, and loblolly pine—combined accounted for more than one-half of all trees by number (fig. 10).

When excluding saplings (trees ≥1 inch to <5 inches diameter) from the count, the total number of live trees drops to 1.3 billion, and only 87 unique species were observed. Slight shifts in proportion by species also occur—post oak jumps to 25.3 percent (340.7 million trees) of total, loblolly pine increases to 8.9 percent of total, and shortleaf pine rises to 7.9 percent of total, while eastern redcedar, blackjack oak, and winged elm decrease respectively to 8.3, 5.1, and 4.4 percent of total. The remaining 81 species combined comprise only 40 percent of the total count (fig. 11).

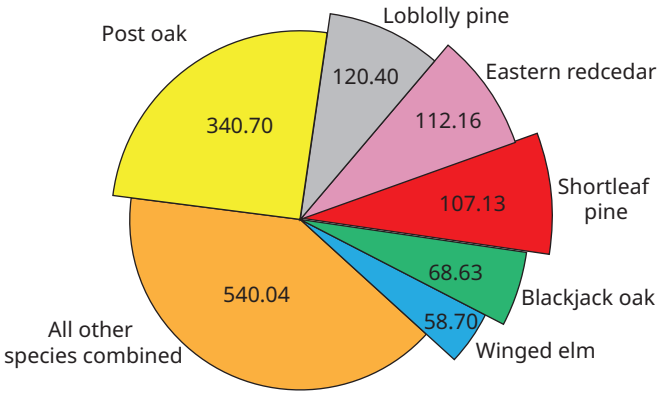

Figure 11—Number of live trees (≥5 inches diameter), in millions, by species on forest land, Oklahoma, 2019.

Just as forest types combine up into forest-type groups, tree species combine up into species groups. The 95 species of live trees (≥1 inch diameter) observed in Oklahoma roll into 22 species groups. The species group "other eastern soft hardwoods" was the most common, and accounted for 24 percent of all trees (1.3 billion) (fig. 12). This species group comprises 18 of the species observed in Oklahoma. By contrast, the second and third most common species groups—"other white oaks" with 782.9 million trees (14 percent of total tree count), and "loblolly and shortleaf pine" 649.9 million (12 percent)—contribute substantial tree counts despite each group comprising three or fewer of the tree species observed in Oklahoma. Of the 22 species groups observed, 7 of them each accounted for more than 5 percent of the tree count, while the remaining 15 species groups combined only accounted for 16 percent of the number of trees.

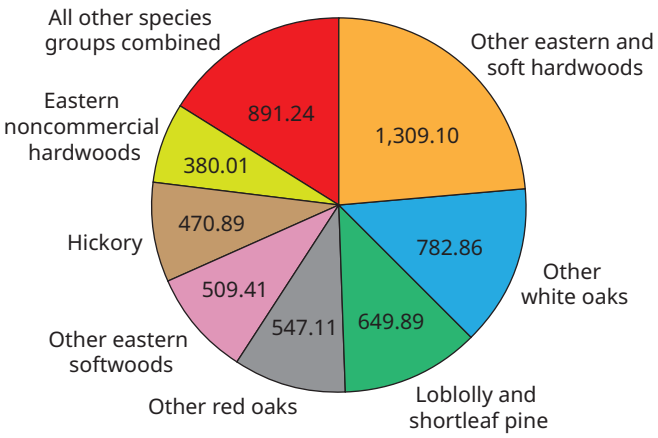

Figure 12—Number of live trees (≥1 inch diameter), in millions, by species group on forest land, Oklahoma, 2019.

Volume

The 11.7 million acres of forest land in Oklahoma held a net merchantable volume (trees ≥5.0 inches excludes rotten, missing and defect cull) of 10.3 billion cubic feet. As with area of forest land, the majority of volume is owned by private corporations, individuals, or families (fig. 13). As a group, these owners held 8.4 billion cubic feet (81 percent) of the wood volume. The net

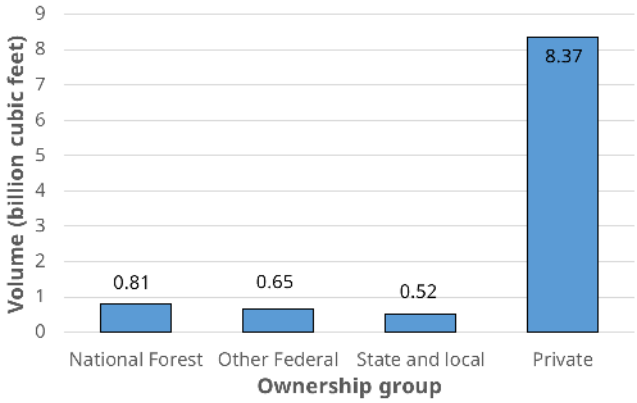

Figure 13—Net merchantable bole volume, by ownership group, on forest land, Oklahoma 2019.

merchantable volume on timberland was 7.7 billion cubic feet, and proportional distribution among ownership groups was almost identical to that in total forest lands.

Of the 21 species groups (trees ≥5.0 inches containing merchantable volume) found on forest land (19 on timberland) in Oklahoma, the top 5 accounted for about three-fourths of all the net merchantable volume (fig. 14). Of the 87 individual species (trees ≥5.0 inches containing merchantable volume) identified on forest land (77 on timberland) only 18 species contributed >1 percent of the volume, and the top 3 species accounted for >40 percent of the total net merchantable volume (fig. 15).

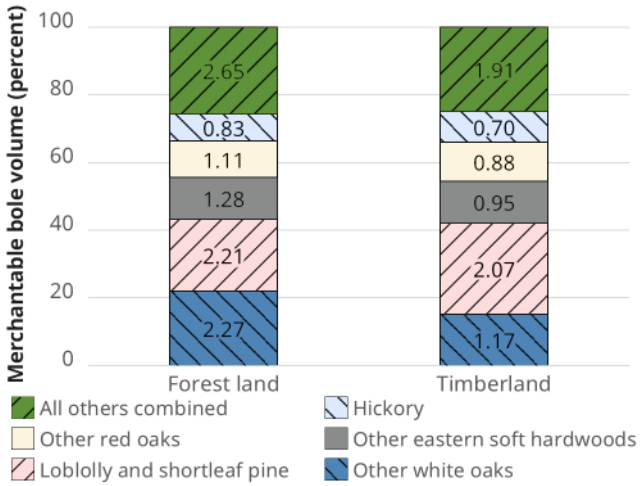

Figure 14—Net merchantable bole volume, in billions of cubic feet, by species group and land use category, Oklahoma, 2019 .

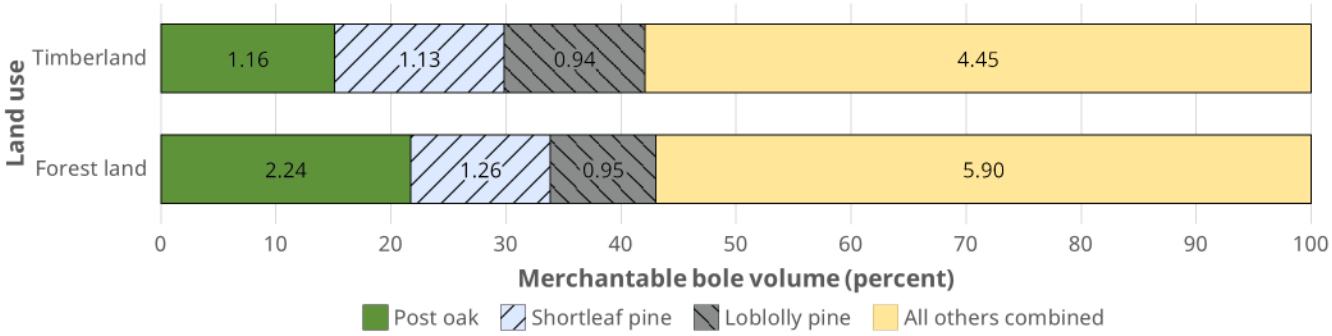

Figure 15—Net merchantable bole volume, in billions of cubic feet, by species and land use category, Oklahoma, 2019.

Biomass

Depending on a user's specific interest (dry, green, live, dead, belowground, aboveground, specific tree parts or total, all trees or certain categories, etc.) the biomass calculation used will vary. FIA databases offer options to suit most inquiries (USDA Forest Service 2025a). For this report, we elected to present the fairly broad calculation of total dry weight of live trees on forest land.

In the methodology used at the time of this report, total dry weight of live trees (≥1.0) on forest land in Oklahoma was 358.9 million short tons—298.3 million short tons aboveground, and 60.7 million short tons belowground. Tree boles accounted for most of the biomass, and the five species groups that accounted for most live volume account for the most biomass as well (fig. 16).

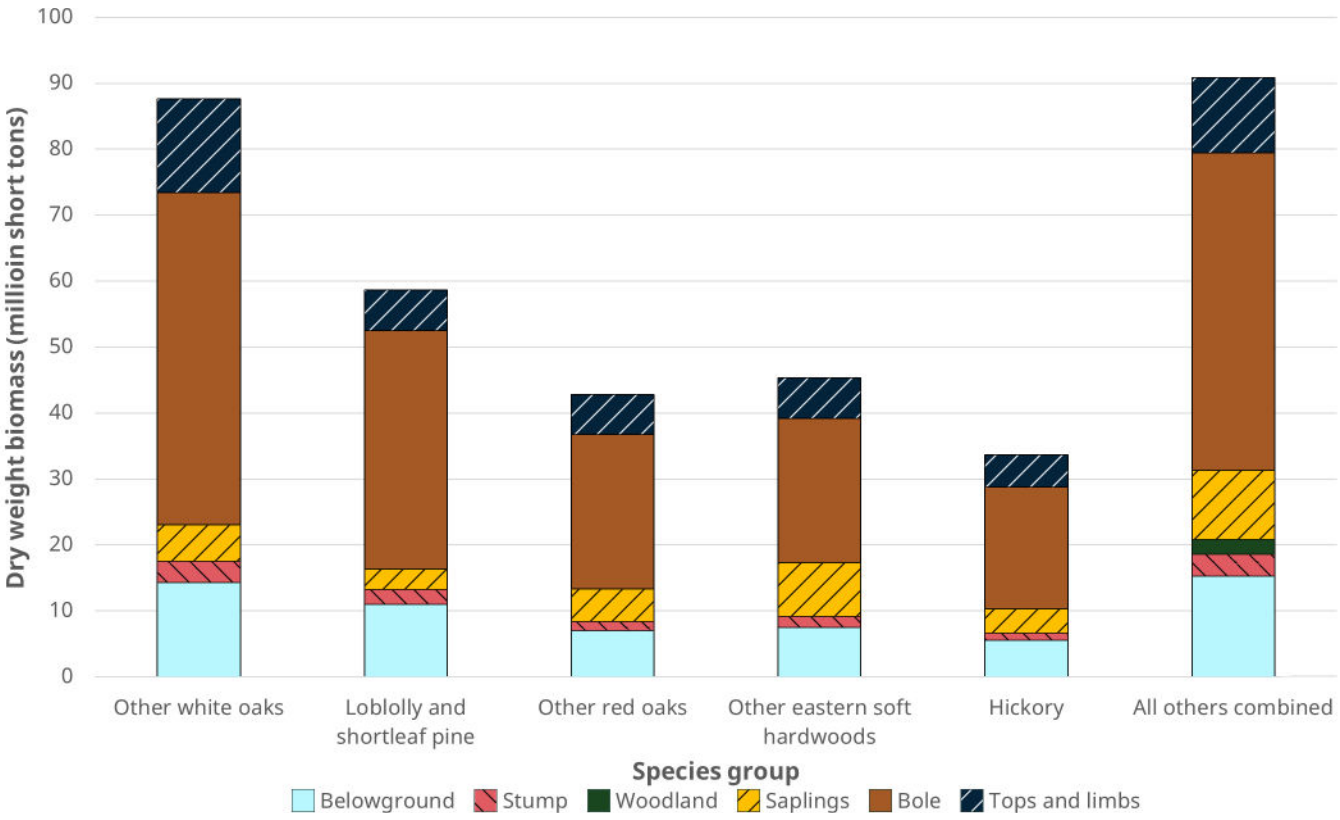

Figure 16—Total dry weight biomass of trees (≥1 inch diameter) on forest land by tree component and species group, Oklahoma, 2019.

Managed forests often undergo many silvicultural treatments, in addition to disturbances. Data is collected on these elements. (Courtesy photo by Matt Ford, Oklahoma Forestry Services)

FOREST CHANGE

Trends in Area of Forest and Other Land Uses

In partnership with the Geospatial Technology and Applications Center, FIA staff used the Image-based Change Estimation (ICE) program to develop estimations of land use and land cover composition and change, as well as the causes of landscape change (Frescino et al. 2020). While not a replacement for the detailed and comprehensive information gathered by FIA field data collection, the ICE protocols achieve reliable results in less time. The ICE estimates give readers a sense of area-level change while we await full sample plot remeasurement (anticipated to be complete for central and western Oklahoma around 2029 and every 10 years, thereafter). For this ICE project, circular plots of 144-foot radius were used, which corresponds approximately to the FIA plot area (fig. 17). National Agriculture Imagery Program imagery from 2008 and 2019 were used, aligning with the most recent measurement year and the year before FIA measurement began in central and western Oklahoma—i.e., the years that would have been used for traditional FIA

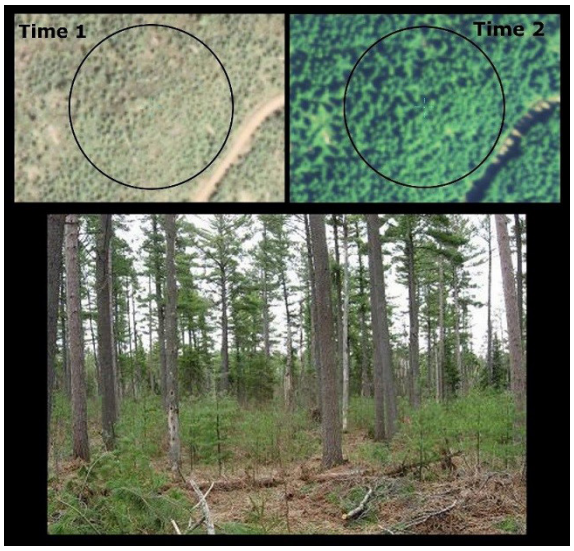

Figure 17—Example of the imagery used for ICE work, along with what the site might look like on the ground.

change evaluations if data were available. Those highly familiar with FIA land use and land cover categories will notice the similarities in the categories of land use and land cover used for this ICE project. Again, it is not a perfect replacement of FIA data or field observations, but does have enough alignment to prove highly useful for filling in the times and places for which we do not yet have FIA field data.

From 2008 to 2019, forest land in Oklahoma went from 25.3 percent to 25.4 percent, a net increase of 0.14 percent. While some (0.9 percent) forest land was converted to nonforest, more (1.1 percent) land reverted from nonforest to forest (fig. 18). Almost all the land which reverted to forest had been farmland in 2008, while land that converted from forest since 2008 went mostly to farmland, followed by cultural land uses (table 3). As the most common land uses, it is not surprising that forest and farmland changed most—for context it is worth noting that these land uses also had the greatest persistence (areas that did not change) at 24.4 percent and 58.1 percent, respectively.

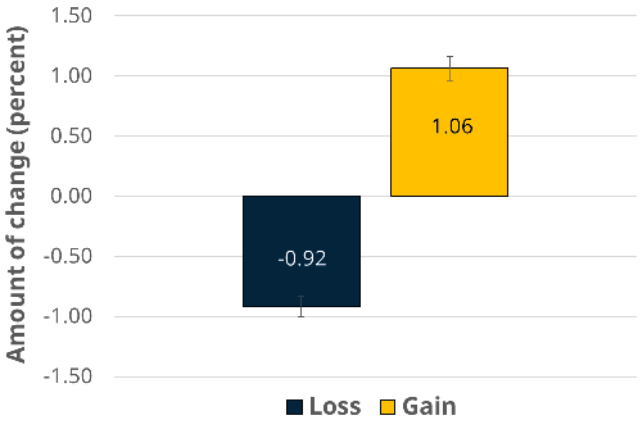

Figure 18—Percent of Oklahoma's area that experienced forest land use gain or loss between 2008 and 2019.

Eastern redcedar is a species of tree found throughout most of the State. (Courtesy photo by Matt Ford, Oklahoma Forestry Services)

Table 3—Land use change and persistence, as a percent of total area, among all land use classes in Oklahoma, between 2008 and 2019

2008 land use	2019 land use: Forest	Wetland/ Riparian	Noncensus water	Census water	Farmland	Agricultural woody cropland	Windbreak/ shelterbelt	Cultural	Right-of-way	Recreation	Strip mines/ quarries/ gravel pits	Rangeland	Other nonvegetated land	Total
	percent													
Forest	24.376	0	0.007	0.028	0.570	0	0	0.197	0.084	0	0.011	0.021	0	25.294
Wetland/Riparian	0.031	0.355	0.001	0	0	0	0	0.002	0	0	0	0	0	0.390
Noncensus water	0.003	0	0.488	0	0.008	0	0	0	0	0	0	0	0	0.499
Census water	0.005	0	0.002	2.393	0.003	0	0	0.001	0	0	0	0	0	2.403
Farmland	0.915	0.003	0.017	0.018	58.106	0	0.001	0.340	0.085	0.013	0.005	0	0	59.503
Agricultural woody cropland	0	0	0	0	0	0.021	0	0	0	0	0	0	0	0.021
Windbreak/ shelterbelt	0	0	0	0	0.003	0	0.054	0.001	0.002	0	0	0	0	0.060
Cultural	0.043	0	0	0.015	0.025	0	0.003	3.654	0.002	0	0	0.005	0	3.747
Right-of-way	0.020	0	0	0	0.014	0	0	0.002	2.435	0	0	0.001	0	2.473
Recreation	0	0	0	0	0	0	0	0	0	0.092	0	0	0	0.092
Strip mines/ quarries/gravel pits	0.006	0	0	0	0	0	0	0	0	0.003	0.124	0	0	0.132
Rangeland	0.040	0	0	0	0	0	0	0.025	0.006	0	0	5.270	0	5.340
Other nonvegetated land	0	0	0	0	0	0	0	0	0	0	0	0	0.045	0.045
Total	25.437	0.359	0.516	2.454	58.730	0.021	0.058	4.222	2.613	0.108	0.140	5.297	0.045	100.000

Shaded cells unchanged land use.

Land cover describes the primary vegetative or nonvegetative element present or covering the area (in contrast to the previously discussed land use, which also focuses on the primary function or employment of the land). The correspondence between these two categories is shown in figure 19. From 2008 to 2019, 2.8 percent of the area in Oklahoma reverted to tree-live cover, while 1.85 percent converted from tree-live cover to another cover class (table 4). The resulting tree-live net cover change of 0.9 percent was the greatest increase among the cover classes (fig. 20). Other vegetation was the only land cover class to show net loss, with a net change of 1.6 percent. It is worth noting that the other vegetation land cover class also persisted (did not change) at a much higher rate (64.7 percent) than any other land cover class (table 4).

Western Oklahoma is home to more open wooded landscapes, like pinyon pine and juniper forest types—what FIA calls "woodland" forests. (Courtesy photo by Dieter Rudolph, Oklahoma Forestry Services)

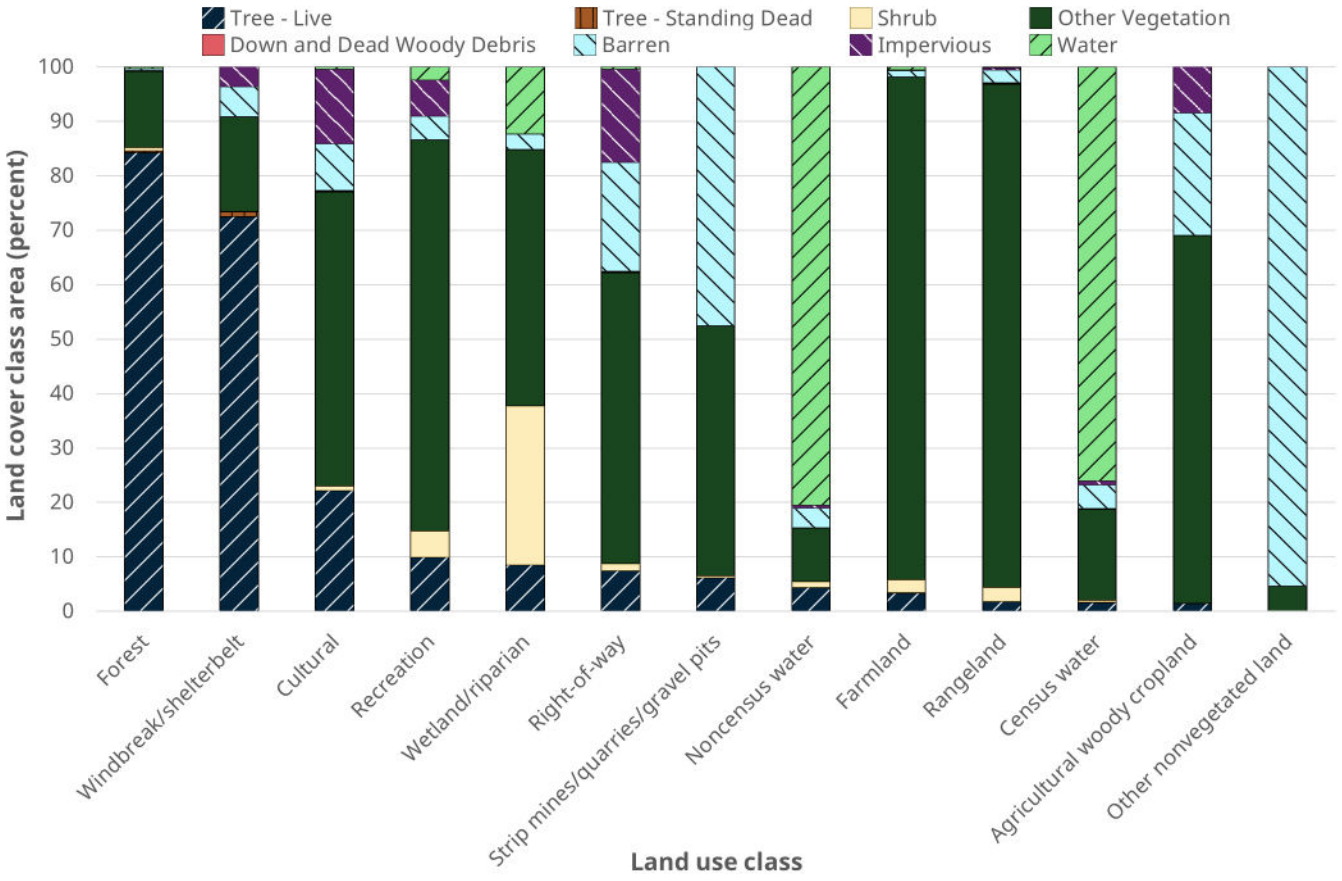

Figure 19—Percent of land cover class within each land use class, Oklahoma, 2019.

Table 4—Land cover change and persistence, as a percent of total area, among all land cover classes in Oklahoma, between 2008 and 2019

2008 tree cover class	2019 tree cover class: Tree-live	Tree-standing dead	Shrub	Other vegetation	Down and dead woody debris	Barren	Impervious	Water	Total
	percent								
Tree–live	21.999	0.096	0.017	1.574	0.041	0.041	0.020	0.056	23.845
Tree–standing dead	0.001	0.026	0	0.007	0	0	0	0.003	0.037
Shrub	0.035	0	1.347	0.135	0.001	0.001	0.001	0.006	1.527
Other vegetation	2.519	0.010	0.511	64.736	0.006	0.667	0.088	0.215	68.753
Down and dead woody debris	0.017	0	0.001	0.002	0.033	0.004	0	0	0.056
Barren	0.135	0	0.018	0.524	0.002	1.284	0.017	0.029	2.009
Impervious	0.023	0	0.001	0.020	0	0.001	1.000	0	1.045
Water	0.030	0	0.012	0.159	0.005	0.056	0	2.465	2.729
Total	24.759	0.132	1.906	67.158	0.089	2.055	1.126	2.774	100.000

Shaded cells are unchanged land use.

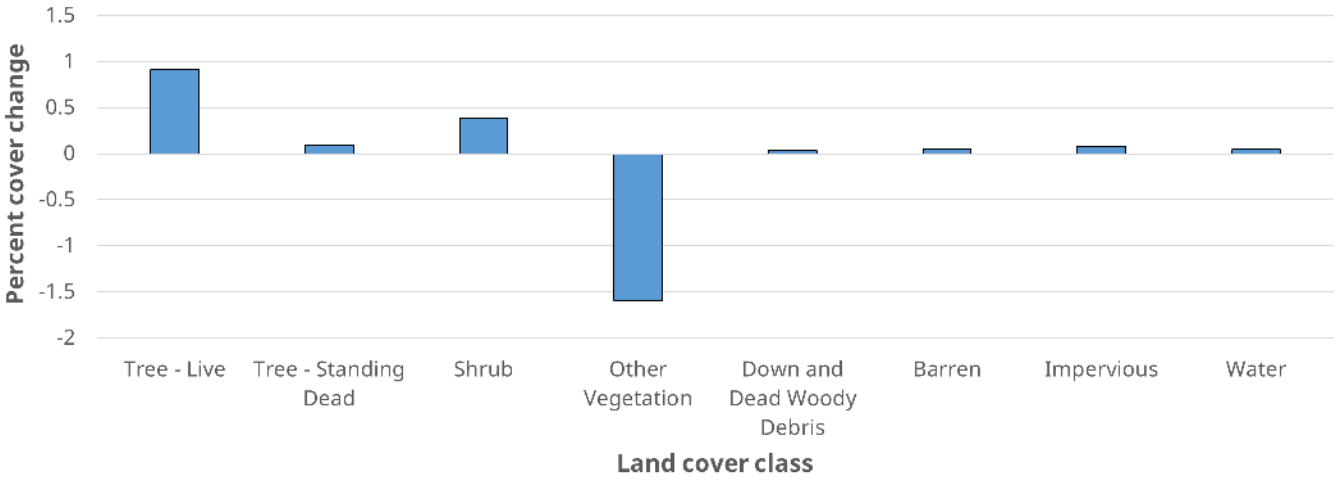

Figure 20—Net area of gain or loss by percent of total area and land cover class in Oklahoma between 2008 and 2019.

The ICE protocols also included estimating agents of change: what factor caused the change in land use. Making these determinations is expected to be more challenging in general, and especially when limited to imagery information—and the quality assessments are indeed lowest for this analysis. From 2008 to 2019 the major agent of change in Oklahoma was vegetation gain, followed by harvest, vegetation loss, and development; while fire, stress and mortality, and other change contributed relatively small amounts (fig. 21).

A Quality Assessment and Quality Control (QAQC) report was generated for Oklahoma for 2008 to 2019 that compared agreement between original photo interpretations and blind re-interpretations by the same interpreter on the same plot (called self checks), and also to blind interpretations made by another interpreter on the same plots (called cross checks). The results are outlined below:

- For Presence of Change, agreement was 87 percent in self checks and 75 percent in cross checks.

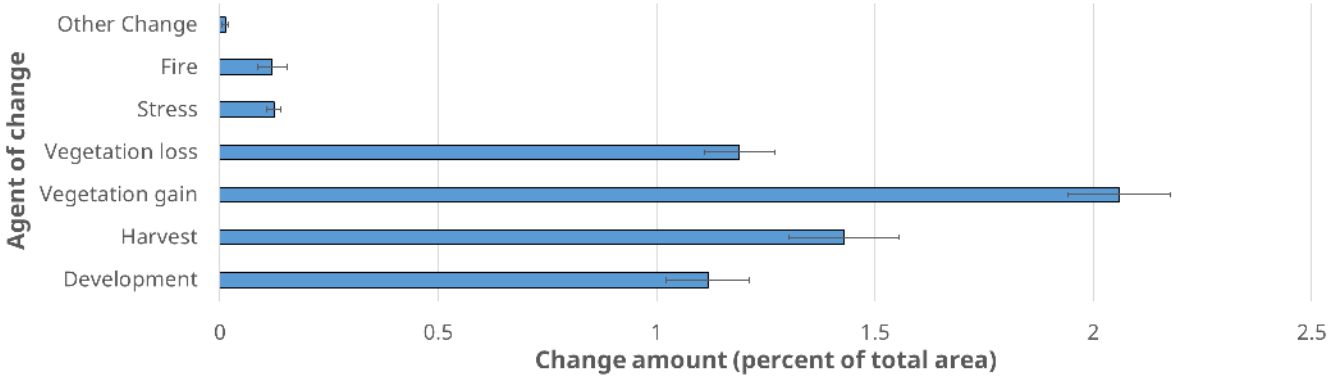

Figure 21—Area of change between 2008 and 2019, by agent of change as a percentage of total area, Oklahoma, 2019.

- For Land Cover 1 and 2, agreement was 92 percent in self checks and 91 percent in cross checks.
- For Land Use 1 and 2, agreement was 91 percent in self checks and 88 percent in cross checks.
- For Change Agent, agreement was 79 percent in self checks and 65 percent in cross checks.

Volume Comparisons, Growth, Mortalities, and Removals (east Oklahoma)

As noted in the previous subsection, remeasurement has only been completed in the northeastern and southeastern units (units 1 and 2). Therefore, change data presented here, which is based on tree (as opposed to area) measurements, are limited to these two units. The estimated net merchantable bole volume of live trees (trees ≥5.0 inches; from 1-foot stump to 4 inches top; excludes rotten, missing and defect cull) on forest land has increased with each of the last three surveys (fig. 22). Hardwood volume decreased slightly in 2014, but rebounded in 2019, while softwood volume increased steadily. Timberland volume estimations are available even farther back in time—though it should be noted that some of the sampling methods changed after the 1993 survey. Looking at this data, we see the same trend of softwood and total volumes increasing each year, and hardwood volumes increasing every year but 1966 and 2014 (fig. 23).

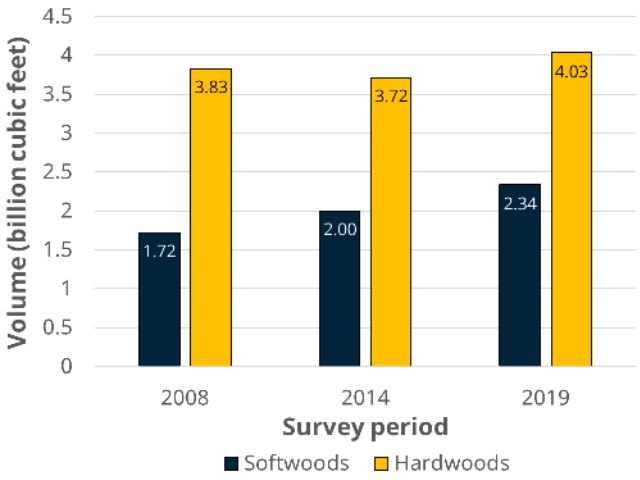

Figure 22—Net merchantable bole volume of live trees on forest land, by survey period and major species group, Oklahoma, 2008, 2014, and 2019.

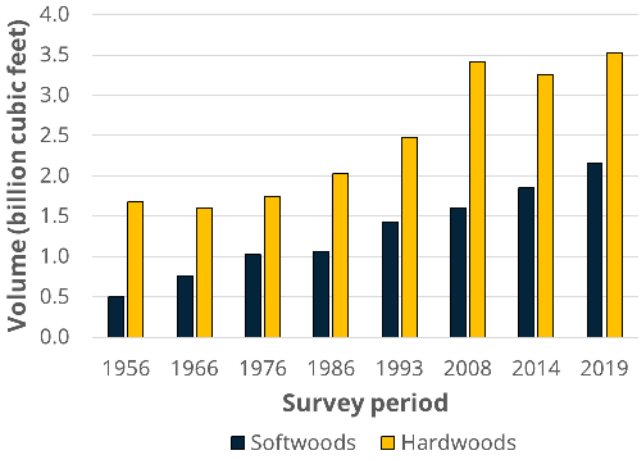

Figure 23— Net merchantable bole volume of live trees on timberland, by survey period and major species group, Oklahoma, 1956, 1966, 1976, 1986, 1993, 2008, 2014, and 2019.

Beyond standing volume comparisons, calculations of growth, removals, and mortality are conducted with FIA survey data. Comparing volume of growth to that of mortality and removals can show whether forest resources are being over- or under-utilized, and whether other factors are impacting the survival of trees. Gross growth is the total volume of growth on live trees (≥5.0 inches), net growth is gross growth less mortality, and net change is net growth less removals. Net change totals can be positive or negative amounts. In this report these volume change amounts are presented as average annual change.

The Oklahoma 2019 survey had an average annual net change of 93.9 million cubic feet (sound bole volume, ≥5.0 inches diameter) on forest land, indicating growth continued to outpace loss from mortality and removals (fig. 24). The net positive volume change occurred across most land ownership groups, and in 12 of the 17 species groups, the exceptions being hickory (average annual loss of 3.3 million cubic feet), other red oaks (loss of 3.0 million cubic feet per year), soft maple (loss of 1.0 million cubic feet per year), other eastern hard hardwoods (net loss of around 20,000 cubic feet per year), and sweetgum (statistically negligible loss of less than 6,000 cubic feet per year; table 5). Negative net annual change is especially notable in the species groups "other red oaks", and "hickory" as these are in the top five species groups by volume—around 10 percent each (fig. 14; table 5).

Individual damages, such as beaver impacts, are collected on trees in the survey. If enough trees are impacted by a single cause, that information will be collected at the condition or stand level as well. (Courtesy photo by Matt Ford, Oklahoma Forestry Services)

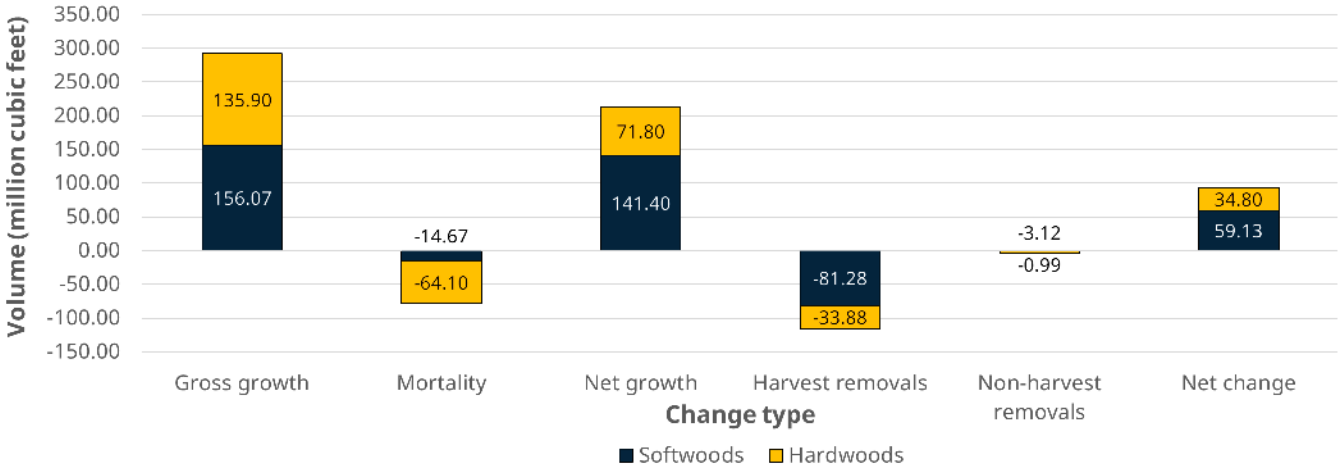

Figure 24—Change volume on forest land between 2014 and 2019 in east Oklahoma, by change type and major species group.

Table 5—Net volume change on forest land and timberland by species group and ownership group, Oklahoma, 2019

Species group	Ownership group											
	National Forest		Other Federal		State and local		Private		Not available		Total	
	Forest land	Timber-land	Forest land	Timber-land	Forest land	Timber-land	Forest land	Timber-land	Forest land	Timber-land	Forest land	Timber-land
	cubic feet											
Loblolly and shortleaf pine	10,736,070	10,820,487	380,649	220,413	269,140	-124,527	43,412,176	40,900,218	-2,819,223	-2,819,223	51,978,812	48,997,367
Other white oaks	999,552	-427,061	1,149,875	692,883	226,964	123,169	12,099,762	7,797,936	-1,921,252	-1,741,303	12,554,901	6,445,623
Other eastern soft hardwoods	-3,187	-180,859	-751,693	-615,128	487,056	502,937	12,079,528	12,154,994	-1,673,486	-1,606,560	10,138,219	10,255,383
Other eastern softwoods	120,870	-122,081	717,327	640,139	203,155	12,048	6,537,004	4,319,752	-432,070	-432,070	7,146,286	4,417,788
Select red oaks	260,419	49,936	771,769	771,769	370,680	353,713	3,400,272	2,924,663	–	–	4,803,141	4,100,082
Ash	-170,610	-171,162	523,595	516,097	202,826	154,677	5,055,132	4,850,524	-949,355	-596,315	4,661,587	4,753,822
Select white oaks	923,539	756,152	21,444	-28,828	174,727	-64,542	3,089,321	2,401,878	-112,034	-112,034	4,096,998	2,952,627
Cottonwood and aspen	–	–	1,554,680	1,554,680	67,162	67,162	1,783,574	1,783,574	–	–	3,405,416	3,405,416
Eastern noncommercial hardwoods	-5,155	-5,915	6,827	-838	-3,974	-3,974	1,562,052	1,335,970	-241,306	-231,200	1,318,443	1,094,044
Tupelo and blackgum	428,594	202,444	56,568	56,568	940	–	310,314	310,811	-24,010	-24,010	772,406	545,813
Hard maple	10,506	10,506	30,358	–	9,283	–	306,610	306,610	–	–	356,758	317,116
Black walnut	–	–	82,841	45,068	42,399	42,399	-122,653	-134,644	–	–	2,587	-47,177
Sweetgum	-32,759	-75,593	125,787	88,284	–	–	414,305	414,305	-513,138	-513,138	-5,804	-86,142
Other eastern hard hardwoods	7,660	-15,817	36,651	36,651	59,507	59,507	-65,809	-93,023	-58,488	-58,488	-20,479	-71,170
Soft maple	29,435	18,035	-2,522,245	-2,522,245	385,657	385,657	1,090,705	1,122,472	–	–	-1,016,449	-996,081
Other red oaks	61,800	53,171	1,790,046	1,735,238	-543,723	-591,775	-2,125,825	-2,435,709	-2,188,105	-2,188,105	-3,005,808	-3,427,179
Hickory	-128,135	-340,072	300,674	268,513	346,683	298,401	-2,648,742	-1,877,327	-1,131,695	-620,924	-3,261,214	-2,271,409
Total	13,238,599	10,572,172	4,275,152	3,459,264	2,298,483	1,214,851	86,177,727	76,083,005	-12,064,160	-10,943,368	93,925,801	80,385,924

– = No data for this species group landowner group combination.

The loss of volume for species groups "hickory", "other red oaks", and "soft maple" was mostly due to mortality, as opposed to harvest or other removals while the loss of volume in the species groups "black walnut" and "sweetgum" were almost all from harvest removals. However, it is important to note some details are not captured in this survey. In the Forest Health and Disturbance section, which follows, we will take a closer look at the recorded cause of death.

FOREST HEALTH AND DISTURBANCE

Forest Disturbance

Disturbances such as fire, disease, insects, and weather events, can have a substantial effect on forest resources and functions. To be recorded in FIA surveys, a disturbance must affect at least 25 percent of a forested condition (stand) or 50 percent of a particular species within a forested condition. In addition, the disturbance must have

occurred either within the last 5 years (for new plots, such as most plots of units 3–7) or since the last plot measurement date (for remeasured plots, such as most plots in units 1 and 2). Some sites may be impacted by more than one type of disturbance, and FIA data collectors can record up to three types of disturbance per condition.

In total, 3.31 million acres were found to have had at least one disturbance occurred during this survey period, slightly lower than the 3.75 million acres presented in the 2014 survey report. Of these 3.31 million acres, 515,121 acres had at least two disturbances, and 70,186 had evidence of three or more disturbances (table 6). Disturbances are recorded by disturbance type, which are categorized into seven disturbance groups. The following totals include disturbances recorded as primary (considered most important or impactful disturbance to the stand), secondary (next most important), or tertiary (third most important) disturbance. This is important as it better captures how prevalent disturbances are, but the grand total will be greater than the 3.31 million acres with disturbance present, because some of the acres will have multiple disturbances.

Fire—which includes both crown and ground, and both prescribed and natural fire types—had the greatest impact, causing disturbance on 1.46 million acres of forest land (table 6). Weather, which includes ice, wind, flooding, and drought accounted for nearly 1 million additional acres of disturbance, and animal damage—which covers wild and domesticated animals and includes grazing—accounted for another 887,874 acres, while the other four groups combined accounted for 555,563 disturbed acres (table 6). Some disturbed acres of disturbance groups are heavily attributed to one disturbance type (e.g., fire, animal) while others (e.g., weather, insects) showed multiple disturbance types contributing substantially to the group total (fig. 25).

Examining disturbances by forest type or forest-type group provides additional information which can help land and resource managers better interpret the damage data. For example, animal damage—one of the top overall disturbances—showed up as the only major disturbance in the other eastern softwoods, woodland hardwoods, and nonstocked forest-type groups (table 7). Given these three forest-type groups are typically lower stocked and with a more open layout, this could simply correlate to woodland pasture or silvopastoral sites (Goff et al. 2024). Another example, diseases, showed up almost exclusively in the forest-type groups with significant oak presence. This may indicate diseases affecting oaks are an issue in the State despite disease being a small contributor to disturbance overall.

Table 6—Area of forest land with disturbance present, by ordinal category and disturbance group, Oklahoma, 2019

Disturbance group	Disturbance 1	Disturbance 2	Disturbance 3	Total
	acres			
Fire	1,332,195	106,812	17,691	1,456,698
Weather	781,366	197,863	18,390	997,619
Animal	802,698	71,979	13,197	887,874
Disease	204,802	74,377	10,853	290,032
Human	136,576	60,463	5,694	202,733
Insect	48,996	3627	4,361	56,984
Vegetation	5,814	0	0	5,814

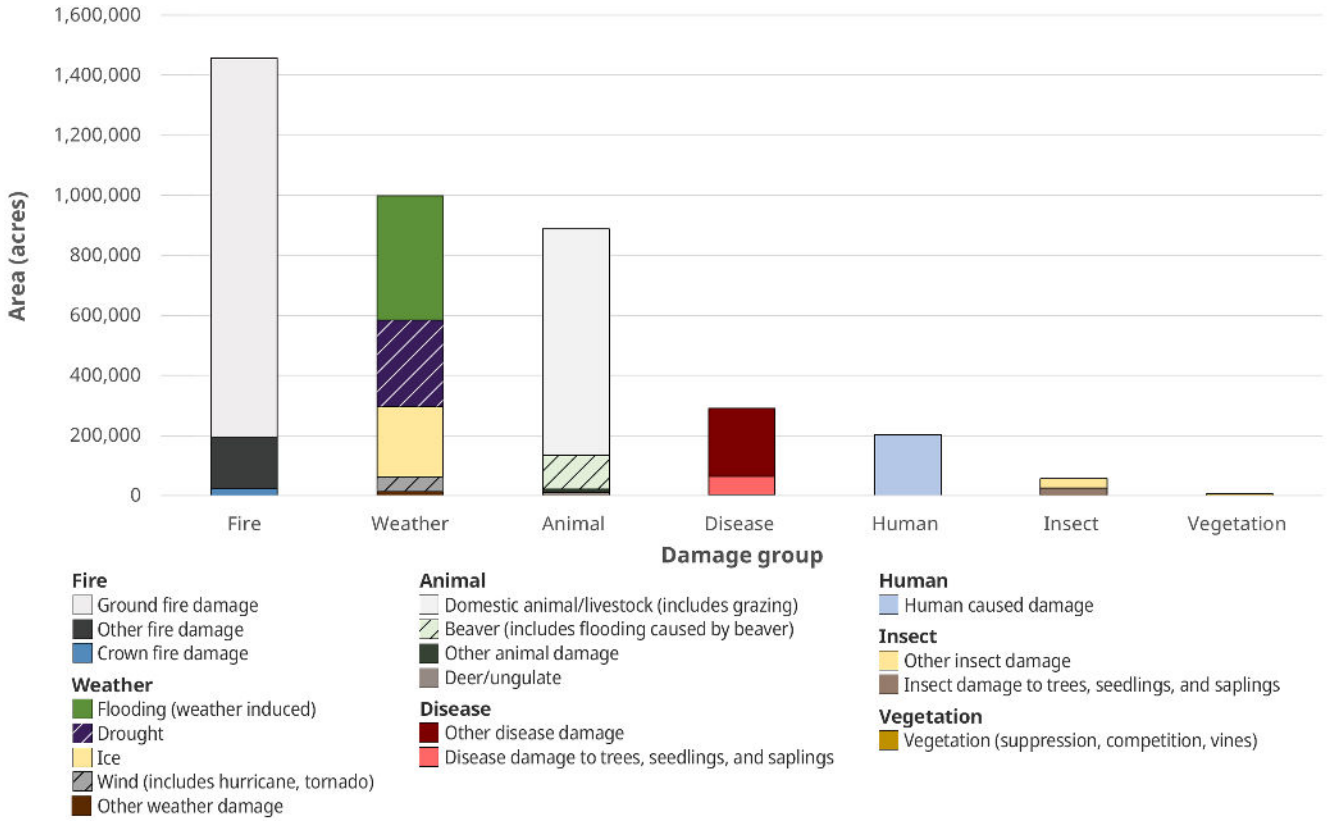

Figure 25—Area of disturbance on forest land by group and type within group, Oklahoma, 2019.

Table 7—Area of forest land with disturbance present by forest-type group and disturbance group, Oklahoma, 2019

Disturbance group	Forest-type group											
	Loblolly/ shortleaf pine group	Other eastern softwoods group	Pinyon/ juniper group	Oak/pine group	Oak/ hickory group	Oak/gum cypress group	Elm/ash/ cottonwood group	Maple/ beech/ birch group	Other hardwoods group	Woodland hardwoods group	Exotic hardwoods group	Nonstocked
	acres											
Fire	189,327	17,382	0	108,564	987,542	8,863	49,649	1,855	6,182	0	7,901	79,435
Weather	22,471	24,481	12,404	11,807	445,506	79,832	300,568	5,259	22,908	63,388	0	8,994
Animal	8,246	63,123	0	33,254	403,208	11,045	159,923	0	3,665	108,466	0	96,942
Disease	0	0	0	10,807	274,758	2,804	1,664	0	0	0	0	0
Human	1,695	6,840	0	24,880	135,353	7,012	7,850	0	0	4,637	0	14,465
Insect	14,476	0	0	2,378	26,024	0	0	0	0	5,994	6,450	1,662
Vegetation	0	0	0	0	0	0	5,814	0	0	0	0	0

Damage Agents

Damage agents are similar to the above-described disturbance events. However, disturbances are observed at the stand level, and the assessment includes trees killed by the disturbance. Conversely, damages are recorded at the individual tree level and only include live trees in the assessment. All live trees ≥5.0 inches are examined for signs and symptoms of damages or damage agents. If the established threshold is met, the damage is recorded (thresholds differ by agent; for specifics see appendix 8 in Burrill et al. 2023). Up to three damage agents may be recorded per individual tree. Specific damage agents are recorded in the field but counts at this detailed level are often very low per agent. Therefore, damage group (e.g., "defoliators"), or even broad category (e.g., "insects") may be better for this level of survey summary (table 8). A total of 18,826 instances of damage on trees were recorded in this survey. Disease was by far the most common damage category recorded, with 16,218 observations, in sharp contrast to disease as a disturbance, where it only accounted for 7 percent of all disturbances recorded. The disease as a damage category does include stem decays, which are anomalous both because they are common and because of the low threshold needed to record their presence. But, even without including stem decays, disease accounts for 5,497 of the recorded damages, more than six times the frequency of the next most observed category. Notably, weather and domestic animals are among the lowest recorded damages, in contrast to their prominence as recorded disturbances, where they each accounted for >20 percent of all recorded amounts.

Table 8—Number of damage observations on forest land by specific agent, damage group, and broad damage category, Oklahoma, 2019

Damage name			Number of trees		
Broad category	Group	Agent	Agent	Group	Broad category
Insects	General insects	General insects	4	4	
	Bark beetles	Bark beetles	5		
		Black turpentine beetle	18	30	
		Ips engraver beetles	7		
	Defoliators	Defoliators	68		
		Fall webworm	6	120	335
		Eastern tent caterpillar	4		
		Bagworm	42		
	Chewing insects	Chewing insects	7	7	
	Sucking insects	Twig girdler	151	151	
	Boring insects	Boring insects	23	23	
Diseases	General diseases	General diseases	16	16	
	Root/butt diseases	Root/butt diseases	1,208	1,219	
		Armillaria root disease	11		16,218
	Cankers	Cankers	25	447	
		Hypoxylon canker of oak	422		

Table 8—Number of damage observations on forest land by specific agent, damage group, and broad damage category, Oklahoma, 2019 (continued)

Damage name			Number of trees		
Broad category	Group	Agent	Agent	Group	Broad category
Diseases *(continued)*	Stem decay	Stem decay	10,721	14,409	16,218
		Heart rot	3,688		
	Parasitic/epiphytic plants	Parasitic/epiphytic plants	8	9	
		Southwestern dwarf mistletoe	1		
	Decline complexes/ dieback/wilts	Decline complexes/dieback/wilts	22	23	
		Dutch elm disease	1		
	Foliage diseases	Foliage diseases	62	63	
		Sycamore anthracnose	1		
	Stem rusts	Stem rusts	2	31	
		Eastern gall rust	14		
		Fusiform rust	15		
	Broom rusts	Broom rusts	1	1	
Fire	Fire	Fire	431	431	431
Weather/abiotic	Abiotic damage	Abiotic damage	52	278	278
		Flooding/high water	133		
		Lightning	10		
		Snow/ice	51		
		Wind	32		
Animals	Wild animals	Wild animals	30	426	427
		Beavers	35		
		Sapsuckers	361		
	Domestic animals	Domestic animals	1	1	
Human activities	Human activities	Human activities	23	209	209
		Herbicides	14		
		Imbedded objects	120		
		Land clearing	16		
		Logging damage	36		
Vegetation/competetion	Competition	Competition	61	61	61
Other	Other damages and symptoms	Other damages and symptoms	13	864	867
		Broken top	653		
		Dieback	198		
	Unknown	Unknown	3	3	

Cause of Death

As noted in previous sections, most of the trees in central and western Oklahoma (i.e., those outside of units 1 and 2) have not yet been remeasured and therefore are not included in this section.

For plots in eastern Oklahoma, a cause of death was recorded for each tree that died since the previous survey. Data collection crews choose from eight causes of death, including an unknown/unsure/other category, and a logging/human activity category (which would not correlate directly to any specific forest health factor). The rank of cause of death was the same whether comparing by number of trees or tree volume (fig. 26), with logging/human activity being the top for cause of death by both measures. As one might expect, this category accounted for a greater proportion as measured by volume (45 percent) than by count (35 percent). Logging/human activity is quite different from the other categories considered here (e.g., it is not necessarily a forest health factor and it can even be used as a means to improve forest health). Aside from logging/human activity, leading causes of recorded death were disease (23 percent by count, 24 percent by volume), weather (21 percent by count, 18 percent by volume), and fire (11 percent by count, 6 percent by volume).

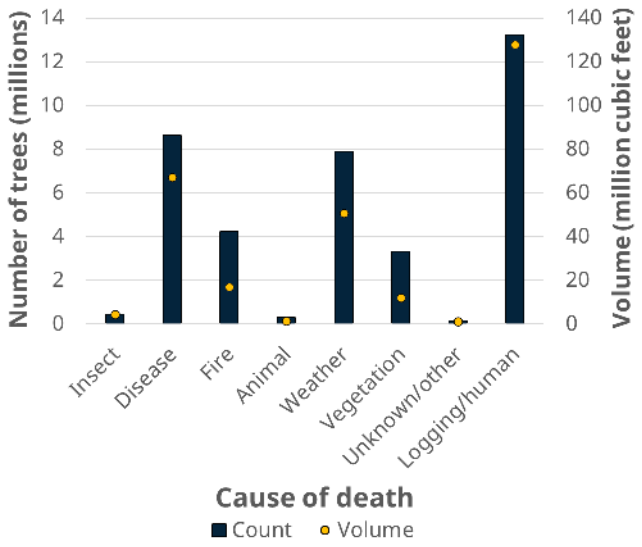

Figure 26—Proportion of mortality trees on forest land attributed to each cause of death, ranked by tree count and wood volume, Oklahoma, 2019.

For both live and standing dead trees, the amount of missing bole and top is recorded, in order to adjust calculations of volume and biomass. (US Forest Service photo by Kerry Dooley)

Differences in major causes of death are observed between species groups (fig. 27). Logging/human was an observed cause of death for most species groups but was the leading cause only in loblolly and shortleaf pine, and sweetgum species groups. Disease was the most common cause of death for oaks, hickory, and other eastern hard hardwoods; weather led for other eastern soft hardwoods and eastern noncommercial hardwoods; while only other eastern softwoods had fire as the most common cause of death.

When trees die it is often due to a combination of factors (e.g., tree vigor may be weakened by one factor, becoming more susceptible to secondary factors; management activities and/or salvage cuttings may take place to reduce or respond to other forest health issues at the site, etc.) but data collection crews only record one cause per tree.

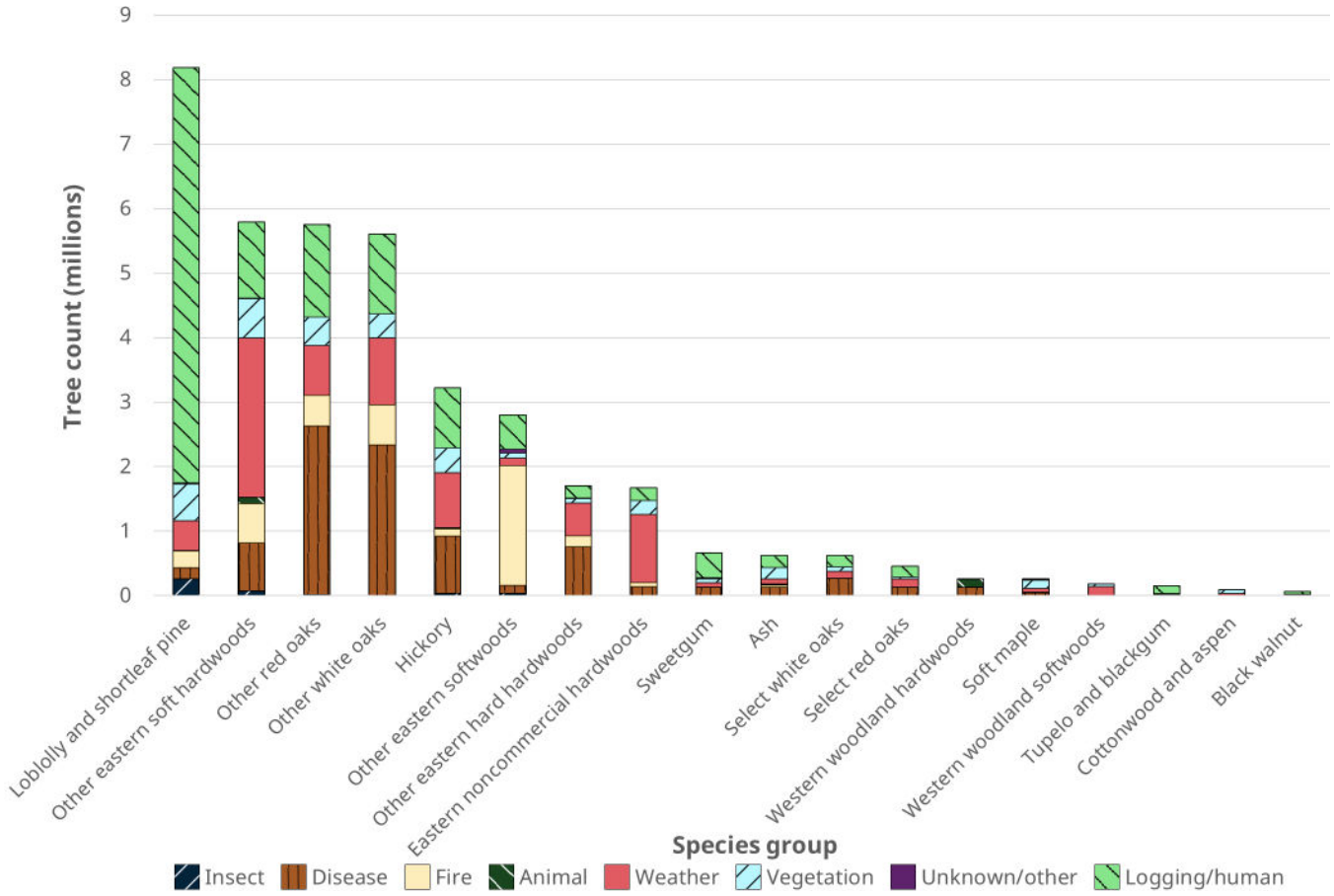

Figure 27—Count of mortality trees on forest land, by species group and cause of death, Oklahoma, 2019.

Forest health and timber quality indicators, such as dieback and broken tops, are collected by Forest Inventory and Analysis crews.

Cause of death information may therefore be more powerful when coupled with the damage or disturbance data, and with other forest health information from local, State, or federal agents focused on forest health. A comparison of broad causes of disturbance, damage, and cause of death—excluding the category of human caused (because it can mean quite different things as cause of death versus damage) and withholding the counts of stem decay (due to low threshold issue described previously)—are presented here (fig. 28). Note that cause of death is only recorded for plots/trees being remeasured while disturbance and damage are measured on all plots and trees.

Standing Dead Trees

Estimates of standing dead trees, at least 5.0 inches d.b.h./d.r.c., are also available. In this survey, there are 127.8 million standing dead trees on forest land (less than one-tenth the number of live trees). Post oak, blackjack oak, and black oak account for the top three species of standing dead by count, together accounting for 51 percent of total (fig. 29). This pattern is also seen when looking at standing dead trees by species group, where "other white oaks" and "other red oaks" comprise 53 percent of standing dead by count. By volume, 487.0 million cubic feet of net merchantable bole volume of standing dead trees on forest land were recorded in this survey (<5 percent of the live volume recorded the same period). Once again, "other white oaks" and "other red oaks" combined accounted for >50 percent of the total (fig. 30).

An important caveat to considering standing dead trees as a part of forest health data is that different trees are not necessarily equally likely to be left as standing dead, or to remain standing for as long. For example, smaller trees are more likely to burn, decompose, or otherwise be eliminated from qualifying as a standing dead tree.

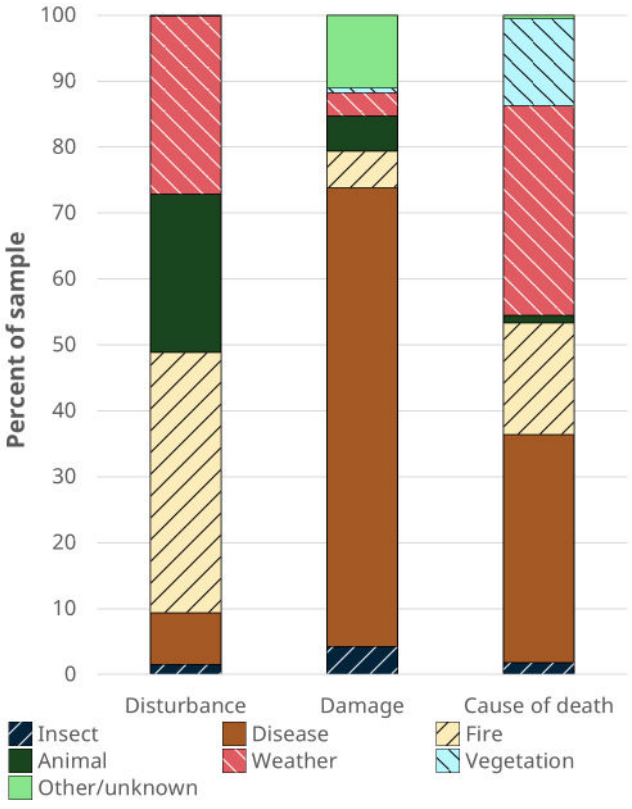

Figure 28—Comparison of recorded forest health issues between three main forest health measurement types on forest land, Oklahoma, 2019.

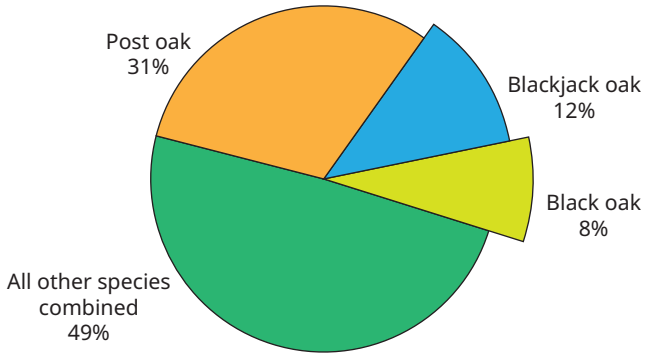

Figure 29—Percent of standing dead trees on forest land, by count of trees and species, Oklahoma, 2019.

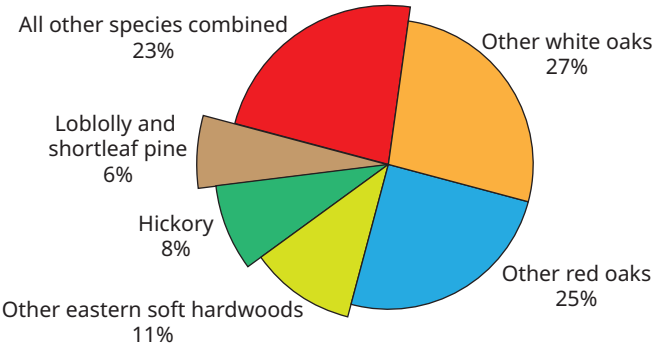

Figure 30—Percent of standing dead trees on forest land, by volume and species group, Oklahoma, 2019.

Nonnative Invasive Plants

All forested conditions are examined for nonnative invasive plant species from the SRS FIA invasive plants "watch list". Of the 5,622 plots in the invasive evaluation, 1,008 plots had at least one invasive species recorded, with 25 unique species of nonnative invasive plants observed. Note that multiple invasive species may occur in a single plot or forested condition, so total area or count by species will add to greater than total area with any species.

Looking at plots or acres with presence of invasive species from the SRS FIA "watch list" gives a sense of how widespread each invasive species is within the State. In 2019, Chinese lespedeza (*Lespedeza cuneata*) was the most frequently detected nonnative invasive species and occurred on 7.7 million acres of forest land (table 9). At 4.2

Table 9—Area of forest land with presence of invasive species, Oklahoma, 2019

Common name	Scientific name	Area with presence
		acres
Chinese lespedeza	*Lespedeza cuneata*	7,704,390
Japanese honeysuckle	*Lonicera japonica*	4,202,710
Rose group	*Rosa* spp.	3,868,440
Privets (nonJapanese or glossy)	*Ligustrum sinsense, L. vulgare, L. obtusifolium, L. ovalifolium*	3,230,080
Callery pear	*Pyrus calleryana*	375,830
Lespedezas (nonChinese)	*Lespedeza bicolor, L. thunbergii*	270,180
Tall fescue	*Schedonorus arundinaceus*	239,620
Winter creeper	*Euonymus fortunei*	181,220
Bush honeysuckle	*Lonicera* spp.	153,370
Mimosa, silktree	*Albizia julibrissin*	145,170
Saltcedar, tamarisk	*Tamarix* spp.	112,520
Tree of heaven	*Ailanthus altissima*	88,020
Crownvetch	*Securigera varia*	61,740
Japanese and glossy privets	*Ligustrum japonicum, L. lucidum*	56,570
Hardy orange	*Poncirus trifoliata*	39,340
Nepalese browntop	*Microstegium vimineum*	30,820
Yam group	*Dioscorea* spp.	21,280
Periwinkle, vinca	*Vinca* spp.	17,740
Chinaberrytree	*Melia azedarach*	16,870
Olive group	*Elaeagnus* spp.	14,470
Kudzu	*Pueraria montana* var. *lobata*	14,310
Ivy group	*Hedera* spp.	11,780
Burningbush	*Euonymus alatus*	7,090
Garlic mustard	*Alliaria petiolata*	6,780
Nandina, sacred bamboo	*Nandina domestica*	5,980

million acres of occurrence, Japanese honeysuckle (*Lonicera japonica*) was next most prevalent, followed by the rose group (*Rosa* spp.) at 3.9 million acres, and privets exclusive of Japanese and glossy (*Ligustrum sinsense*, *L. vulgare*, *L. obtusifolium*, *L. ovalifolium*) at 3.2 million acres of occurrence. From there, the prevalence of the remaining species declines sharply.

Because the data collection crews record the percent cover for each invasive species encountered, we can also estimate how many total acres are covered by each invasive species (table 10). This can give land managers and planners a better sense of not just how widespread an invasive species is, but also the intensity of its impact. For example, the rose group is more widespread (i.e., present on more plots and acres of land) than the privets group, but rose covers only half the area that privet does, indicating that while roses are prevalent, they may not be as intensely invasive as privets.

Table 10—Area of coverage by invasive species on forest land, Oklahoma, 2019

Common name	Scientific name	Area of coverage
		acres
Chinese lespedeza	*Lespedeza cuneata*	161,138
Japanese honeysuckle	*Lonicera japonica*	119,353
Privets (nonJapanese or glossy)	*Ligustrum sinsense, L. vulgare, L. obtusifolium, L. ovalifolium*	60,660
Rose group	*Rosa* spp.	29,060
Tall fescue	*Schedonorus arundinaceus*	6,597
Bush honeysuckle	*Lonicera* spp.	5,027
Saltcedar, tamarisk	*Tamarix* spp.	5,025
Callery pear	*Pyrus calleryana*	4,138
Tree of heaven	*Ailanthus altissima*	3,139
Mimosa, silktree	*Albizia julibrissin*	2,613
Winter creeper	*Euonymus fortunei*	1,999
Ivy group	*Hedera* spp.	1,900
Lespedezas (nonChinese)	*Lespedeza bicolor, L. thunbergii*	1,531
Nepalese browntop	*Microstegium vimineum*	1,159
hardy orange	*Poncirus trifoliata*	942
Chinaberrytree	*Melia azedarach*	909
Periwinkle, vinca	*Vinca* spp.	663
Crownvetch	*Securigera varia*	400
Japanese and glossy privets	*Ligustrum japonicum, L. lucidum*	316
Olive group	*Elaeagnus* spp.	294
Kudzu	*Pueraria montana* var. *lobata*	143
Yam group	*Dioscorea* spp.	106
Burningbush	*Euonymus alatus*	18
Garlic mustard	*Alliaria petiolata*	17
Nandina, sacred bamboo	*Nandina domestica*	15

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GLOSSARY

All-live tree—All living trees including saplings. All size classes, all tree classes, and both saw-log and nonsaw-log species are included. See: FIA tree species list in the field manual.

Average annual mortality—Average annual volume of trees ≥5.0 inches d.b.h. that died from human and natural causes during the intersurvey period, excluding those removed by harvesting, cultural operations, land clearing or changes in land use.

Average annual removals—Average annual volume of trees ≥5.0 inches d.b.h. removed from the inventory by harvesting, cultural operations (such as timber-stand improvement), land clearing, or changes in land use during the intersurvey period.

Average net annual growth—Average annual net change in volume of trees ≥5.0 inches d.b.h./d.r.c. without taking into account losses from removals (gross growth minus mortality) during the intersurvey period.

Basal area—The cross sectional area of a tree at breast height or of all the trees in a stand, usually expressed in square feet or square feet per acre.

Biomass—For the southern region, total aboveground biomass is estimated using allometric equations and is defined as the aboveground weight of wood and bark in live trees ≥1.0 inch d.b.h./d.r.c. from the ground to the tip of the tree, excluding all foliage (leaves, needles, buds, fruit, and limbs <0.5 inch in diameter). Biomass is expressed as oven-dry weight and the units are tons.

Note: the weight of wood and bark in limbs <0.5 inch in diameter is included in the biomass of small-diameter trees.

Additionally, biomass in the merchantable stem is estimated regionally, where the main and merchantable stems are defined as follows.

Main stem—The central portion of the tree extending from the ground level to the tip for timber species. Woodland species includes from ground level to the tips of all branches of qualifying stems. For timber species trees that fork, the main stem refers to the fork that would yield the most merchantable volume.

Merchantable stem—That portion of the main stem of a timber species tree from a 1-foot stump to a minimum 4-inch top diameter inside or outside bark depending on species. That portion of a woodland species tree from the d.r.c. measurements to the 1.5-inch diameters of all the qualifying stems.

Nationally aboveground and belowground biomass is estimated from each tree's sound volume using a Component Ratio Method that is consistently applied in all FIA regions.

Gross aboveground biomass—Total tree biomass excluding foliage and roots with no deductions made for rotten, missing, or broken-top cubic-foot cull.

Net aboveground biomass—Gross aboveground biomass minus deductions for missing cull, broken-top, and a reduction for a proportion of rotten cull for live or standing dead trees ≥5.0 inches d.b.h (Rotten cull will have a factor to reduce specific gravity separately from sound wood). Live and standing dead trees 1.0 to 4.9 inches only have deductions for broken-top cull. Additional deductions are made for dead trees ≥1.0 inch using decay class.

Belowground biomass—Coarse roots only.

Further, the total net aboveground biomass estimated using the Component Ratio Method is divided into the following components:

Top—That portion of the main stem of a timber species tree above the 4-inch top diameter. For woodland species, this component of the biomass is included with branches.

Branches—All the branches of a timber species tree excluding the main stem. That portion of all the branches of qualifying stems of woodland species above the 1.5-inch diameter ends.

Bole—See: Merchantable stem.

Stump—That portion of timber species below 1-foot to ground level. That portion of woodland species from all the d.r.c. measurements to ground level.

Blind check—A reinstallation done by a qualified inspection crew without production crew data on hand. The two datasets are maintained separately. Discrepancies between the two sets of data are not reconciled. See: Quality assurance and quality control.

Bole—Trunk or main stem of a tree. (See: Main stem.)

Census water—See: Land use.

Cold check—An inspection done either as part of the training process, or as part of the ongoing quality control program. The inspector has the completed data in-hand at the time of inspection. The inspection can include the whole plot or a subset of the plot. See: Quality assurance and quality control.

Components of change—Volume increment and decrement values that explain the change in inventory between two points in time. Components of change are usually expressed in terms of growing-stock or all-live merchantable volume. These components can be expressed as average annual values by dividing the component by the number of years in the measurement cycle. FIA inventories are designed to measure net change over time, as well as the individual components of change that constitute net change (e.g., growth, removals, mortality). Change estimates are computed for two sequential measurements of each inventory panel. Upon remeasurement, a new initial inventory is established for remeasurement at the next scheduled inventory. As such, computation of change components is not intended to span more than one inventory cycle. Rather, the change estimation process is repeated cycle by cycle. This simplifies field protocols and ensures that change estimation is based on short and relatively constant time intervals (e.g., 5 years). Change estimates for individual panels are combined across multiple panels in the same manner as panels are combined to obtain current inventory parameters such as total standing volume. FIA recognizes the following components of change as prescribed core variables; they usually are expressed in terms of growing-stock or all-live volume, where t is the initial inventory of a measurement cycle, and t +1 is the terminal inventory:

Cut—The volume of trees cut between time t and time t +1. The estimate is based on tree size at the midpoint of the measurement interval (includes cut growth). Tree size at the midpoint is modeled from tree size at time t. Trees felled or killed in conjunction with a harvest or silvicultural operation (whether they are utilized or not) are included, but trees on land diverted from forest to nonforest (diversions) are excluded.

Cut growth—The growth of cut trees between time t and the midpoint of the measurement interval. Tree size at the midpoint is modeled from tree size at time t. This term also includes the subsequent growth on ingrowth trees that achieve the minimum diameter threshold prior to being cut.

Diversion—The volume of trees on land diverted from forest to nonforest (or, for some analyses, this may also include land diverted to reserved forest land and other forest land), whether utilized or not, between time t and time t +1. The estimate is based on tree size at the midpoint of the measurement interval (includes diversion growth). Tree size at the midpoint is modeled from tree size at time t.

Diversion growth—The growth of diversion trees from time *t* to the midpoint of the measurement interval. Tree size at the midpoint is modeled from tree size at time *t*. This term also includes the subsequent growth on ingrowth trees that achieve the minimum diameter threshold prior to diversion.

Growth on ingrowth—The growth on trees between the time they grow across the minimum d.b.h./d.r.c. threshold and time *t* +1.

Ingrowth—The volume of trees at the time that they grow across the minimum d.b.h./d.r.c. threshold between time *t* and time *t* +1. The estimate is based on the size of trees at the d.b.h./d.r.c. threshold which is 1.0 inch for all-live trees and 5.0 inches for growing-stock trees. This term also includes trees that subsequently die (i.e., ingrowth mortality), are cut (i.e., ingrowth, cut), or diverted to nonforest (i.e., ingrowth diversion); as well as trees that achieve the minimum threshold after an area reverts to a forest land use (i.e., reversion ingrowth).

Mortality—The volume of trees that die from human or natural causes between time *t* and time *t* +1, besides those cut/harvested. The estimate is based on tree size at the midpoint of the measurement interval (includes mortality growth). Tree size at the midpoint is modeled from tree size at time *t*.

Mortality growth—The growth of non-harvested trees that died from human or natural causes between time *t* and the midpoint of the measurement interval. Tree size at the midpoint is modeled from tree size at time *t*. This term also includes the subsequent growth on ingrowth trees that achieve the minimum diameter threshold prior to mortality.

Reversion volume—The volume of trees on land that reverts from a nonforest land use to a forest land use (or, for some analyses, land that reverts from any source to timberland) between time *t* and time *t* +1. The estimate is based on tree size at the midpoint of the measurement interval. Tree size at the midpoint is modeled from tree size at time *t* +1.

Reversion growth—The growth of reversion trees from the midpoint of the measurement interval to time *t* +1. Tree size at the midpoint is modeled from tree size at time *t* +1. This term also includes the subsequent growth on ingrowth trees that achieve the minimum diameter threshold after reversion.

Survivor growth—The growth on trees tallied at time *t* that survive until time *t* +1.

The following components of change may be used to further quantify changes in growing-stock (but not all-live) volume:

Cull decrement—The net gain in growing-stock volume due to reclassification of cull trees to growing-stock trees between two surveys. Cull decrement is the volume of trees that were cull at time *t*, but growing stock at time *t* +1. The estimate is based on tree size at the midpoint of the measurement interval. Tree size at the midpoint can be modeled from tree at time *t*, time *t* +1, or both.

Cull decrement growth—The growth from the midpoint of the measurement interval to time *t* +1 on trees that were cull at time *t*, but growing stock at time *t* +1. Tree size at the midpoint can be modeled from tree size at time *t*, time *t* +1, or both.

Cull increment—The net reduction in growing-stock volume due to reclassification of growing stock trees to cull trees between two surveys. Cull increment is the volume of trees that were growing stock at time *t*, but cull at time *t* +1. The estimate is based on tree size at the midpoint of the measurement interval (includes cull increment growth). Tree size at the midpoint can be modeled from tree size at time *t*, time *t* +1, or both.

Cull increment growth—The growth to the midpoint of the measurement interval between time *t* and *t* +1 of trees that were growing stock at time *t*, but cull trees at time *t* +1. Tree size at the midpoint can be modeled from tree size at time *t*, time *t* +1, or both.

Condition class—The combination of discrete landscape and forest attributes that identify, define, and stratify the area associated with a plot. Examples of such attributes include forest type, stand origin, stand size, owner group, reserve status and stand density.

Crown—The part of a tree or woody plant bearing live branches or foliage.

Crown dieback—Recent mortality of branches with fine twigs, which begins at the terminal portion of a branch and proceeds toward the trunk. Dieback is only considered when it occurs in the upper and outer portions of the tree. Dead branches in the lower live crown are not considered as part of crown dieback, unless there is continuous dieback from the upper and outer crown down to those branches.

Cull—Portions of a tree that are unusable for industrial wood products because of rot, form, or other defect. Cull is further categorized as the following:

Broken-top cubic-foot cull—The broken-top proportion of a timber species tree's merchantable portion from the break to the actual or projected 4-inch top diameter outside bark, or to where the central stem forks, where all forks are <4.0 inches diameter. For trees 1.0 to 4.9 inches diameter this is the proportion of the main stem missing due to a broken-top.

Form board-foot cull—The part of the tree's saw-log portion that is sound but not usable for sawn wood products due to sweep, crook, forking, or other physical culls.

Percent board-foot cull—Percentage of sound and unsound board-foot volume, to the nearest 1 percent.

Rotten/missing cull— The proportion of a tree's merchantable portion that is in a decayed state and/or the proportion of a tree's merchantable portion that is missing or absent. Does not include any cull deductions above actual length for broken-top timber trees. Does include cull deductions above actual length for broken-top woodland species. Trees with d.b.h./d.r.c. <5.0 inches have a null value in this field.

Total board-foot cull—The proportion of a timber specie tree's saw-log portion sound or unsound but not useable for sawn wood products due to sweep, crook, forking, or other physical defects (form board-foot cull). Softwoods <9.0 inches d.b.h. and hardwoods <11.0 inches d.b.h. have a null value in this field.

Cull tree—Live trees that are unsuitable for the production of some roundwood products, now or prospectively. Cull trees can include those with decay (rotten cull) or poor form, limbiness, or splits (rough cull). Rough cull is suitable for pulpwood and other fiber products.

Cycle—One sequential and complete set of panels.

Diameter at breast height (d.b.h.)—The diameter for tree stem, located at 4.5 feet above the ground (breast height) on the uphill side of a tree. The point of diameter measurement may vary on abnormally formed trees.

Diameter at root collar (d.r.c.)—The diameter of a tree or stem measured at the ground line or stem root collar, measured outside of the bark. This method is used for woodland species; each stem is measured and the measurements of all stems are mathematically combined for the total tree d.r.c.

Diameter class—A classification of trees based on diameter outside bark, measured at breast height (d.b.h.) above the ground or at root collar (d.r.c.). Note: Diameter classes are commonly in 2-inch increments, beginning with 2-inches.

Each class provides a range of values with the class name being the approximate midpoint. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h.

Disturbance—Natural or human-caused disruption that is ≥1.0 acre in size and results in mortality and/or damage to 25 percent of all trees in a stand or 50 percent of an individual species' count or, in the case when the disturbance does not initially affect tree growth or health (e.g. grazing, browsing, flooding, etc.), affects 25 percent of the soil surface or understory vegetation. For initial forest plot establishment the disturbance must be within the last 5 years. For remeasured plots only those disturbances that have occurred since the previous inventory are recognized.

Diversion—See: Components of change.

Dry weight—The oven-dry weight of biomass.

Federal land—An ownership class of public lands owned by the U.S. Government. See: Ownership.

Fixed-radius plot—A circular sampled area with a specified radius in which all trees of a given size, shrubs, or other items are tallied.

Forest industry land—See: Ownership.

Forest land—Land that is at least 10 percent stocked by forest trees of any size, or land formerly having such tree cover, and is not currently developed for a nonforest use. The minimum area for classification as forest land is 1 acre and must also be at least 120 feet wide. Unimproved roads and trails, streams and other bodies of water, or natural clearings in forested areas shall be classified as forest, if <120 feet in width or 1.0 acre in size. Forest land is divided into timberland, reserved forest land, and other forest land.

Forest type—A classification of forest land based upon and named for the tree species that forms the plurality of live-tree stocking. A forest-type classification for a field location indicates the predominant live-tree species cover for the field location; hardwoods and softwoods are first grouped to determine predominant group, and forest type is selected from the predominant group.

Forest-type group—A combination of forest types that share closely associated species or site requirements.

Growing-stock trees—Live large-diameter timber species trees with one-third or more of the gross board-foot volume in the entire saw-log portion meeting grade, soundness, and size requirements or the potential to do so for medium-diameter and small-diameter trees. A growing-stock tree must have one 12-foot log or two noncontiguous 8-foot merchantable logs, now (large diameter) or prospectively (medium diameter and small diameter), to qualify as growing stock.

Hardwoods—Tree species belonging to the botanical divisions Magnoliophyta, Ginkgophyta, Cycadophyta, or Pteridophyta, usually angiospermic, dicotyledonous, broad-leaved and deciduous.

Soft hardwoods—Hardwood species with an average specific gravity of ≤0.50, such as gums, yellow-poplar, cottonwoods, red maple, basswoods, and willows.

Hard hardwoods—Hardwood species with an average specific gravity >0.50, such as oaks, hard maples, hickories, and beech.

Hot check—An inspection done as part of the training or quality assurance processes. The inspector is present on the plot with the cruiser and provides immediate feedback regarding data quality. Hot checks can be done on training plots or production plots. See: Quality assurance and quality control.

Land—The area of dry land and land temporarily or partly covered by water, such as marshes, swamps, and river flood plains.

Land cover—For lands with at least 10 percent coverage by vegetation, the dominant vegetation. For lands with <10 percent vegetative cover, other kind of material that covers the land surface. A given land cover may have many land uses and vice versa.

Land use—The purpose of human activity on the land; it is often, but not always, related to land cover.

Current southern regional land use categories are as follows:

Accessible timberland—Land that is within the population of interest, has access permitted, is on a subplot that can be occupied at subplot center, can safely be visited, and meets the criteria for forest land (see: forest land).

Accessible other forest land—Land that meets the definition of accessible forest land, but is incapable of producing 20 cubic feet per acre per year of industrial wood under natural conditions because of inferior site conditions. Inferior conditions include sterile soils, dry climate, poor drainage, high elevation, steepness and soil rockiness.

Agricultural land—Land managed for crops, pasture, or other agricultural use. The area must be at least 1.0 acre in size and 120 feet wide (with the exception of windbreak/shelterbelt, which has no minimum width). This land use includes cropland, pasture (improved through cultural practices), idle farmland, orchard, Christmas tree plantation, maintained wildlife opening, and windbreak/shelterbelt.

Rangeland—Land primarily composed of grasses, forbs, or shrubs. This includes lands vegetated naturally or artificially to provide a plant cover managed like native vegetation and does not meet the definition of pasture. The area must be at least ≥1.0 acre in size and ≤120 feet wide.

Developed—Land used primarily by humans for purposes other than forestry or agriculture. This land use includes cultural (business, industrial/commercial, residential, and other places of intense human activity), rights-of-way (improved roads, railway, power lines, maintained canal), recreation (parks, skiing, golf courses), and mining.

Other—Land parcels ≥1.0 acre in size and ≥120 feet wide, which do not fall into one of the uses described above. Examples include undeveloped beaches, barren land (rock, sand), marshes, bogs, ice, and snow. This land use includes nonvegetated, wetland, beach, and nonforest-chaparral.

Census water—Rivers and streams that are >200 feet wide and lakes, reservoirs and similar bodies of water ≥4.5 acres in size.

Noncensus water—Lakes, reservoirs, ponds and similar bodies of water ≥1.0 acre but <4.5 acres in size; and rivers, streams, canals and similar that are ≥30 feet wide, but ≤200 feet wide.

Nonsampled—Not sampled due to denied access, hazardous conditions, being outside the U.S. or other reasons.

Large-diameter trees—Softwoods ≥9.0 inches d.b.h. and hardwoods ≥11.0 inches d.b.h./d.r.c. These trees were called sawtimber-sized trees in prior surveys. See: Stand-size class.

Main stem—The central portion of the tree extending from the ground level to the tip for timber species. For woodland species the main stem extends from the ground level to the tips of all branches of qualifying stems. For timber species trees that fork, the main stem follows the fork that would yield the most merchantable volume.

Measurement quality objective (MQO)—A data user's estimate of the precision, bias, and completeness of data necessary to

satisfy a prescribed application (e.g., Resource Planning Act, assessments by State foresters, forest planning, forest health analyses). Describes the acceptable tolerance for each data element. MQOs consist of two parts: a statement of the tolerance and a percentage of time when the collected data are required to be within tolerance. MQOs can only be assigned where standard methods of sampling or field measurements exist, or where experience has established upper or lower bounds on precision or bias. MQOs can be set for measured data elements, observed data elements, and derived data elements.

Medium-diameter tree—Softwood timber species 5.0 to 8.9 inches d.b.h./d.r.c. and hardwood timber species 5.0 to 10.9 inches d.b.h./d.r.c. These trees were called poletimber-sized trees in prior surveys. See: Stand-size class.

Microplot—A circular, fixed-radius plot with a radius of 6.8 feet (0.003 acre) that is used to sample trees <5.0 inches d.b.h./d.r.c. Point center is 90 degrees and 12 feet offset from point center of each subplot.

Mortality—See: Components of change.

National forest land—See: Ownership.

Noncensus water—See: Land use.

Nonforest land—Land that does not support or has never supported, forests, and lands formerly forested where use for timber management is precluded by development for other uses. Includes areas used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining rights-of-way, power line clearings of any width, and noncensus water.

Nonindustrial private forest land—See: Ownership.

Operability—The viability of operating logging equipment in the vicinity of the condition. Operability classes are as follows:

No problems.

Seasonal access due to water conditions in wet weather.

Mixed wet and dry areas typical of multichanneled streams punctuated with dry islands.

Broken terrain, cliffs, gullies, outcroppings, etc., which would severely limit equipment, access, or use.

Year-round water problems (includes islands).

Slopes 20–40 percent.

Slopes >40 percent.

Other forest land—Forest land other than timberland and reserved forest land. It includes available and reserved forest land that is incapable of producing 20 cubic feet per acre per year of wood under natural conditions because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness.

Other public land—See: Ownership.

Other removals—The volume of trees removed from the inventory by cultural operations such as timber stand improvement, land clearing, and other changes in land use, resulting in the removal of the trees from timberland.

Ownership—A legal entity having control of a parcel or group of parcels of land. An ownership may be an individual; a combination of persons; a legal entity such as corporation, partnership, club, or trust; or a public agency.

Phase 1 (P1)—FIA activities related to remote sensing, the primary purpose of which is to label plots and obtain stratum weights for population estimates.

Phase 2 (P2)—FIA activities conducted on the network of ground plots. The primary purpose is to obtain field data that enable classification and summarization of area, tree, and other attributes associated with forest land uses.

Phase 3 (P3)—A subset of Phase 2 plots where additional attributes related to forest health are measured.

Plantation—Stands that currently show evidence of being planted or artificially seeded.

Poletimber-sized tree—Softwood timber species 5.0 to 8.9 inches d.b.h. and hardwood timber species 5.0 to 10.9 inches d.b.h. Now referred to as medium-diameter trees.

Private land—See: Ownership.

Productivity class—A classification of forest land in terms of potential annual cubic-foot volume growth per acre at culmination of mean annual increment (MAI) in fully stocked natural stands.

Quality assurance (QA)—The total integrated program for ensuring that the uncertainties inherent in FIA data are known and do not exceed acceptable magnitudes, within a stated level of confidence. Quality assurance encompasses the plans, specifications, and policies affecting the collection, processing, and reporting of data. It is the system of activities designed to provide program managers and project leaders with independent assurance that total system quality control is being effectively implemented.

Quality control (QC)—The routine application of prescribed field and laboratory procedures (e.g., random check cruising, periodic calibration, instrument maintenance, use of certified standards, etc.) in order to reduce random and systematic errors and ensure that data are generated within known and acceptable performance limits. Quality control also ensures the use of qualified personnel; reliable equipment and supplies; training of personnel; good field and laboratory practices; and strict adherence to standard operating procedures.

Reserved forest land—Forest land where management for the production of wood products is prohibited through statute or administrative designation. Examples include national forest wilderness areas and national parks and monuments.

Reversion—Land that reverts from a nonforest land use to a forest land use. See: Components of change.

Sapling—Live trees 1.0 to 4.9 inches d.b.h./d.r.c.

Seedling—Live trees <1.0 inch d.b.h./d.r.c. that are ≥6.0 inches in height for softwoods and ≥12.0 inches in height for hardwoods and >0.5 inch d.b.h./d.r.c. at ground level for longleaf pine.

Site index—The average total height that dominant and codominant trees in fully-stocked, even-aged stands will obtain at key ages (usually 25 or 50 years).

Small-diameter trees—Trees 1.0 to 4.9 inches in d.b.h./d.r.c. These were called sapling-seedling sized trees in prior surveys. See: Stand-size class.

Softwoods—Tree species belonging to the botanical division Coniferophyta, usually evergreen having needles or scale-like leaves.

Species group—A collection of species used for reporting purposes.

Stand—Vegetation or a group of plants occupying a specific area and sufficiently uniform in species composition, age arrangement, structure, and similar factors as to be distinguished from the vegetation on adjoining areas.

Stand age—A stand descriptor that indicates the average age of the live dominant and codominant trees in the predominant stand-size class of a condition.

Standing dead tree—A dead tree ≥5.0 inches d.b.h./d.r.c. that has a bole which has an unbroken actual length of at least 4.5 feet (1.0 feet for woodland species), and lean <45 degrees from vertical as measured from the base of the tree to 4.5 feet.

Stand origin—A classification of forest stands describing their means of growth origin.

Planted—Planted or artificially seeded.

Natural—No evidence of artificial regeneration.

Stand-size class—A classification of forest land based on the diameter-class distribution of live trees in the stand. See definitions of large-, medium-, and small-diameter trees.

Large-diameter stands—Stands at least 10 percent stocked with live trees, with ⅓ or more of total stocking in large- and medium-diameter trees, and with large-diameter tree stocking at least equal to medium-diameter tree stocking.

Medium-diameter stands—Stands at least 10 percent stocked with live trees, with ⅓ or more of total stocking in medium- and large-diameter trees, and with medium-diameter tree stocking exceeding large-diameter tree stocking.

Small-diameter stands—Stands at least 10 percent stocked with live trees, in which small-diameter trees account for at least ⅔ of total stocking.

Nonstocked stands—Stands <10 percent stocked with live trees.

Stand structure—The predominant canopy structure for the condition, only considering the vertical position of the dominant and codominant trees in the stand and not considering trees that are intermediate or overtopped. As a general rule, a different story should comprise 25 percent of the stand.

Nonstocked—The condition is <10 percent stocked.

Single-storied—Most of the dominant/codominant tree crowns form a single canopy (i.e., most of the trees are approximately the same height).

Multistoried—Two or more recognizable levels characterize the crown canopy. Dominant/codominant trees of many sizes (diameters and heights) for a multilevel canopy.

State, county, and municipal land—See: Ownership.

Stocking—1) At the tree level, stocking is the density value assigned to a sampled tree (usually in terms of numbers of trees or basal area per acre), expressed as a percent of the total tree density required to fully utilize the growth potential of the land. 2) At the stand level, stocking refers to the sum of the stocking values of all trees sampled.

Subplot—A circular area with a fixed horizontal radius of 24.0 feet (1/24 acre), primarily used to sample trees ≥5.0 inches at d.b.h./d.r.c.

Survivor tree—A sample tree alive at both the current and previous inventories.

Timberland—Forest land that is producing or capable of producing 20 cubic feet per acre or more per year of wood at culmination of MAI. Timberland excludes reserved forest lands.

Treatment—Forestry treatments are a form of human disturbance. The term treatment further implies that a silvicultural application has been prescribed. This does not include occasional stumps of unknown origin or sparse removals for firewood, Christmas trees, or other miscellaneous purposes. The area affected by any treatment must be at least 1.0 acre in size.

None—No observable treatment.

Cutting—The removal of trees from a stand. SRS FIA cutting categories are the following:

Clearcut harvest—The removal of the majority of the merchantable trees in a stand; residual stand stocking is under 50 percent.

Partial harvest—Removal primarily consisting of highest quality trees. Residual consists of lower quality trees because of high grading or selection harvest (e.g., uneven aged, group selection, high grading, species selection).

Seed-tree/shelterwood harvest—Crop trees are harvested leaving seed source trees either in a shelterwood or seed tree. Also includes the final harvest of the seed trees.

Commercial thinning—The removal of trees (usually of medium-diameter) from medium-diameter stands leaving sufficient stocking of growing-stock trees to feature in future stand development. Also included are thinning in large-diameter stands where medium-diameter trees have been removed to improve quality of those trees featured in a final harvest.

Timber stand improvement (cut trees only)—The cleaning, release, or other stand improvement involving noncommercial cutting applied to an immature stand that leaves sufficient stocking.

Salvage cutting—The harvesting of dead or damaged trees or of trees in danger of being killed by insects, disease, flooding, or other factors in order to save their economic value.

Site preparation—Clearing, slash burning, chopping, disking, ripping, bedding, or other practices clearly intended to prepare a site for either natural or artificial regeneration.

Artificial regeneration—Following a disturbance or treatment (usually cutting), a new stand where at least 50 percent of the live trees present resulted from planting or direct seeding.

Natural regeneration—Following a disturbance or treatment (usually cutting), a new stand where at least 50 percent of the live trees present (of any size) were established through the growth of existing trees and/or natural seeding or sprouting.

Other silvicultural treatment—The use of fertilizers, herbicides, girdling, pruning, or other activities designed to improve the commercial value of the residual stand, or chaining, which is a practice used on woodlands to encourage wildlife forage.

Tree—A woody perennial plant, typically large, carrying a more or less definite crown; sometimes defined as attaining a minimum diameter of 3 inches and a minimum height of 15 feet at maturity. For FIA, any plant on the tree list in the current field manual is measured as a tree.

Tree class—An assessment of the general quality of a tree.

Cull species—Species measured at d.r.c. and timber species (measured at d.b.h.) that would not produce saw-logs. See national list of nonsaw-log species.

Growing stock—Live large-diameter timber species (excludes nonsaw-log species) trees with one-third or more of the gross board-foot volume in the entire saw-log portion meeting grade, soundness, and size requirements or the potential to do so for medium-diameter trees. A growing-stock tree must have one 12-foot log or two noncontiguous 8-foot merchantable logs, now (large-diameter) or prospectively (medium-diameter), to qualify as growing stock.

Rough cull—Trees that do not contain at least one 12-foot saw log or two 8-foot logs now or prospectively, primarily because of roughness or poor form. Less than 1/3 of its gross board-foot volume meets size, soundness, and grade requirements and <1/2 of the cubic-foot cull is rotten or unsound.

Rotten cull—Trees that do not contain at least one 12-foot saw log or two 8-foot logs now or prospectively and/or do not meet grade specifications for percent sound primarily because of rot. All species not having 1/3 or more of its gross board-foot volume meeting size, soundness, and grade requirements, and over 1/2 of the cubic-foot cull is rotten or unsound.

Tree grade—A classification of the saw-log portion of large-diameter trees based on: (1) the grade of the butt log, or (2) the ability to produce at least one 12-foot or two 8-foot logs in the upper section of the saw-log portion. Tree grade is an indicator of quality; grade 1 is the best quality.

Volume—A measure of the solid content of the tree stem used to measure wood quantity.

Gross board-foot volume—Total board-foot volume of wood inside bark without deductions for total board-foot cull.

Gross cubic-foot volume—Total cubic-foot volume of wood inside bark without deductions for rotten, missing, or broken-top cull.

Net board-foot volume—Gross board-foot volume minus deductions for total board-foot cull.

Net cubic-foot volume—Gross cubic-foot volume minus deductions for rotten, missing, and broken-top cull.

APPENDIX 1—INVASIVE SPECIES WATCH LIST

Tree-of-heaven (*Ailanthus altissima*)
Silktree, Mimosa (*Albizia julibrissin*)
Paper mulberry (*Boussonetia papyrifera*)
Camphortree (*Cinnamomum camphora*)
Chinese parasoltree (*Firmiana simplex*)
Glossy buckthorn (*Frangula alnus*)
Chinaberry (*Melia azedarach*)
Princesstree, Royal paulownia (*Paulownia tomentosa*)
Trifoliate orange (*Poncirus trifoliate*)
Bradford pear (*Pyrus calleryana*)
Brazilian pepper (*Schinus terebinthifolious*)
Tamarix group: Saltcedar (*Tamarix* spp.)
Tallowtree, Popcorntree (*Triadica sebifera*)
Tungoil tree (*Vernicia fordii*)
Coral ardisia, Hen's eyes (*Ardisia crenata*)
Japanese barberry (*Berberis thunbergia*)
Silverthorn, Thorny olive (*Elaeagnus pungens*)
Olive group: Autumn olive, Russian olive (*Elaeagnus umbellate*, *E. angustifolia*)
Winged burning bush (*Euonymus alatus*)
Lespedeza group: Shrubby lespedeza, Thunberg's lespedeza (*Lespedeza* bicolor, *L. thunbergia*)
Privet group 1: Japanese privet, Glossy privet (*Ligustrum japonicum*, *L. lucidum*)
Privet group 2: Chinese privet, European privet, Border privet, California privet (*Ligustrum sinsense*, *L. vulgare*, *L. obtusifolium*, *L. ovalifolium*)
Bush honeysuckle group: Tatarian honeysuckle, Amur honeysuckle, Morrow's honeysuckle, Sweet-breath-of-sprint, Bell's honeysuckle (*Lonicera tatarica*, *L. maackii*, *L. morrowii*, *L. fragrantissima*, *Lonicera x bella*)
Leatherleaf mahonia (*Mahonia bealei*)
Sacred bamboo, Nandina (*Nandina domestica*)
Japanese knotweed (*Polygonum cuspidatum*)
Rose group: Multiflora rose, Macartney rose, Cherokee rose, other nonnative roses (*Rosa multiflora*, *R. bracteata*, *R. laevigata*, *Rosa* spp.)
Japanese meadowsweet (*Spiraea japonica*)
Five-leaf akebia, Chocolate vine (*Akebia quinate*)
Amur peppervine (*Ampelopsis brevipedunculata*)
Oriental bittersweet (*Celastrus orbiculatus*)
Yam group: Air yam, Chinese yam, Water yam (*Dioscorea bulbifera*, *D. oppositifolia*, *D. alata*)
Winter creeper (*Euonymus fortune*)
Ivy group: English ivy, Atlantic ivy, Colchis ivy (*Hedera helix*, *H. hibernica*, *H. colchica*)

Japanese honeysuckle (*Lonicera japonica*)
Kudzu (*Pueraria Montana*)
Vinca group: Common periwinkle, Bigleaf periwinkle (*Vinca minor*, *V. major*)
Wisteria group: Chinese wisteria, Japanese wisteria (*Wisteria sinensis*, *W. floribunda*)
Bamboo group: Golden bamboo, Bamboo spp. (*Phyllostachys aurea*, *Bambusa* spp.)
Chinese silvergrass (*Miscanthus sinensis*)
Cogongrass (*Imperata cylindrical*)
Nepalese browntop (*Microstegium vimineum*)
Tall fescue (*Schedonorus phoenix*)
Weeping lovegrass (*Eragrostis curvula*)
Japanese climbing fern (*Lygodium japonicum*)
Lirope group: Big blue lilyturf, Monkey grass (*Liriope muscari*, *L. spicata*)
Chinese lespedeza (*Lespedeza cuneata*)
Crownvetch (*Securigera varia*)
Garlic mustard (*Alliaria petiolate*)

APPENDIX 2—INVENTORY METHODS

The data for the Oklahoma's Forests, 2019 report were collected over several years using an annual collection method, where a portion of the plots are collected each year. Under the annual inventory system, a subset of the total number of plots are measured every year over a period or cycle, until all plots are collected. Each subset was selected on a subgrid which is slightly offset from the previous panel, so that each panel covers essentially the same sample area (both spatially and in intensity) as the prior panel.

For the two easternmost units (southeast, unit 1 and northeast, unit 2), data were collected over approximately 5 years starting in 2015, with roughly 20 percent of the plots measured each year. For the five survey units of central and western Oklahoma, data were collected over about 10 years, starting in 2010 with approximately 10 percent of the plots measured each year. This is the first report on a complete cycle of annualized data from central and western Oklahoma. The earliest collection date for the data in this report was January 13, 2010, and the last collection date was July 6, 2021.

After the initial cycle of plot visits for data collection, the plots are revisited and the newly collected data can be used to derive estimates of change. Estimates of growth, removals, and mortality are given as annual averages and reflect the change in status of trees measured in the previous inventory and then remeasured in this inventory. As this was the first inventory conducted under the new annualized inventory system for the western five survey units, these change estimations are only available for eastern Oklahoma.

Prior to 2008 (survey six and earlier) inventories were conducted as periodic surveys where all the plots were measured over a 1-2 year period. There were also differences in other areas of survey design and measurement methods (Harper and Johnson 2012).

Literature Cited

Harper, R.A.; Johnson, T.G. 2012. Forest Resources of East Oklahoma, 2008. Resour. Bull. SRS–187. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 112 p.

APPENDIX 3—SUPPLEMENTARY TABLES

Table A3.1—Area of forest land, timberland per forest-type group, Oklahoma, 2019

Forest-type group	Area (forest land)	Area (timberland)
	thousand acres	
Loblolly-shortleaf pine	1,241.4	1,180.4
Other eastern softwoods	509.8	78.9
Pinyon-juniper	83.1	0.0
Oak-pine	938.2	636.6
Oak-hickory	6,434.8	3,365.1
Oak-gum-cypress	185.6	139.4
Elm-ash-cottonwood	1,422.6	1,110.6
Maple-beech-birch	41.7	29.7
Aspen-birch	3.3	0.0
Other hardwoods	91.2	25.4
Woodland hardwoods	354.6	4.6
Exotic hardwoods	41.4	14.7
Nonstocked	370.5	75.8
All forest-type groups	11,718.3	6,661.1

Table A3.2—Area of forest land/timberland per forest-type group, forest types, Oklahoma, 2019

Forest-type group	Forest type	Area (forest land)	Area (timberland)
		thousand acres	
Loblolly-shortleaf pine	161 Loblolly pine	705.6	699.6
Loblolly-shortleaf pine	162 Shortleaf pine	535.8	480.7
Other eastern softwoods	171 Eastern redcedar	509.8	78.9
Pinyon-juniper	184 Juniper woodland	65.0	0.0
Pinyon-juniper	185 Pinyon / juniper woodland	18.0	0.0
Oak-pine	402 Eastern redcedar / hardwood	386.8	109.1
Oak-pine	404 Shortleaf pine / oak	454.7	430.8
Oak-pine	406 Loblolly pine / hardwood	96.6	96.6
Oak-hickory	501 Post oak / blackjack oak	3,436.5	1,265.9
Oak-hickory	503 White oak / red oak / hickory	1,258.3	1,011.5
Oak-hickory	504 White oak	124.6	117.2
Oak-hickory	505 Northern red oak	17.5	17.5

Table A3.2—Area of forest land/timberland per forest-type group, forest types, Oklahoma, 2019 (continued)

Forest-type group	Forest type	Area (forest land)	Area (timberland)
		thousand acres	
Oak-hickory	507 Sassafras / persimmon	230.4	87.1
Oak-hickory	508 Sweetgum / yellow-poplar	39.7	33.7
Oak-hickory	509 Bur oak	9.6	1.6
Oak-hickory	512 Black walnut	15.6	12.3
Oak-hickory	513 Black locust	53.5	25.9
Oak-hickory	515 Chestnut oak / black oak / scarlet oak	42.3	23.6
Oak-hickory	516 Cherry / white ash / yellow-poplar	67.9	55.8
Oak-hickory	517 Elm / ash / black locust	616.8	344.1
Oak-hickory	519 Red maple / oak	1.7	1.7
Oak-hickory	520 Mixed upland hardwoods	520.3	367.2
Oak-gum-cypress	601 Swamp chestnut oak / cherrybark oak	48.2	43.6
Oak-gum-cypress	602 Sweetgum / Nuttall oak / willow oak	91.3	79.6
Oak-gum-cypress	605 Overcup oak / water hickory	10.9	8.1
Oak-gum-cypress	608 Sweetbay / swamp tupelo / red maple	35.2	8.2
Elm-ash-cottonwood	702 River birch / sycamore	91.8	86.3
Elm-ash-cottonwood	703 Cottonwood	100.1	85.1
Elm-ash-cottonwood	704 Willow	80.5	54.4
Elm-ash-cottonwood	705 Sycamore / pecan / American elm	345.0	297.5
Elm-ash-cottonwood	706 Sugarberry / hackberry / elm / green ash	761.4	549.3
Elm-ash-cottonwood	707 Silver maple / American elm	13.8	13.8
Elm-ash-cottonwood	709 Cottonwood / willow	30.0	24.2
Maple-beech-birch	801 Sugar maple / beech / yellow birch	25.6	13.5
Maple-beech-birch	802 Black cherry	2.4	2.4
Maple-beech-birch	805 Hard maple / basswood	13.8	13.8
Aspen-birch	905 Pin cherry	3.3	0.0
Other hardwoods	962 Other hardwoods	91.2	25.4
Woodland hardwoods	973 Mesquite woodland	350.6	4.6
Woodland hardwoods	976 Miscellaneous woodland hardwoods	4.1	0.0
Exotic hardwoods	995 Other exotic hardwoods	41.4	14.7
Nonstocked	999 Nonstocked	370.5	75.8
All forest-type groups		11,718.3	6,661.1

Table A3.3—Number, volume, growth, removals, and mortality per species group on forest land, Oklahoma, 2019

Species group	Number all live [1]	Number growing-stock	Volume all live	Volume growing-stock	Growth all live	Growth growing-stock	Removals all live	Removals growing-stock	Mortality all live	Mortality growing-stock
	million		*million cubic feet*							
Loblolly and shortleaf pines	649.9	211.3	2,207.1	2,114.4	132.8	127.0	81.1	78.7	13.8	12.9
Other yellow pines	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other eastern softwoods	509.4	27.5	490.7	119.6	17.6	7.1	3.5	0.3	8.2	0.6
Woodland softwoods	14.5	0.0	51.6	0.0	5.2	0.0	0.0	0.0	0.5	0.0
Select white oaks	92.4	23.8	483.3	313.5	6.1	5.2	2.1	1.7	5.1	1.9
Select red oaks	71.9	14.1	371.1	267.3	16.5	11.9	1.8	0.8	2.4	1.0
Other white oaks	782.9	153.8	2,268.9	1,096.0	33.0	20.9	14.5	5.4	26.0	7.2
Other red oaks	547.1	45.2	1,108.8	670.3	7.3	9.1	12.4	7.3	32.9	15.5
Hickory	470.9	49.3	833.7	459.0	7.6	6.5	17.8	10.7	16.8	8.3
Hard maple	9.7	0.5	11.9	3.5	0.4	0.1	0.0	0.0	0.0	0.0
Soft maple	75.3	1.9	87.6	39.0	-0.3	0.3	0.2	0.0	3.3	1.1
Beech	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sweetgum	58.3	8.3	101.5	83.3	2.6	2.3	2.6	2.1	1.4	1.2
Tupelo and blackgum	43.5	3.8	60.1	44.5	1.6	1.2	0.9	0.3	0.2	0.1
Ash	172.6	18.4	376.9	199.2	10.0	6.7	1.6	0.7	3.5	1.5
Cottonwood and aspen	10.5	3.2	169.1	123.5	6.3	6.3	0.0	0.0	1.1	0.2
Basswood	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Black walnut	22.6	2.4	103.3	41.9	0.6	0.7	1.0	0.9	0.1	0.0
Other eastern soft hardwoods	1,309.1	49.2	1,276.4	423.9	27.2	16.2	20.4	4.6	29.4	2.7
Other eastern hard hardwoods	266.0	5.4	131.8	29.7	1.8	0.8	1.3	0.2	5.8	0.7
Eastern noncommercial hardwoods	380.0	0.0	163.5	0.0	4.4	0.0	1.5	0.0	2.9	0.0
Woodland hardwoods	43.8	0.0	49.8	0.0	0.7	0.0	0.4	0.0	0.3	0.0
Urban-specific hardwoods	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All species	5,540.5	617.9	10,347.3	6,028.5	281.1	222.2	163.0	113.8	153.4	54.8

[1] Trees with diameter ≥1.0 inches (all other values for trees ≥5.0 inches).

Table A3.4—Number, volume, growth, removals, mortality on timberland per species group, Oklahoma, 2019

Species group	Number all live [1]	Number growing-stock	Volume all live	Volume growing-stock	Growth all live	Growth growing-stock	Removals all live	Removals growing-stock	Mortality all live	Mortality growing-stock
	million		*million cubic feet*							
Loblolly and shortleaf pines	619.0	202.6	2,071.7	1,987.6	130.7	124.9	81.9	79.5	12.7	11.8
Other yellow pines	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other eastern softwoods	198.7	12.9	193.9	62.2	11.3	5.5	3.4	0.3	2.0	0.3
Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Select white oaks	75.8	21.4	414.0	283.3	4.4	4.7	2.8	2.2	4.4	1.8
Select red oaks	55.1	11.5	318.5	238.5	14.7	11.1	2.3	1.2	2.2	0.9
Other white oaks	344.7	80.3	1,167.1	674.8	24.8	17.6	28.1	10.1	16.6	5.6
Other red oaks	298.5	38.2	876.4	616.5	6.9	8.9	12.9	7.6	28.3	15.1
Hickory	346.6	39.6	704.0	400.3	6.1	6.5	18.2	11.0	14.0	7.2
Hard maple	7.3	0.4	9.0	2.7	0.3	0.1	0.0	0.0	0.0	0.0
Soft maple	71.0	1.9	86.8	38.5	-0.3	0.3	0.2	0.0	3.3	1.1
Beech	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sweetgum	56.4	7.2	83.5	66.8	2.5	2.2	2.6	2.1	1.1	0.9
Tupelo and blackgum	38.7	3.1	49.5	35.2	1.4	1.0	0.9	0.3	0.1	0.0
Ash	144.1	16.7	336.9	187.3	8.5	6.3	1.8	0.8	3.3	1.5
Cottonwood and aspen	7.3	2.8	155.8	121.3	5.4	6.3	0.0	0.0	1.1	0.2
Basswood	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Black walnut	15.5	2.0	77.4	38.2	0.9	0.7	1.0	0.9	0.1	0.0
Other eastern soft hardwoods	850.7	38.4	951.4	359.8	21.5	14.7	16.4	5.7	20.7	2.3
Other eastern hard hardwoods	164.4	4.5	92.6	26.6	5.1	0.7	0.5	0.1	3.1	0.7
Eastern noncommercial hardwoods	250.5	0.0	89.1	0.0	4.9	0.0	1.4	0.0	1.0	0.0
Woodland hardwoods	0.1	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Urban-specific hardwoods	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All species	3,553.6	483.7	7,683.2	5,139.4	249.0	211.3	174.3	122.0	113.8	49.4

[1] Trees with diameter ≥1.0 inches (all other values for trees ≥5.0 inches).

Table A3.5—Number, volume, growth, removals, mortality on sawtimber on timberland per species group, Oklahoma, 2019

Species group	Number softwood sawtimber [1]	Number hardwood sawtimber [2]	Volume sawtimber	Growth sawtimber	Removals sawtimber	Mortality sawtimber
	million		*million cubic feet*			
Other yellow pines	0.0	0.0	0.0	0.0	0.0	0.0
Other eastern softwoods	2.2	0.0	144.4	17.9	0.8	0.4
Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
Select white oaks	0.0	7.2	867.3	21.2	6.6	4.4
Select red oaks	0.0	5.2	973.1	58.2	1.4	2.5
Other white oaks	0.0	17.6	1,687.5	54.8	22.0	21.5
Other red oaks	0.0	15.2	2,314.4	43.7	22.2	58.4
Hickory	0.0	8.8	1,233.2	28.3	35.6	23.0
Hard maple	0.0	0.1	3.9	0.3	0.0	0.0
Soft maple	0.0	0.4	184.3	-0.5	0.0	5.4
Beech	0.0	0.0	0.0	0.0	0.0	0.0
Sweetgum	0.0	1.4	173.4	6.9	3.0	1.2
Tupelo and blackgum	0.0	0.8	92.1	2.8	0.3	0.0
Ash	0.0	4.3	502.4	19.6	0.4	4.8
Cottonwood and aspen	0.0	1.7	638.7	37.2	0.0	0.0
Basswood	0.0	0.0	0.0	0.0	0.0	0.0
Black walnut	0.0	1.1	125.1	1.3	3.5	0.0
Other eastern soft hardwoods	0.0	6.9	1,023.4	45.7	11.5	3.5
Other eastern hard hardwoods	0.0	0.4	33.6	-0.7	0.3	1.8
Eastern noncommercial hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
All species	78.6	70.9	17,767.2	815.7	465.0	169.9

[1] Trees with diameter ≥ 9.0 inches.

[2] Trees with diameter ≥ 11.0 inches.

Table A3.6—Percentage of area by land status, Oklahoma, 2019

Land status			Area
			percent
Accessible forest land	Unreserved forest land	Timberland	14.1
		Unproductive	10.2
		Total	24.3
	Reserved forest land	Productive	0.3
		Unproductive	0.2
		Total	0.5
	Total forest land		24.8
Nonforest and other area	Nonforest land		69.2
	Water	Noncensus water	0.6
		Census water	2.0
		Total	71.7
	Nonsampled area	Access denied	3.4
		Hazardous conditions	0.1
All area			100.0
Total area *(thousand acres)*			44,735.0

Table A3.7—Area by survey unit and land status, Oklahoma, 2019

Unit	Total area	All forest	Unreserved			Reserved			Nonforest land	Census water
			Total	Timberland	Unproductive	Total	Productive	Unproductive		
	thousand acres									
Southeast	6,989.3	4,116.2	3,997.3	3,412.3	585.0	118.9	112.5	6.3	2,643.0	230.1
Northeast	3,571.1	1,472.4	1,466.0	1,260.2	205.8	6.4	6.4	0.0	1,889.5	209.2
North Central	5,262.4	1,484.1	1,484.1	652.0	832.1	0.0	0.0	0.0	3,588.9	189.4
South Central	7,402.6	2,660.7	2,616.8	1,064.1	1,552.7	43.9	26.1	17.8	4,614.0	127.9
Southwest	11,201.6	1,502.9	1,461.1	183.9	1,277.2	41.9	0.0	41.9	9,573.7	125.0
High Plains	5,107.1	79.6	79.6	4.5	75.1	0.0	0.0	0.0	5,027.5	0.0
Great Plains	5,200.9	402.5	395.8	84.2	311.6	6.6	0.6	6.0	4,758.8	39.7
All survey units	44,735.0	11,718.3	11,500.6	6,661.1	4,839.5	217.7	145.7	72.0	32,095.4	921.3

Table A3.8—Area of forest land by ownership class and forest land status, Oklahoma, 2019

Ownership class		All forest land	Unreserved			Reserved		
			Total	Timberland	Unproductive	Total	Productive	Unproductive
		thousand acres						
U.S. Forest Service	National forest	349.6	317.8	304.9	12.8	31.9	31.9	0.0
	National Grassland	14.7	14.7	6.2	8.5	0.0	0.0	0.0
	Total	364.3	332.5	311.1	21.3	31.9	31.9	0.0
Other Federal	Bureau of Land Management	6.2	6.2	0.0	6.2	0.0	0.0	0.0
	U.S. Fish and Wildlife Service	84.5	0.0	0.0	0.0	84.5	36.8	47.7
	U.S. Dept. of Defense/Dept. of Energy	387.8	363.9	314.1	49.8	23.9	17.6	6.3
	Other Federal	30.8	24.8	17.0	7.8	5.9	5.9	0.0
	Total	509.2	394.9	331.1	63.8	114.3	60.3	54.0
State and local government	State	478.5	407.0	201.6	205.4	71.5	53.5	18.0
	Local	100.1	100.1	56.0	44.1	0.0	0.0	0.0
	Total	578.7	507.2	257.7	249.5	71.5	53.5	18.0
Forest industry	Corporate	741.2	741.2	741.2	0.0	0.0	0.0	0.0
	Individual	10.2	10.2	8.4	1.9	0.0	0.0	0.0
	Total	751.4	751.4	749.6	1.9	0.0	0.0	0.0
Nonindustrial private	Corporate	1,894.9	1,894.9	964.0	930.8	0.0	0.0	0.0
	Conservation/natural resources organization	43.2	43.2	30.7	12.5	0.0	0.0	0.0
	Unincorporated local partnership/association/club	49.8	49.8	26.9	22.9	0.0	0.0	0.0
	Native American	236.1	236.1	161.9	74.2	0.0	0.0	0.0
	Individual	7,290.7	7,290.7	3,828.2	3,462.4	0.0	0.0	0.0
	Total	9,514.6	9,514.6	5,011.7	4,502.9	0.0	0.0	0.0
All classes		11,718.3	11,500.6	6,661.1	4,839.5	217.7	145.7	72.0

Table A3.9—Area of forest land by forest-type group and site productivity, Oklahoma, 2019

Forest-type group		All classes	Site productivity class (cubic feet/acre/year)						
			0–19	20–49	50–84	85–119	120–164	165–224	225+
		thousand acres							
Softwood types	Loblolly-shortleaf pine	1,241.4	14.1	376.9	718.4	113.3	18.6	0.0	0.0
	Other eastern softwoods	509.8	430.9	63.4	9.6	5.9	0.0	0.0	0.0
	Pinyon-juniper	83.1	83.1	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	1,834.3	528.1	440.3	728.0	119.2	18.6	0.0	0.0
Hardwood types	Oak-pine	938.2	283.6	349.4	251.6	30.5	23.1	0.0	0.0
	Oak-hickory	6,434.8	3,022.2	2,701.6	632.9	57.4	14.7	6.0	0.0
	Oak-gum-cypress	185.6	31.7	52.3	38.5	56.7	6.4	0.0	0.0
	Elm-ash-cottonwood	1,422.6	293.3	903.7	172.0	31.7	9.4	0.0	12.5
	Maple-beech-birch	41.7	12.1	26.3	1.9	1.5	0.0	0.0	0.0
	Aspen-birch	3.3	3.3	0.0	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	91.2	65.8	21.0	4.4	0.0	0.0	0.0	0.0
	Woodland hardwoods	354.6	350.0	4.6	0.0	0.0	0.0	0.0	0.0
	Exotic hardwoods	41.4	26.8	11.4	1.7	0.0	1.6	0.0	0.0
	Total hardwoods	9,513.5	4,088.7	4,070.2	1,103.0	177.9	55.3	6.0	12.5
Nonstocked		370.5	294.8	60.1	15.7	0.0	0.0	0.0	0.0
All groups		11,718.3	4,911.5	4,570.6	1,846.7	297.1	73.9	6.0	12.5

Table A3.10—Area of timberland by forest-type group and site productivity, Oklahoma, 2019

Forest-type group		All classes	Site productivity class (cubic feet/acre/year)						
			0–19	20–49	50–84	85–119	120–164	165–224	225+
		thousand acres							
Softwood types	Loblolly-shortleaf pine	1,180.4	0.0	376.9	677.4	107.4	18.6	0.0	0.0
	Other eastern softwoods	78.9	0.0	63.4	9.6	5.9	0.0	0.0	0.0
	Total softwoods	1,259.2	0.0	440.3	687.0	113.3	18.6	0.0	0.0
Hardwood types	Oak-pine	636.6	0.0	337.4	245.6	30.5	23.1	0.0	0.0
	Oak-hickory	3,365.1	0.0	2,671.8	618.1	54.5	14.7	6.0	0.0
	Oak-gum-cypress	139.4	0.0	49.5	32.5	50.9	6.4	0.0	0.0
	Elm-ash-cottonwood	1,110.6	0.0	888.5	172.0	28.2	9.4	0.0	12.5
	Maple-beech-birch	29.7	0.0	26.3	1.9	1.5	0.0	0.0	0.0
	Other hardwoods	25.4	0.0	21.0	4.4	0.0	0.0	0.0	0.0
	Woodland hardwoods	4.6	0.0	4.6	0.0	0.0	0.0	0.0	0.0
	Exotic hardwoods	14.7	0.0	11.4	1.7	0.0	1.6	0.0	0.0
	Total hardwoods	5,326.1	0.0	4,010.4	1,076.2	165.6	55.3	6.0	12.5
Nonstocked		75.8	0.0	60.1	15.7	0.0	0.0	0.0	0.0
All groups		6,661.1	0.0	4,510.8	1,778.9	278.9	73.9	6.0	12.5

Table A3.11—Area of forest land by forest-type group and ownership group, Oklahoma, 2019

Forest-type group		All ownerships	U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		thousand acres					
Softwood types	Loblolly-shortleaf pine	1,241.4	196.0	12.1	54.0	493.7	485.6
	Other eastern softwoods	509.8	0.0	10.6	46.6	1.9	450.8
	Pinyon-juniper	83.1	0.0	0.0	39.3	0.0	43.7
	Total softwoods	1,834.3	196.0	22.7	140.0	495.6	980.0
Hardwood types	Oak-pine	938.2	56.7	32.8	43.6	108.2	696.9
	Oak-hickory	6,434.8	103.9	236.1	241.0	131.6	5,722.3
	Oak-gum-cypress	185.6	0.0	55.9	0.0	6.1	123.6
	Elm-ash-cottonwood	1,422.6	6.2	137.5	96.1	5.6	1,177.2
	Maple-beech-birch	41.7	0.0	0.0	0.0	3.0	38.8
	Aspen-birch	3.3	0.0	0.0	0.0	0.0	3.3
	Other hardwoods	91.2	0.0	0.0	18.4	0.0	72.8
	Woodland hardwoods	354.6	0.0	0.0	20.9	0.0	333.7
	Exotic hardwoods	41.4	0.0	6.4	6.4	0.0	28.6
	Total hardwoods	9,513.5	166.8	468.6	426.5	254.4	8,197.2
Nonstocked		370.5	1.5	18.0	12.3	1.5	337.3
All groups		11,718.3	364.3	509.2	578.7	751.4	9,514.6

Table A3.12—Area of timberland by forest-type group and ownership group, Oklahoma, 2019

Forest-type group		All ownerships	U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		thousand acres					
Softwood types	Loblolly-shortleaf pine	1,180.4	183.9	7.7	23.6	493.7	471.4
	Other eastern softwoods	78.9	0.0	5.9	1.7	0.0	71.3
	Total softwoods	1,259.2	183.9	13.6	25.3	493.7	542.7
Hardwood types	Oak-pine	636.6	44.6	17.2	20.7	108.2	445.9
	Oak-hickory	3,365.1	76.4	139.5	129.5	131.6	2,888.2
	Oak-gum-cypress	139.4	0.0	41.3	0.0	6.1	91.9
	Elm-ash-cottonwood	1,110.6	6.2	112.8	74.2	5.6	911.8
	Maple-beech-birch	29.7	0.0	0.0	0.0	3.0	26.7
	Other hardwoods	25.4	0.0	0.0	1.5	0.0	23.9
	Woodland hardwoods	4.6	0.0	0.0	0.0	0.0	4.6
	Exotic hardwoods	14.7	0.0	0.0	6.4	0.0	8.2
	Total hardwoods	5,326.1	127.2	310.8	232.4	254.4	4,401.3
Nonstocked		75.8	0.0	6.7	0.0	1.5	67.6
All groups		6,661.1	311.1	331.1	257.7	749.6	5,011.7

Table A3.13—Area of forest land by forest-type group and stand-size class, Oklahoma, 2019

Forest-type group		All classes	Stand-size class			
			Large diameter	Medium diameter	Small diameter	Nonstocked
		thousand acres				
Softwood types	Loblolly-shortleaf pine	1,241.4	688.1	313.6	239.7	0.0
	Other eastern softwoods	509.8	134.3	158.1	217.3	0.0
	Pinyon-juniper	83.1	52.0	6.0	25.1	0.0
	Total softwoods	1,834.3	874.5	477.7	482.1	0.0
Hardwood types	Oak-pine	938.2	388.0	331.6	218.6	0.0
	Oak-hickory	6,434.8	2,111.2	2,821.4	1,502.3	0.0
	Oak-gum-cypress	185.6	123.6	16.6	45.4	0.0
	Elm-ash-cottonwood	1,422.6	708.1	442.8	271.7	0.0
	Maple-beech-birch	41.7	14.5	6.3	21.0	0.0
	Aspen-birch	3.3	0.0	0.0	3.3	0.0
	Other hardwoods	91.2	14.9	28.8	47.4	0.0
	Woodland hardwoods	354.6	96.4	81.3	176.9	0.0
	Exotic hardwoods	41.4	17.1	3.4	21.0	0.0
	Total hardwoods	9,513.5	3,473.8	3,732.1	2,307.7	0.0
Nonstocked		370.5	0.0	0.0	0.0	370.5
All groups		11,718.3	4,348.2	4,209.8	2,789.8	370.5

Table A3.14—Area of forest land by forest-type group and stand age class, Oklahoma, 2019

Forest-type group		All classes	Stand-age class (years)											
			1–20	21–40	41–60	61–80	81–100	101–120	121–140	141–160	161–180	181–200	201+	Nonstocked
		thousand acres												
Softwood types	Loblolly-shortleaf pine	1,241.4	473.2	331.5	245.3	132.9	46.7	5.9	5.9	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	509.8	82.8	268.4	124.4	34.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pinyon-juniper	83.1	0.0	32.6	38.2	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	1,834.3	556.0	632.4	407.9	179.4	46.7	5.9	5.9	0.0	0.0	0.0	0.0	0.0
Hardwood types	Oak-pine	938.2	169.4	219.5	299.0	227.8	16.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0
	Oak-hickory	6,434.8	820.0	1,228.5	1,777.0	2,157.9	430.9	5.1	0.0	0.0	0.0	0.0	0.0	15.5
	Oak-gum-cypress	185.6	24.1	27.2	73.6	39.7	21.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Elm-ash-cottonwood	1,422.6	192.3	441.4	443.9	310.9	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Maple-beech-birch	41.7	14.8	13.6	10.9	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Aspen-birch	3.3	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	91.2	25.2	38.7	25.3	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Woodland hardwoods	354.6	107.9	154.3	81.6	10.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Exotic hardwoods	41.4	6.5	19.0	3.4	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2
	Total hardwoods	9,513.5	1,363.5	2,142.1	2,714.8	2,757.9	502.4	11.1	0.0	0.0	0.0	0.0	0.0	21.7
Nonstocked		370.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	370.5
All groups		11,718.3	1,919.5	2,774.6	3,122.6	2,937.3	549.1	17.0	5.9	0.0	0.0	0.0	0.0	392.2

Table A3.15—Area of timberland by forest-type group and stand age class, Oklahoma, 2019

Forest-type group		All classes	Stand age (years)											
			1–10	11–20	21–30	31–40	41–50	51–60	61–70	71–80	81–90	91–100	101+	Nonstocked
		thousand acres												
Softwood types	Loblolly-shortleaf pine	1,180.4	191.5	281.8	171.7	153.8	107.9	106.1	71.1	61.8	28.7	0.0	5.9	0.0
	Other eastern softwoods	78.9	1.6	8.7	15.0	24.6	11.9	12.1	0.0	5.0	0.0	0.0	0.0	0.0
	Total softwoods	1,259.2	193.1	290.5	186.7	178.4	119.8	118.2	71.1	66.8	28.7	0.0	5.9	0.0
Hardwood types	Oak-pine	636.6	53.9	59.9	43.6	84.6	67.7	136.0	102.1	77.0	0.0	11.8	0.0	0.0
	Oak-hickory	3,365.1	180.6	222.5	302.3	364.7	394.5	562.0	629.7	472.4	141.9	79.1	0.0	15.5
	Oak-gum-cypress	139.4	5.9	4.4	10.3	0.0	52.3	8.5	24.7	12.1	4.3	16.7	0.0	0.0
	Elm-ash-cottonwood	1,110.6	49.6	87.8	109.2	206.5	174.5	182.0	140.0	127.5	31.3	2.2	0.0	0.0
	Maple-beech-birch	29.7	7.1	7.7	1.5	1.6	1.7	7.7	0.0	2.4	0.0	0.0	0.0	0.0
	Other hardwoods	25.4	0.0	5.0	1.5	11.8	5.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
	Woodland hardwoods	4.6	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
	Exotic hardwoods	14.7	0.0	4.9	1.6	6.4	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	5,326.1	297.1	392.2	470.0	675.7	697.3	900.8	898.6	691.4	177.6	109.9	0.0	15.5
Nonstocked		75.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.8
All groups		6,661.1	490.2	682.7	656.7	854.1	817.2	1,019.1	969.7	758.2	206.4	109.9	5.9	91.3

Table A3.16—Area of forest land by forest-type group and stand origin, Oklahoma, 2019

Forest-type group		Total	Stand origin	
			Natural stands	Artificial regeneration
		thousand acres		
Softwood types	Loblolly-shortleaf pine	1,241.4	607.6	633.8
	Other eastern softwoods	509.8	508.2	1.6
	Pinyon-juniper	83.1	83.1	0.0
	Total softwoods	1,834.3	1,198.8	635.4
Hardwood types	Oak-pine	938.2	881.9	56.3
	Oak-hickory	6,434.8	6,368.4	66.5
	Oak-gum-cypress	185.6	185.6	0.0
	Elm-ash-cottonwood	1,422.6	1,422.6	0.0
	Maple-beech-birch	41.7	41.7	0.0
	Aspen-birch	3.3	3.3	0.0
	Other hardwoods	91.2	91.2	0.0
	Woodland hardwoods	354.6	354.6	0.0
	Exotic hardwoods	41.4	41.4	0.0
	Total hardwoods	9,513.5	9,390.7	122.8
Nonstocked		370.5	367.6	3.0
All groups		11,718.3	10,957.2	761.1

Table A3.17—Area of timberland by forest-type group and stand origin, Oklahoma, 2019

Forest-type group		Total	Stand origin	
			Natural stands	Artificial regeneration
		thousand acres		
Softwood types	Loblolly-shortleaf pine	1,180.4	552.5	627.9
	Other eastern softwoods	78.9	77.3	1.6
	Total softwoods	1,259.2	629.7	629.5
Hardwood types	Oak-pine	636.6	580.2	56.3
	Oak-hickory	3,365.1	3,303.1	62.0
	Oak-gum-cypress	139.4	139.4	0.0
	Elm-ash-cottonwood	1,110.6	1,110.6	0.0
	Maple-beech-birch	29.7	29.7	0.0
	Other hardwoods	25.4	25.4	0.0
	Woodland hardwoods	4.6	4.6	0.0
	Exotic hardwoods	14.7	14.7	0.0
	Total hardwoods	5,326.1	5,207.8	118.3
Nonstocked		75.8	72.8	3.0
All groups		6,661.1	5,910.3	750.8

Table A3.18—Area of forest land disturbed annually by forest-type group and disturbance class, Oklahoma, 2019

Forest-type group [2]		Disturbance class [1]							
		Insects	Disease	Weather	Fire	Domestic animals	Wild animals	Human	Other natural
		thousand acres							
Softwood types	Loblolly-shortleaf pine	1.7	0.0	4.4	33.7	0.8	0.5	1.2	0.0
	Other eastern softwoods	0.0	0.0	18.6	22.0	6.2	0.0	0.0	0.0
	Pinyon-juniper	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0
	Total softwoods	1.7	0.0	34.9	55.6	6.9	0.5	1.2	0.0
Hardwood types	Oak-pine	0.0	0.0	6.9	27.0	0.0	0.0	0.3	0.0
	Oak-hickory	3.3	17.9	89.9	183.0	39.4	5.5	6.6	0.0
	Oak-gum-cypress	0.0	1.2	26.7	2.5	0.0	0.0	4.2	0.0
	Elm-ash-cottonwood	0.0	0.0	106.0	8.1	18.3	16.3	1.4	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Aspen-birch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	0.0	0.0	2.8	1.9	0.0	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	14.8	0.0	8.3	0.0	1.4	0.0
	Exotic hardwoods	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	4.4	19.1	247.1	222.5	66.1	21.7	14.0	0.0
Nonstocked		0.0	0.0	1.3	1.1	5.6	0.0	0.0	0.0
All groups		6.1	19.1	283.3	279.3	78.6	22.2	15.1	0.0

[1] Based on current conditions.
[2] Based on past conditions.

Table A3.19—Area of timberland disturbed annually by forest-type group and disturbance class, Oklahoma, 2019

Forest-type group [2]		Disturbance class [1]							
		Insects	Disease	Weather	Fire	Domestic animals	Wild animals	Human	Other natural
		thousand acres							
Softwood types	Loblolly-shortleaf pine	1.7	0.0	2.8	30.9	0.8	0.5	1.2	0.0
	Other eastern softwoods	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
	Total softwoods	1.7	0.0	2.8	30.9	1.0	0.5	1.2	0.0
Hardwood types	Oak-pine	0.0	0.0	1.0	20.6	0.0	0.0	0.3	0.0
	Oak-hickory	3.3	10.5	54.1	92.7	26.2	2.4	4.9	0.0
	Oak-gum-cypress	0.0	1.2	21.5	2.5	0.0	0.0	0.0	0.0
	Elm-ash-cottonwood	0.0	0.0	83.4	1.0	7.4	5.1	1.4	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Exotic hardwoods	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	4.4	11.8	160.1	116.8	33.6	7.5	6.6	0.0
Nonstocked		0.0	0.0	0.0	1.1	0.2	0.0	0.0	0.0
All groups		6.1	11.8	162.9	148.7	34.8	8.0	7.8	0.0

[1] Based on current conditions.
[2] Based on past conditions.

Table A3.20—Area of forest land treated annually by forest-type group and treatment class (cutting), Oklahoma, 2019

Forest-type group [2]		Treatment class						
			Cutting [1]					
		Total treated	Final harvest	Partial harvest	Seed-tree/ shelterwood harvest	Commercial thinning	Timber stand improvement	Salvage cutting
		thousand acres						
Softwood types	Loblolly-shortleaf pine	45.6	24.2	1.1	0.0	17.9	2.4	0.0
	Other eastern softwoods	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	Pinyon-juniper	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	45.7	24.4	1.1	0.0	17.9	2.4	0.0
Hardwood types	Oak-pine	8.4	5.7	0.7	1.0	0.0	1.1	0.0
	Oak-hickory	12.0	7.5	0.2	1.5	1.9	0.0	1.0
	Oak-gum-cypress	1.9	0.9	0.0	0.0	0.0	1.0	0.0
	Elm-ash-cottonwood	3.3	2.0	1.0	0.0	0.0	0.3	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Aspen-birch	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Exotic hardwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	25.6	16.1	1.9	2.5	1.9	2.4	1.0
Nonstocked		0.0	0.0	0.0	0.0	0.0	0.0	0.0
All groups		71.3	40.4	2.9	2.5	19.7	4.8	1.0

[1] Based on current conditions.
[2] Based on past conditions.

Table A3.21—Area of forest land treated annually by forest-type group and treatment class (regeneration), Oklahoma, 2019

Forest-type group [1]		Treatment class [1]			
		Site preparation	Artificial regeneration	Natural regeneration	Other silvicultural
		thousand acres			
Softwood types	Loblolly-shortleaf pine	12.7	15.4	0.5	4.4
	Other eastern softwoods	0.0	0.0	0.0	3.9
	Pinyon-juniper	0.0	0.0	0.0	0.0
	Total softwoods	12.7	15.4	0.5	8.3
Hardwood types	Oak-pine	5.4	3.8	0.0	1.2
	Oak-hickory	6.2	3.6	0.5	5.2
	Oak-gum-cypress	0.0	0.0	0.0	0.0
	Elm-ash-cottonwood	0.0	0.0	1.5	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0
	Aspen-birch	0.0	0.0	0.0	0.0
	Other hardwoods	0.0	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0
	Exotic hardwoods	0.0	0.0	0.0	0.0
	Total hardwoods	11.6	7.4	2.0	6.4
Nonstocked		0.5	0.5	0.0	0.8
All groups		24.9	23.3	2.5	15.6

[1] Based on current conditions.

Table A3.22—Area of timberland treated annually by forest-type group and treatment class (cutting), Oklahoma, 2019

Forest-type group [2]		Treatment class [1]						
			Cutting					
		Total treated	Final harvest	Partial harvest	Seed-tree/ shelterwood harvest	Commercial thinning	Timber stand improvement	Salvage cutting
		thousand acres						
Softwood types	Loblolly-shortleaf pine	45.6	24.2	1.1	0.0	17.9	2.4	0.0
	Other eastern softwoods	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	Total softwoods	45.7	24.4	1.1	0.0	17.9	2.4	0.0
Hardwood types	Oak-pine	8.4	5.7	0.7	1.0	0.0	1.1	0.0
	Oak-hickory	11.0	7.3	0.2	1.5	1.0	0.0	1.0
	Oak-gum-cypress	1.9	0.9	0.0	0.0	0.0	1.0	0.0
	Elm-ash-cottonwood	3.3	2.0	1.0	0.0	0.0	0.3	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Exotic hardwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	24.5	15.8	1.9	2.5	1.0	2.4	1.0
Nonstocked		0.0	0.0	0.0	0.0	0.0	0.0	0.0
All groups		70.2	40.2	2.9	2.5	18.9	4.8	1.0

[1] Based on current conditions.
[2] Based on past conditions.

Table A3.23—Area of timberland treated annually by forest-type group and treatment class (regeneration), Oklahoma, 2019

Forest-type group [1]		Treatment class [1]			
		Site preparation	Artificial regeneration	Natural regeneration	Other silvicultural
		thousand acres			
Softwood types	**Loblolly-shortleaf pine**	12.7	15.4	0.5	4.4
	Other eastern softwoods	0.0	0.0	0.0	0.0
	Total softwoods	12.7	15.4	0.5	4.4
Hardwood types	**Oak-pine**	5.4	3.8	0.0	1.2
	Oak-hickory	6.2	3.6	0.5	5.2
	Oak-gum-cypress	0.0	0.0	0.0	0.0
	Elm-ash-cottonwood	0.0	0.0	1.5	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0
	Other hardwoods	0.0	0.0	0.0	0.0
	Exotic hardwoods	0.0	0.0	0.0	0.0
	Total hardwoods	11.6	7.4	2.0	6.4
Nonstocked		0.5	0.5	0.0	0.8
All groups		24.9	23.3	2.5	11.6

[1] Based on current conditions.

Table A3.24—Area of timberland by forest-type group and stand-size class, Oklahoma, 2019

Forest-type group		All classes	Stand-size class			
			Large diameter	Medium diameter	Small diameter	Nonstocked
		thousand acres				
Softwood types	Loblolly-shortleaf pine	1,180.4	644.2	300.9	235.2	0.0
	Other eastern softwoods	78.9	24.8	28.6	25.5	0.0
	Total softwoods	1,259.2	669.0	329.5	260.7	0.0
Hardwood types	Oak-pine	636.6	284.7	236.7	115.2	0.0
	Oak-hickory	3,365.1	1,430.9	1,244.3	689.9	0.0
	Oak-gum-cypress	139.4	102.7	12.0	24.7	0.0
	Elm-ash-cottonwood	1,110.6	613.1	315.5	182.0	0.0
	Maple-beech-birch	29.7	7.7	6.3	15.7	0.0
	Other hardwoods	25.4	2.1	10.9	12.4	0.0
	Woodland hardwoods	4.6	4.6	0.0	0.0	0.0
	Exotic hardwoods	14.7	6.4	1.6	6.6	0.0
	Total hardwoods	5,326.1	2,452.3	1,827.3	1,046.5	0.0
Nonstocked		75.8	0.0	0.0	0.0	75.8
All groups		6,661.1	3,121.3	2,156.9	1,307.2	75.8

Table A3.25—Number of live trees on forest land by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)														
			1.0–2.9	3.0–4.9	5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		million trees															
Softwood	Loblolly and shortleaf pines	649.9	270.6	151.7	83.6	58.8	34.2	21.9	14.4	7.9	4.6	1.4	0.7	0.0	0.0	0.0	0.0
	Other yellow pines	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	509.4	279.2	118.0	56.6	29.7	15.0	6.3	2.5	1.3	0.4	0.3	0.0	0.0	0.0	0.0	0.0
	Woodland softwoods	14.5	4.5	3.2	1.6	1.1	1.3	0.8	0.8	0.6	0.1	0.0	0.1	0.0	0.0	0.0	0.0
	Total softwoods	1,173.9	554.4	272.9	142.0	89.7	50.5	29.0	17.7	9.8	5.2	1.7	0.8	0.0	0.0	0.0	0.0
Hardwood	Select white oaks	92.4	38.3	16.5	10.5	8.1	6.0	4.8	3.1	1.6	1.5	0.8	0.8	0.2	0.1	0.0	0.0
	Select red oaks	71.9	36.3	12.5	6.5	4.6	3.5	2.7	2.3	1.0	1.0	0.4	0.6	0.4	0.2	0.0	0.0
	Other white oaks	782.9	291.0	147.6	127.3	90.3	57.1	30.4	18.1	10.4	5.7	2.7	1.6	0.5	0.1	0.0	0.0
	Other red oaks	547.1	298.0	122.2	50.1	29.8	17.8	11.0	7.0	4.3	2.3	1.7	1.9	0.5	0.3	0.1	0.1
	Hickory	470.9	277.3	92.7	44.4	23.7	12.8	7.8	5.1	3.1	1.5	0.9	0.9	0.5	0.2	0.1	0.0
	Hard maple	9.7	5.8	1.8	1.0	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	75.3	56.8	11.1	3.9	1.5	0.7	0.4	0.1	0.2	0.2	0.0	0.3	0.1	0.0	0.0	0.0
	Sweetgum	58.3	38.2	9.2	4.7	2.6	1.5	1.0	0.4	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	43.5	26.1	11.4	2.3	1.5	0.9	0.4	0.5	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0
	Ash	172.6	93.3	37.7	16.2	10.2	6.1	4.0	2.2	1.4	0.6	0.4	0.3	0.1	0.0	0.0	0.0
	Cottonwood and aspen	10.5	3.2	0.9	1.6	1.2	0.6	0.6	0.4	0.4	0.3	0.3	0.5	0.3	0.2	0.0	0.0
	Basswood	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	22.6	8.7	5.0	2.2	1.6	1.7	1.4	0.7	0.6	0.3	0.2	0.1	0.1	0.1	0.0	0.0
	Other eastern soft hardwoods	1,309.1	842.2	268.2	95.8	47.1	24.2	13.5	7.7	4.2	2.3	1.9	1.1	0.3	0.4	0.0	0.0
	Other eastern hard hardwoods	266.0	186.8	49.0	15.6	7.5	4.0	1.4	0.7	0.5	0.2	0.0	0.1	0.0	0.0	0.0	0.0
	Eastern noncommercial hardwoods	380.0	283.8	59.0	18.9	9.8	4.1	2.1	1.2	0.5	0.2	0.0	0.1	0.1	0.0	0.0	0.0
	Woodland hardwoods	43.8	12.7	11.9	9.4	5.2	2.3	1.1	0.6	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	9.4	8.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	4,366.6	2,507.5	857.9	410.5	245.0	143.6	82.8	50.2	28.8	16.6	9.7	8.5	3.2	1.6	0.4	0.2
All species		5,540.5	3,061.9	1,130.9	552.4	334.7	194.1	111.8	67.9	38.6	21.8	11.5	9.3	3.2	1.6	0.4	0.3

Table A3.26—Number of live trees on timberland by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)														
			1.0–2.9	3.0–4.9	5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		million trees															
Softwood	Loblolly and shortleaf pines	619.0	259.1	142.1	80.8	56.6	33.2	20.7	13.3	7.2	4.2	1.2	0.5	0.0	0.0	0.0	0.0
	Other yellow pines	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	198.7	115.5	44.1	20.2	10.0	5.1	2.0	0.9	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0
	Total softwoods	817.9	374.6	186.2	101.1	66.7	38.3	22.6	14.2	7.6	4.5	1.4	0.6	0.0	0.0	0.0	0.0
Hardwood	Select white oaks	75.8	31.0	13.2	9.2	6.6	5.1	4.2	2.5	1.4	1.2	0.7	0.5	0.2	0.1	0.0	0.0
	Select red oaks	55.1	27.8	9.3	4.4	3.7	2.7	2.4	1.9	0.8	0.9	0.3	0.5	0.4	0.2	0.0	0.0
	Other white oaks	344.7	132.2	68.1	48.2	38.3	24.1	13.9	8.2	5.5	3.4	1.2	1.1	0.3	0.1	0.0	0.0
	Other red oaks	298.5	161.7	66.6	23.4	13.9	10.4	7.4	5.5	3.5	1.9	1.6	1.8	0.5	0.2	0.1	0.1
	Hickory	346.6	206.2	64.6	31.4	17.9	9.7	6.3	4.2	2.6	1.2	0.8	0.9	0.4	0.2	0.1	0.0
	Hard maple	7.3	5.4	0.4	0.8	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	71.0	53.6	10.2	3.8	1.5	0.7	0.3	0.1	0.2	0.2	0.0	0.3	0.1	0.0	0.0	0.0
	Sweetgum	56.4	37.6	9.2	4.4	2.4	1.1	0.7	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	38.7	24.0	9.6	1.9	1.3	0.8	0.4	0.4	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
	Ash	144.1	77.8	31.8	13.3	8.2	5.2	3.3	1.9	1.3	0.5	0.4	0.3	0.1	0.0	0.0	0.0
	Cottonwood and aspen	7.3	1.5	0.5	1.2	1.1	0.6	0.5	0.4	0.3	0.2	0.3	0.5	0.2	0.2	0.0	0.0
	Basswood	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	15.5	6.9	3.1	1.3	1.1	0.8	0.8	0.5	0.4	0.2	0.2	0.1	0.1	0.1	0.0	0.0
	Other eastern soft hardwoods	850.7	543.9	171.6	63.3	33.2	17.1	9.2	4.8	2.9	1.7	1.3	0.8	0.3	0.4	0.0	0.0
	Other eastern hard hardwoods	164.4	117.1	27.8	9.7	5.1	2.7	1.0	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
	Eastern noncommercial hardwoods	250.5	192.4	38.3	10.6	5.2	1.9	1.0	0.5	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0
	Woodland hardwoods	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	8.5	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	2,735.7	1,627.5	524.8	227.0	139.5	83.2	51.6	31.8	19.7	12.0	7.0	7.1	2.7	1.3	0.4	0.2
All species		3,553.6	2,002.1	711.0	328.0	206.2	121.5	74.2	46.0	27.3	16.5	8.4	7.6	2.7	1.3	0.4	0.2

Table A3.27—Number of growing-stock trees on timberland by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)												
			5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		million trees													
Softwood	Loblolly and shortleaf pines	202.6	72.9	53.2	31.5	19.4	12.9	7.0	4.0	1.1	0.5	0.0	0.0	0.0	0.0
	Other eastern softwoods	12.9	7.4	3.4	1.3	0.4	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	Total softwoods	215.6	80.3	56.6	32.9	19.8	13.3	7.0	4.0	1.2	0.5	0.0	0.0	0.0	0.0
Hardwood	Select white oaks	21.4	6.2	4.4	3.7	2.9	2.0	1.0	0.8	0.3	0.2	0.1	0.0	0.0	0.0
	Select red oaks	11.5	2.3	2.2	1.8	1.8	1.4	0.4	0.6	0.1	0.4	0.3	0.2	0.0	0.0
	Other white oaks	80.3	25.9	22.6	14.3	7.6	4.6	2.9	1.4	0.6	0.4	0.1	0.0	0.0	0.0
	Other red oaks	38.2	9.5	7.3	6.3	4.6	4.0	2.3	1.5	1.1	1.3	0.3	0.1	0.0	0.0
	Hickory	39.6	15.0	10.2	5.6	3.1	2.3	1.5	0.7	0.5	0.4	0.2	0.0	0.0	0.0
	Hard maple	0.4	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	1.9	0.9	0.4	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	Sweetgum	7.2	3.2	1.7	0.9	0.6	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	3.1	1.2	0.6	0.6	0.2	0.3	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
	Ash	16.7	5.4	4.3	2.7	1.9	1.2	0.6	0.2	0.3	0.1	0.0	0.0	0.0	0.0
	Cottonwood and aspen	2.8	0.3	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.4	0.1	0.2	0.0	0.0
	Black walnut	2.0	0.2	0.4	0.4	0.4	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	Other eastern soft hardwoods	38.4	16.7	9.5	5.3	2.4	1.6	1.1	0.5	0.5	0.5	0.1	0.1	0.0	0.0
	Other eastern hard hardwoods	4.5	1.9	1.2	1.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	268.2	88.9	65.3	43.1	26.1	18.4	10.6	6.2	3.8	3.7	1.2	0.6	0.2	0.2
All species		483.7	169.2	121.9	75.9	45.8	31.6	17.6	10.2	5.0	4.2	1.3	0.6	0.2	0.2

Table A3.28—Net [1] volume of live trees on forest land by ownership class and land status, Oklahoma, 2019

Ownership class		All forest land	Unreserved			Reserved		
			Total	Timberland	Unproductive	Total	Productive	Unproductive
		million cubic feet						
U.S. Forest Service	National forest	812.2	740.6	726.1	14.4	71.6	71.6	0.0
	National Grassland	2.4	2.4	1.0	1.4	0.0	0.0	0.0
	Total	814.6	743.0	727.1	15.8	71.6	71.6	0.0
Other Federal	Bureau of Land Management	1.3	1.3	0.0	1.3	0.0	0.0	0.0
	U.S. Fish and Wildlife Service	92.2	0.0	0.0	0.0	92.2	73.2	19.0
	U.S. Dept. of Defense/Dept. of Energy	531.8	503.9	465.8	38.1	27.9	22.1	5.8
	Other Federal	21.3	16.1	11.4	4.7	5.2	5.2	0.0
	Total	646.6	521.3	477.2	44.1	125.3	100.5	24.8
State and local government	State	417.3	307.2	223.1	84.1	110.2	96.1	14.1
	Local	100.2	100.2	66.1	34.1	0.0	0.0	0.0
	Total	517.5	407.4	289.3	118.1	110.2	96.1	14.1
Forest industry	Corporate	821.3	821.3	821.3	0.0	0.0	0.0	0.0
	Individual	5.8	5.8	5.8	0.0	0.0	0.0	0.0
	Total	827.1	827.1	827.1	0.0	0.0	0.0	0.0
Nonindustrial private	Corporate	1,424.6	1,424.6	991.7	432.9	0.0	0.0	0.0
	Conservation/natural resources organization	33.2	33.2	25.6	7.5	0.0	0.0	0.0
	Unincorporated local partnership/association/club	39.2	39.2	25.3	13.9	0.0	0.0	0.0
	Native American	236.4	236.4	199.8	36.6	0.0	0.0	0.0
	Individual	5,808.1	5,808.1	4,120.1	1,688.0	0.0	0.0	0.0
Total		7,541.5	7,541.5	5,362.5	2,178.9	0.0	0.0	0.0
All classes		10,347.3	10,040.2	7,683.2	2,357.0	307.1	268.2	38.9

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.29—Net [1] volume of live trees on forest land by forest-type group and stand-size class, Oklahoma, 2019

Forest-type group		All classes	Stand-size class			
			Large diameter	Medium diameter	Small diameter	Nonstocked
		million cubic feet				
Softwood types	**Loblolly-shortleaf pine**	1,903.8	1,468.4	410.6	24.8	0.0
	Other eastern softwoods	248.0	114.8	107.4	25.8	0.0
	Pinyon-juniper	54.1	52.0	0.9	1.2	0.0
	Total softwoods	2,206.0	1,635.2	519.0	51.8	0.0
Hardwood types	**Oak-pine**	958.0	636.7	288.3	33.0	0.0
	Oak-hickory	5,118.9	2,878.8	2,065.0	175.0	0.0
	Oak-gum-cypress	321.7	299.3	11.7	10.7	0.0
	Elm-ash-cottonwood	1,616.2	1,237.1	349.5	29.6	0.0
	Maple-beech-birch	20.3	15.0	5.0	0.3	0.0
	Aspen-birch	0.6	0.0	0.0	0.6	0.0
	Other hardwoods	30.6	14.1	11.3	5.1	0.0
	Woodland hardwoods	49.9	28.3	14.7	6.9	0.0
	Exotic hardwoods	15.4	12.3	2.3	0.8	0.0
	Total hardwoods	8,131.7	5,121.8	2,747.9	262.1	0.0
Nonstocked		9.6	0.0	0.0	0.0	9.6
All groups		10,347.3	6,756.9	3,266.8	313.9	9.6

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.30—Net [1] volume of live trees on timberland by forest-type group and stand-size class, Oklahoma, 2019

Forest-type group		All classes	Stand-size class			
			Large diameter	Medium diameter	Small diameter	Nonstocked
		million cubic feet				
Softwood types	Loblolly-shortleaf pine	1,778.8	1,363.3	393.6	21.9	0.0
	Other eastern softwoods	56.1	29.0	23.6	3.5	0.0
	Total softwoods	1,835.0	1,392.3	417.3	25.4	0.0
Hardwood types	Oak-pine	773.2	532.1	223.1	18.0	0.0
	Oak-hickory	3,314.9	2,189.4	1,033.0	92.6	0.0
	Oak-gum-cypress	289.2	269.4	11.2	8.5	0.0
	Elm-ash-cottonwood	1,429.5	1,136.4	272.0	21.1	0.0
	Maple-beech-birch	17.3	12.2	5.0	0.1	0.0
	Other hardwoods	9.7	1.6	6.0	2.1	0.0
	Woodland hardwoods	5.0	5.0	0.0	0.0	0.0
	Exotic hardwoods	7.1	5.8	0.9	0.5	0.0
	Total hardwoods	5,845.9	4,151.9	1,551.2	142.8	0.0
Nonstocked		2.3	0.0	0.0	0.0	2.3
All groups		7,683.2	5,544.3	1,968.4	168.2	2.3

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.31—Net [1] volume of live trees on forest land by species group and ownership group, Oklahoma, 2019

Species group		All ownerships	Ownership group				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet					
Softwood	Loblolly and shortleaf pines	2,207.1	576.6	28.4	116.7	606.0	879.5
	Other yellow pines	0.3	0.0	0.0	0.0	0.0	0.3
	Other eastern softwoods	490.7	4.9	24.5	32.9	4.3	424.2
	Woodland softwoods	51.5	0.0	0.0	7.5	0.0	44.1
	Total softwoods	2,749.7	581.4	52.9	157.1	610.3	1,348.1
Hardwood	Select white oaks	483.2	60.9	9.0	35.0	50.6	327.7
	Select red oaks	371.1	23.4	50.2	23.8	22.6	251.0
	Other white oaks	2,268.9	59.7	136.8	91.2	17.9	1,963.3
	Other red oaks	1,108.8	11.1	91.7	31.4	34.0	940.6
	Hickory	833.7	35.7	57.5	46.4	26.0	668.1
	Hard maple	11.9	0.2	2.0	0.4	0.9	8.4
	Soft maple	87.6	5.0	3.3	18.6	13.1	47.6
	Sweetgum	101.5	9.1	19.8	0.0	15.4	57.1
	Tupelo and blackgum	60.1	17.0	0.7	0.1	3.6	38.6
	Ash	376.9	0.9	59.4	17.8	11.8	287.1
	Cottonwood and aspen	169.1	0.0	36.8	9.7	0.0	122.5
	Basswood	0.1	0.0	0.0	0.0	0.0	0.1
	Black walnut	103.3	0.0	2.0	3.1	0.0	98.2
	Other eastern soft hardwoods	1,276.4	8.2	116.1	62.3	17.7	1,072.1
	Other eastern hard hardwoods	131.8	1.6	6.1	11.3	1.8	111.0
	Eastern noncommercial hardwoods	163.5	0.2	2.3	6.3	1.4	153.2
	Woodland hardwoods	49.8	0.0	0.1	3.0	0.0	46.6
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	7,597.6	233.2	593.8	360.5	216.8	6,193.4
All species		10,347.3	814.6	646.6	517.5	827.1	7,541.5

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.32—Net [1] volume of live trees on timberland by species group and ownership group, Oklahoma, 2019

Species group		All ownerships	Ownership group				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet					
Softwood	Loblolly and shortleaf pines	2,071.7	544.1	25.0	49.5	606.0	847.0
	Other yellow pines	0.3	0.0	0.0	0.0	0.0	0.3
	Other eastern softwoods	193.9	1.3	13.1	0.5	4.3	174.8
	Total softwoods	2,265.9	545.4	38.1	50.0	610.3	1,022.1
Hardwood	Select white oaks	414.0	54.1	5.3	19.0	50.6	285.0
	Select red oaks	318.5	10.5	48.9	20.9	22.6	215.5
	Other white oaks	1,167.1	50.9	78.6	43.5	17.9	976.1
	Other red oaks	876.4	10.2	74.7	17.3	34.0	740.2
	Hickory	704.0	30.3	43.1	41.2	26.0	563.4
	Hard maple	9.0	0.2	0.0	0.0	0.9	7.9
	Soft maple	86.8	4.2	3.3	18.6	13.1	47.6
	Sweetgum	83.5	6.7	4.2	0.0	15.4	57.1
	Tupelo and blackgum	49.5	6.7	0.7	0.0	3.6	38.5
	Ash	336.9	0.4	57.6	15.0	11.8	252.2
	Cottonwood and aspen	155.8	0.0	36.1	9.5	0.0	110.2
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	77.4	0.0	0.3	2.5	0.0	74.6
	Other eastern soft hardwoods	951.4	7.2	79.5	40.5	17.7	806.5
	Other eastern hard hardwoods	92.6	0.0	4.8	8.4	1.8	77.6
	Eastern noncommercial hardwoods	89.1	0.2	1.8	2.8	1.4	83.0
	Woodland hardwoods	5.0	0.0	0.0	0.0	0.0	5.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	5,417.3	181.7	439.0	239.3	216.8	4,340.4
All species		7,683.2	727.1	477.2	289.3	827.1	5,362.5

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.33—Net [1] volume of live trees on forest land by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)												
			5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		million cubic feet													
Softwood	Loblolly and shortleaf pines	2,207.1	168.4	305.6	343.4	369.7	371.1	280.3	222.9	84.5	55.9	5.3	0.0	0.0	0.0
	Other yellow pines	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	490.7	102.9	118.0	107.7	69.1	38.8	28.1	11.0	12.2	2.8	0.0	0.0	0.0	0.0
	Woodland softwoods	51.5	1.8	2.6	6.7	4.9	10.7	10.4	2.4	1.7	3.3	0.0	3.1	0.0	3.9
	Total softwoods	2,749.7	273.3	426.5	457.8	443.6	420.7	318.7	236.2	98.3	62.1	5.3	3.1	0.0	3.9
Hardwood	Select white oaks	483.2	24.7	43.3	58.5	73.9	68.4	43.0	58.5	37.9	45.9	15.1	14.1	0.0	0.0
	Select red oaks	371.1	15.4	24.0	33.1	41.2	50.3	28.6	39.4	18.4	36.9	37.6	25.9	6.5	13.9
	Other white oaks	2,268.9	233.8	374.3	419.8	346.2	284.6	222.7	161.7	92.7	76.5	42.8	10.2	3.7	0.0
	Other red oaks	1,108.8	84.7	115.0	130.7	137.1	134.9	116.0	84.7	85.0	119.0	50.5	26.3	8.9	16.0
	Hickory	833.7	76.4	102.9	105.5	105.6	101.1	90.1	53.9	44.6	58.6	47.1	16.9	22.4	8.5
	Hard maple	11.9	2.1	1.6	2.6	2.3	1.8	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
	Soft maple	87.6	9.1	7.1	6.7	5.4	1.2	7.2	7.5	0.0	20.1	8.2	5.7	9.4	0.0
	Sweetgum	101.5	10.3	14.5	17.5	17.1	12.7	14.3	10.4	3.8	1.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	60.1	5.6	8.0	9.2	6.3	11.3	6.6	3.8	2.4	6.9	0.0	0.0	0.0	0.0
	Ash	376.9	38.0	53.4	56.3	57.5	47.1	41.3	21.3	22.5	20.7	7.4	4.3	7.2	0.0
	Cottonwood and aspen	169.1	3.4	6.2	6.5	8.8	9.8	10.5	12.2	18.3	38.7	18.4	21.5	4.9	9.9
	Basswood	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	103.3	4.3	7.4	12.6	16.3	12.9	13.7	8.5	9.2	5.9	6.8	5.8	0.0	0.0
	Other eastern soft hardwoods	1,276.4	191.0	201.1	188.3	160.2	131.6	106.2	68.4	79.9	66.0	29.6	34.8	7.8	11.7
	Other eastern hard hardwoods	131.8	27.5	30.5	27.8	15.1	11.4	10.1	4.8	0.7	2.2	1.8	0.0	0.0	0.0
	Eastern noncommercial hardwoods	163.5	28.8	35.0	27.1	21.9	15.9	10.1	5.7	1.3	6.1	8.0	3.6	0.0	0.0
	Woodland hardwoods	49.8	8.1	9.2	7.7	6.0	5.2	2.3	3.4	1.7	3.4	2.8	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	7,597.6	763.2	1,033.4	1,110.0	1,020.6	900.2	722.5	544.1	419.9	508.0	275.8	169.1	70.8	60.1
All species		10,347.3	1,036.5	1,459.9	1,567.8	1,464.3	1,321.0	1,041.2	780.3	518.3	570.1	281.1	172.2	70.8	64.0

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.34—Net [1] volume of live trees on timberland by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)												
			5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		million cubic feet													
Softwood	Loblolly and shortleaf pines	2,071.7	163.2	295.4	333.2	350.5	344.0	255.3	206.3	73.9	44.6	5.3	0.0	0.0	0.0
	Other yellow pines	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	193.9	40.3	43.9	41.4	24.1	17.1	9.8	6.7	7.6	2.8	0.0	0.0	0.0	0.0
	Total softwoods	2,265.9	203.7	339.6	374.6	374.6	361.1	265.2	213.0	81.5	47.4	5.3	0.0	0.0	0.0
Hardwood	Select white oaks	414.0	22.2	36.0	50.6	66.9	58.0	39.1	51.8	33.0	33.1	13.3	10.1	0.0	0.0
	Select red oaks	318.5	10.7	19.9	25.5	36.5	41.7	21.6	35.8	15.1	31.1	37.6	22.6	6.5	13.9
	Other white oaks	1,167.1	96.3	173.7	198.1	177.3	143.2	132.6	106.4	46.4	56.5	24.8	8.1	3.7	0.0
	Other red oaks	876.4	46.7	64.6	91.2	102.8	113.8	97.9	74.0	77.9	114.3	50.5	17.8	8.9	16.0
	Hickory	704.0	56.3	81.9	82.7	89.1	86.6	76.9	47.4	40.9	55.9	38.4	16.9	22.4	8.5
	Hard maple	9.0	1.9	1.1	1.6	1.2	1.8	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
	Soft maple	86.8	9.0	6.9	6.7	4.9	1.2	7.2	7.5	0.0	20.1	8.2	5.7	9.4	0.0
	Sweetgum	83.5	9.5	13.1	11.9	13.1	10.5	11.8	8.8	3.8	1.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	49.5	4.8	6.8	8.6	5.1	8.7	3.5	2.6	2.4	6.9	0.0	0.0	0.0	0.0
	Ash	336.9	33.0	44.8	48.8	49.4	42.5	38.5	19.3	21.1	20.7	7.4	4.3	7.2	0.0
	Cottonwood and aspen	155.8	2.3	5.6	6.5	7.4	9.8	8.0	10.1	16.9	38.7	14.1	21.5	4.9	9.9
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	77.4	2.8	5.0	6.7	10.0	11.0	9.9	5.9	7.7	5.9	6.8	5.8	0.0	0.0
	Other eastern soft hardwoods	951.4	133.0	149.3	140.3	115.8	87.3	79.2	53.5	60.0	51.1	27.7	34.8	7.8	11.7
	Other eastern hard hardwoods	92.6	18.4	22.5	19.3	11.4	8.0	7.8	2.7	0.7	0.0	1.8	0.0	0.0	0.0
	Eastern noncommercial hardwoods	89.1	17.2	20.2	13.6	11.1	7.1	4.6	1.7	0.0	4.6	5.5	3.6	0.0	0.0
	Woodland hardwoods	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.8	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	5,417.3	464.0	651.3	712.1	702.1	631.3	538.7	427.5	327.3	442.2	238.6	151.2	70.8	60.1
All species		7,683.2	667.7	991.0	1,086.7	1,076.7	992.4	803.9	640.5	408.8	489.5	244.0	151.2	70.8	60.1

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.35—Net [1] volume of live trees on forest land by forest-type group and stand origin, Oklahoma, 2019

Forest-type group		Total	Stand origin	
			Natural stands	Artificial regeneration
		million cubic feet		
Softwood types	Loblolly-shortleaf pine	1,903.8	1,115.6	788.2
	Other eastern softwoods	248.0	245.8	2.2
	Pinyon-juniper	54.1	54.1	0.0
	Total softwoods	2,206.0	1,415.6	790.4
Hardwood types	Oak-pine	958.0	950.6	7.5
	Oak-hickory	5,118.9	5,076.9	42.0
	Oak-gum-cypress	321.7	321.7	0.0
	Elm-ash-cottonwood	1,616.2	1,616.2	0.0
	Maple-beech-birch	20.3	20.3	0.0
	Aspen-birch	0.6	0.6	0.0
	Other hardwoods	30.6	30.6	0.0
	Woodland hardwoods	49.9	49.9	0.0
	Exotic hardwoods	15.4	15.4	0.0
	Total hardwoods	8,131.7	8,082.2	49.5
Nonstocked		9.6	9.6	0.0
All groups		10,347.3	9,507.4	839.9

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.36—Net [1] volume of live trees on timberland by forest-type group and stand origin, Oklahoma, 2019

Forest-type group		Total	Stand origin	
			Natural stands	Artificial regeneration
		million cubic feet		
Softwood types	Loblolly-shortleaf pine	1,778.8	998.9	779.9
	Other eastern softwoods	56.1	53.9	2.2
	Total softwoods	1,835.0	1,052.9	782.1
Hardwood types	Oak-pine	773.2	765.7	7.5
	Oak-hickory	3,314.9	3,279.1	35.9
	Oak-gum-cypress	289.2	289.2	0.0
	Elm-ash-cottonwood	1,429.5	1,429.5	0.0
	Maple-beech-birch	17.3	17.3	0.0
	Other hardwoods	9.7	9.7	0.0
	Woodland hardwoods	5.0	5.0	0.0
	Exotic hardwoods	7.1	7.1	0.0
	Total hardwoods	5,845.9	5,802.6	43.3
Nonstocked		2.3	2.3	0.0
All groups		7,683.2	6,857.8	825.4

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.37—Net [1] volume of growing-stock trees on timberland by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)												
			5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		million cubic feet													
Softwood	Loblolly and shortleaf pines	1,987.6	150.6	281.0	320.4	334.6	337.3	248.5	198.0	69.5	42.5	5.3	0.0	0.0	0.0
	Other eastern softwoods	62.2	16.4	15.9	12.2	5.3	6.9	0.8	1.3	3.5	0.0	0.0	0.0	0.0	0.0
	Total softwoods	2,049.8	167.0	296.8	332.6	339.9	344.2	249.2	199.3	72.9	42.5	5.3	0.0	0.0	0.0
Hardwood	Select white oaks	283.2	15.8	25.7	39.5	48.8	49.3	29.9	36.8	20.0	10.9	6.8	0.0	0.0	0.0
	Select red oaks	238.5	6.0	12.8	17.8	29.6	33.6	12.2	27.8	8.9	26.1	27.2	22.6	0.0	13.9
	Other white oaks	674.8	57.6	111.5	127.8	105.6	88.9	77.6	48.6	23.6	22.6	11.0	0.0	0.0	0.0
	Other red oaks	616.5	21.9	38.4	60.8	71.1	87.7	68.3	61.8	57.5	87.9	38.2	8.4	6.4	8.3
	Hickory	400.3	29.4	50.6	52.1	49.9	54.2	47.9	28.7	29.5	26.4	20.4	3.3	8.1	0.0
	Hard maple	2.7	0.6	0.2	0.9	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	38.5	2.3	1.9	2.2	1.0	0.0	3.1	1.7	0.0	12.7	4.2	0.0	9.4	0.0
	Sweetgum	66.8	7.4	9.9	10.5	11.0	8.3	11.2	6.6	1.9	0.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	35.1	3.0	3.9	6.4	2.8	6.5	2.6	2.6	2.4	5.0	0.0	0.0	0.0	0.0
	Ash	187.2	15.0	26.0	27.3	30.4	28.8	19.8	6.7	17.7	8.0	3.3	4.3	0.0	0.0
	Cottonwood and aspen	121.3	0.5	2.8	3.6	4.7	7.1	5.8	9.2	12.9	31.0	7.4	21.5	4.9	9.9
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	38.2	0.4	2.3	3.6	5.6	4.9	5.0	3.6	4.9	2.0	3.1	2.7	0.0	0.0
	Other eastern soft hardwoods	359.7	41.2	48.8	49.4	37.0	34.5	34.3	18.4	30.5	29.8	9.6	14.7	0.0	11.7
	Other eastern hard hardwoods	26.6	4.2	6.5	7.5	2.7	2.3	2.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	3,089.6	205.2	341.4	409.3	400.6	406.5	320.0	253.5	209.6	262.3	131.1	77.5	28.8	43.8
All species		5,139.4	372.2	638.2	741.9	740.6	750.7	569.2	452.8	282.6	304.8	136.4	77.5	28.8	43.8

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.38—Net [1] volume of growing-stock trees on timberland by species group and ownership group, Oklahoma, 2019

Species group		All ownerships	Ownership group				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet					
Softwood	Loblolly and shortleaf pines	1,987.6	540.0	25.0	46.3	585.0	791.3
	Other eastern softwoods	62.2	1.0	2.4	0.1	2.4	56.3
	Total softwoods	2,049.8	541.0	27.5	46.3	587.4	847.6
Hardwood	Select white oaks	283.2	46.9	2.4	13.2	40.0	180.8
	Select red oaks	238.5	7.1	43.4	18.6	21.5	148.0
	Other white oaks	674.8	35.7	49.2	25.6	11.5	552.8
	Other red oaks	616.5	8.2	67.1	13.1	27.8	500.2
	Hickory	400.3	25.5	25.5	22.9	21.3	305.1
	Hard maple	2.7	0.2	0.0	0.0	0.0	2.5
	Soft maple	38.5	1.0	0.8	9.4	8.0	19.3
	Sweetgum	66.8	5.7	3.2	0.0	11.9	46.1
	Tupelo and blackgum	35.1	3.9	0.3	0.0	1.1	29.9
	Ash	187.2	0.2	33.4	12.1	6.5	135.1
	Cottonwood and aspen	121.3	0.0	30.8	6.6	0.0	83.8
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	38.2	0.0	0.2	1.5	0.0	36.5
	Other eastern soft hardwoods	359.7	4.4	33.4	15.3	6.5	300.1
	Other eastern hard hardwoods	26.6	0.0	1.3	2.8	0.8	21.8
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	3,089.6	138.9	291.0	141.0	156.8	2,362.0
All species		5,139.4	679.9	318.4	187.4	744.1	3,209.6

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.39—Net [1] volume of sawtimber trees on timberland by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)										
			9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		million board feet											
Softwood	Loblolly and shortleaf pines	7,770.5	1,174.9	1,527.8	1,745.3	1,389.2	1,182.7	436.0	277.9	36.8	0.0	0.0	0.0
	Other eastern softwoods	144.4	50.6	25.2	35.9	4.3	7.4	21.1	0.0	0.0	0.0	0.0	0.0
	Total softwoods	7,914.8	1,225.5	1,553.0	1,781.2	1,393.4	1,190.0	457.1	277.9	36.8	0.0	0.0	0.0
Hardwood	Select white oaks	867.3	0.0	167.7	196.1	131.7	175.4	100.9	57.6	37.9	0.0	0.0	0.0
	Select red oaks	973.1	0.0	101.2	131.5	54.1	130.3	46.3	137.9	153.9	130.4	0.0	87.5
	Other white oaks	1,687.5	0.0	384.7	375.7	364.0	243.7	126.0	127.0	66.4	0.0	0.0	0.0
	Other red oaks	2,314.4	0.0	242.6	351.1	304.5	298.0	291.7	466.9	218.7	49.1	39.2	52.5
	Hickory	1,233.2	0.0	172.8	219.1	215.8	140.2	152.3	143.3	119.0	19.9	50.9	0.0
	Hard maple	3.9	0.0	1.8	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	184.3	0.0	3.1	0.0	14.5	8.8	0.0	72.4	24.9	0.0	60.5	0.0
	Sweetgum	173.4	0.0	39.6	35.8	53.1	34.3	10.6	0.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	92.1	0.0	8.7	24.2	10.9	11.9	11.2	25.1	0.0	0.0	0.0	0.0
	Ash	502.4	0.0	99.6	110.2	86.5	30.8	88.4	43.2	18.6	25.1	0.0	0.0
	Cottonwood and aspen	638.7	0.0	16.5	30.7	25.9	45.9	68.2	176.1	43.4	134.5	31.5	66.0
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	125.0	0.0	19.2	18.0	19.2	14.3	20.0	8.6	13.8	12.1	0.0	0.0
	Other eastern soft hardwoods	1,023.4	0.0	125.8	136.4	150.8	87.5	155.8	152.6	52.5	88.4	0.0	73.5
	Other eastern hard hardwoods	33.6	0.0	9.2	9.2	10.4	4.9	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	9,852.3	0.0	1,392.4	1,640.0	1,441.5	1,226.1	1,071.3	1,410.6	749.2	459.5	182.1	279.5
All species		17,767.2	1,225.5	2,945.4	3,421.2	2,834.9	2,416.2	1,528.4	1,688.5	785.9	459.5	182.1	279.5

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.40—Net [1] volume of sawtimber trees on timberland by species group and ownership group, Oklahoma, 2019

Species group		All ownerships	Ownership group				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million board feet					
Softwood	Loblolly and shortleaf pines	7,770.5	2,506.7	118.0	212.9	2,003.2	2,929.8
	Other eastern softwoods	144.4	0.0	2.7	0.0	3.0	138.7
	Total softwoods	7,914.8	2,506.7	120.7	212.9	2,006.2	3,068.5
Hardwood	Select white oaks	867.3	153.1	3.4	27.6	133.2	549.9
	Select red oaks	973.1	15.9	229.1	67.9	102.2	558.0
	Other white oaks	1,687.5	86.0	140.0	77.3	14.9	1,369.3
	Other red oaks	2,314.4	24.1	287.0	48.0	118.5	1,836.8
	Hickory	1,233.2	60.7	61.2	66.1	48.3	996.9
	Hard maple	3.9	0.0	0.0	0.0	0.0	3.9
	Soft maple	184.3	0.0	0.0	60.5	41.0	82.7
	Sweetgum	173.4	12.3	5.0	0.0	25.1	131.0
	Tupelo and blackgum	92.1	7.3	0.0	0.0	0.0	84.8
	Ash	502.4	0.0	87.6	50.2	19.1	345.5
	Cottonwood and aspen	638.7	0.0	171.8	32.9	0.0	434.1
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	125.0	0.0	0.0	3.2	0.0	121.8
	Other eastern soft hardwoods	1,023.4	4.6	123.8	45.9	9.4	839.7
	Other eastern hard hardwoods	33.6	0.0	2.3	5.9	0.0	25.5
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	9,852.3	364.0	1,111.1	485.6	511.8	7,379.9
All species		17,767.2	2,870.7	1,231.7	698.5	2,518.0	10,448.4

[1] Excludes rotten, missing, and form cull defects volume.

Table A3.41—Aboveground dry weight [1] of live trees on forest land by ownership class and land status, Oklahoma, 2019

Ownership class		All forest land	Unreserved			Reserved		
			Total	Timberland	Unproductive	Total	Productive	Unproductive
		thousand tons						
U.S. Forest Service	National forest	20,338.3	18,514.6	18,061.0	453.5	1,823.7	1,823.7	0.0
	National grassland	132.3	132.3	21.6	110.7	0.0	0.0	0.0
	Total	20,470.6	18,646.9	18,082.6	564.2	1,823.7	1,823.7	0.0
Other Federal	Bureau of Land Management	63.5	63.5	0.0	63.5	0.0	0.0	0.0
	U.S. Fish and Wildlife Service	2,606.1	0.0	0.0	0.0	2,606.1	2,033.7	572.4
	U.S. Dept. of Defense/Dept. of Energy	14,973.0	14,270.0	13,141.7	1,128.3	702.9	528.5	174.5
	Other Federal	763.6	612.4	482.5	129.9	151.2	151.2	0.0
	Total	18,406.1	14,945.8	13,624.2	1,321.6	3,460.3	2,713.4	746.9
State and local government	State	11,685.8	8,740.5	6,107.0	2,633.5	2,945.3	2,519.0	426.4
	Local	2,909.1	2,909.1	1,962.8	946.3	0.0	0.0	0.0
	Total	14,594.9	11,649.6	8,069.8	3,579.8	2,945.3	2,519.0	426.4
Forest industry	Corporate	21,815.1	21,815.1	21,815.1	0.0	0.0	0.0	0.0
	Individual	192.0	192.0	189.0	2.9	0.0	0.0	0.0
	Total	22,007.1	22,007.1	22,004.2	2.9	0.0	0.0	0.0
Nonindustrial private	Corporate	42,347.7	42,347.7	28,590.5	13,757.2	0.0	0.0	0.0
	Conservation/natural resources organization	1,071.6	1,071.6	779.5	292.1	0.0	0.0	0.0
	Unincorporated local partnership/association/club	1,171.7	1,171.7	772.6	399.1	0.0	0.0	0.0
	Native American	6,909.1	6,909.1	5,800.4	1,108.7	0.0	0.0	0.0
	Individual	175,261.0	175,261.0	120,704.8	54,556.3	0.0	0.0	0.0
	Total	226,761.2	226,761.2	156,647.8	70,113.3	0.0	0.0	0.0
All classes		302,239.9	294,010.6	218,428.6	75,582.0	8,229.3	7,056.1	1,173.2

[1] Calculations based on TREE_REGIONAL_BIOMASS.REGIONAL_DRYBIOT.

Table A3.42—Aboveground green weight [1] of live trees on forest land by ownership class and land status, Oklahoma, 2019

Ownership class		All forest land	Unreserved			Reserved		
			Total	Timberland	Unproductive	Total	Productive	Unproductive
		thousand tons						
U.S. Forest Service	National forest	40,676.5	37,029.1	36,122.0	907.1	3,647.4	3,647.4	0.0
	National grassland	264.7	264.7	43.3	221.4	0.0	0.0	0.0
	Total	40,941.2	37,293.8	36,165.3	1,128.5	3,647.4	3,647.4	0.0
Other Federal	Bureau of Land Management	126.9	126.9	0.0	126.9	0.0	0.0	0.0
	U.S. Fish and Wildlife Service	5,212.1	0.0	0.0	0.0	5,212.1	4,067.4	1,144.8
	U.S. Dept. of Defense/Dept. of Energy	29,945.9	28,540.0	26,283.5	2,256.6	1,405.9	1,056.9	349.0
	Other Federal	1,527.3	1,224.8	964.9	259.8	302.5	302.5	0.0
	Total	36,812.2	29,891.7	27,248.4	2,643.3	6,920.5	5,426.8	1,493.7
State and local government	State	23,371.6	17,481.0	12,213.9	5,267.1	5,890.6	5,037.9	852.7
	Local	5,818.3	5,818.3	3,925.7	1,892.6	0.0	0.0	0.0
	Total	29,189.9	23,299.2	16,139.6	7,159.7	5,890.6	5,037.9	852.7
Forest industry	Corporate	43,630.2	43,630.2	43,630.2	0.0	0.0	0.0	0.0
	Individual	383.9	383.9	378.1	5.9	0.0	0.0	0.0
	Total	44,014.2	44,014.2	44,008.3	5.9	0.0	0.0	0.0
Nonindustrial private	Corporate	84,695.4	84,695.4	57,180.9	27,514.5	0.0	0.0	0.0
	Conservation/natural resources organization	2,143.3	2,143.3	1,559.1	584.2	0.0	0.0	0.0
	Unincorporated local partnership/association/club	2,343.4	2,343.4	1,545.2	798.1	0.0	0.0	0.0
	Native American	13,818.2	13,818.2	11,600.9	2,217.4	0.0	0.0	0.0
	Individual	350,522.1	350,522.1	241,409.5	109,112.5	0.0	0.0	0.0
	Total	453,522.3	453,522.3	313,295.7	140,226.7	0.0	0.0	0.0
All classes		604,479.8	588,021.2	436,857.2	151,164.0	16,458.6	14,112.1	2,346.4

[1] Calculations based on TREE_REGIONAL_BIOMASS.REGIONAL_DRYBIOT.

Table A3.43—Aboveground dry weight [1] of live trees on forest land by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)														
			1.0–2.9	3.0–4.9	5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		thousand tons															
Softwood	Loblolly and shortleaf pines	52,157.8	804.5	2,253.0	4,319.9	7,013.5	7,579.2	8,058.0	8,054.0	6,059.3	4,832.1	1,831.6	1,239.6	112.9	0.0	0.0	0.0
	Other yellow pines	8.2	0.0	0.0	2.6	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	15,166.7	892.5	1,931.2	3,195.2	3,003.6	2,519.0	1,566.9	865.1	614.5	245.5	272.1	61.1	0.0	0.0	0.0	0.0
	Woodland softwoods	948.9	8.6	27.5	41.2	52.8	123.6	86.9	191.9	176.5	39.0	27.3	55.1	0.0	51.8	0.0	66.6
	Total softwoods	68,281.6	1,705.5	4,211.7	7,559.0	10,075.6	10,221.8	9,711.8	9,111.1	6,850.3	5,116.6	2,131.0	1,355.9	112.9	51.8	0.0	66.6
Hardwood	Select white oaks	14,194.2	163.2	366.4	685.2	1,154.6	1,559.2	1,991.8	1,885.7	1,225.4	1,696.9	1,179.4	1,349.0	451.8	485.5	0.0	0.0
	Select red oaks	11,349.1	148.0	290.3	420.0	656.6	895.6	1,120.4	1,392.5	810.6	1,168.3	570.3	1,153.6	1,269.5	806.1	198.4	448.9
	Other white oaks	68,939.4	1,052.1	2,896.9	6,867.4	10,337.2	11,483.2	9,571.3	8,092.0	6,568.5	4,938.2	2,831.5	2,444.6	1,328.7	320.3	207.7	0.0
	Other red oaks	39,370.5	1,296.3	2,928.3	3,243.3	3,949.7	4,181.6	4,226.1	4,007.5	3,486.5	2,472.9	2,547.3	3,626.1	1,681.7	943.5	352.5	427.0
	Hickory	25,948.0	1,039.7	1,939.8	2,257.1	2,694.6	2,733.1	2,770.6	2,729.6	2,446.9	1,487.0	1,263.6	1,687.2	1,400.9	552.0	681.3	264.5
	Hard maple	407.4	20.8	46.4	60.1	45.4	73.5	65.1	50.8	0.0	0.0	45.4	0.0	0.0	0.0	0.0	0.0
	Soft maple	2,711.2	239.7	314.0	245.1	185.0	170.9	127.3	35.4	165.2	203.5	0.0	472.8	181.9	166.9	203.5	0.0
	Sweetgum	2,654.3	116.8	170.3	271.1	332.0	379.5	373.0	280.5	317.5	271.3	91.3	51.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	1,664.6	102.3	261.8	111.3	159.1	189.5	135.8	244.5	151.1	92.8	54.0	162.3	0.0	0.0	0.0	0.0
	Ash	8,645.1	313.7	749.9	982.8	1,201.3	1,154.8	1,117.5	897.9	753.4	385.5	381.7	348.1	149.6	69.8	139.2	0.0
	Cottonwood and aspen	4,201.6	8.7	16.4	73.9	126.8	132.4	177.7	211.7	250.6	274.8	418.8	955.6	554.7	571.3	174.6	253.5
	Basswood	9.8	0.0	8.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	3,444.5	27.9	103.6	123.1	215.6	378.2	500.5	407.4	456.6	273.4	308.1	198.7	241.0	210.5	0.0	0.0
	Other eastern soft hardwoods	36,625.4	2,828.8	5,071.7	4,038.1	4,245.4	4,035.9	3,465.8	2,965.1	2,414.2	1,609.9	1,909.9	1,699.2	747.1	1,047.1	226.3	320.8
	Other eastern hard hardwoods	5,940.4	858.7	1,070.2	837.1	898.3	826.4	427.0	346.2	305.7	184.4	41.7	79.8	64.8	0.0	0.0	0.0
	Eastern noncommercial hardwoods	6,003.8	1,003.4	1,133.1	898.1	886.1	607.6	471.7	337.9	206.7	116.0	25.2	114.4	142.7	60.8	0.0	0.0
	Woodland hardwoods	1,819.6	36.0	96.4	315.7	335.1	264.1	206.3	169.7	69.2	99.6	48.6	95.0	84.0	0.0	0.0	0.0
	Urban-specific hardwoods	29.4	23.5	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	233,958.3	9,279.6	17,470.1	21,430.6	27,422.7	29,065.5	26,747.8	24,054.5	19,628.2	15,274.6	11,717.0	14,437.3	8,298.3	5,233.9	2,183.5	1,714.7
All species		302,239.9	10,985.2	21,681.7	28,989.5	37,498.3	39,287.3	36,459.6	33,165.6	26,478.5	20,391.2	13,848.0	15,793.2	8,411.2	5,285.6	2,183.5	1,781.3

[1] Calculations based on TREE_REGIONAL_BIOMASS.REGIONAL_DRYBIOT.

Table A3.44—Aboveground dry weight[1] of live trees on timberland by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)														
			1.0–2.9	3.0–4.9	5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		thousand tons															
Softwood	Loblolly and shortleaf pines	49,003.0	769.9	2,123.2	4,197.8	6,783.4	7,356.2	7,640.3	7,460.5	5,517.9	4,473.0	1,601.6	966.2	112.9	0.0	0.0	0.0
	Other yellow pines	8.2	0.0	0.0	2.6	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	5,958.6	382.5	787.8	1,215.0	1,096.7	960.3	544.3	379.3	214.4	146.5	170.7	61.1	0.0	0.0	0.0	0.0
	Total softwoods	54,969.8	1,152.5	2,911.0	5,415.4	7,885.7	8,316.5	8,184.6	7,839.8	5,732.2	4,619.5	1,772.3	1,027.4	112.9	0.0	0.0	0.0
Hardwood	Select white oaks	12,064.6	139.2	309.3	612.4	957.6	1,348.0	1,804.8	1,598.3	1,107.5	1,492.5	1,027.0	969.5	392.9	305.6	0.0	0.0
	Select red oaks	9,743.1	119.5	220.6	292.5	538.3	693.4	996.7	1,154.2	620.1	1,064.9	454.7	972.7	1,269.5	698.7	198.4	448.9
	Other white oaks	35,433.9	497.2	1,353.6	2,788.7	4,764.8	5,408.7	4,911.1	4,096.5	3,887.3	3,195.7	1,445.6	1,843.7	776.0	257.3	207.7	0.0
	Other red oaks	29,174.1	708.4	1,659.6	1,626.9	2,041.1	2,746.4	3,049.4	3,306.3	2,926.2	2,139.7	2,336.6	3,482.9	1,681.7	689.4	352.5	427.0
	Hickory	21,533.6	762.2	1,358.5	1,647.3	2,130.9	2,136.1	2,341.6	2,334.0	2,087.1	1,312.1	1,160.5	1,612.3	1,153.4	552.0	681.3	264.5
	Hard maple	286.2	19.4	6.4	52.8	31.7	46.0	33.8	50.8	0.0	0.0	45.4	0.0	0.0	0.0	0.0	0.0
	Soft maple	2,656.4	224.7	294.1	241.3	181.0	170.9	115.3	35.4	165.2	203.5	0.0	472.8	181.9	166.9	203.5	0.0
	Sweetgum	2,253.0	114.3	170.3	251.3	302.0	258.3	285.2	230.7	261.9	236.6	91.3	51.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	1,382.5	96.3	218.2	96.2	135.7	177.6	111.9	186.9	76.9	66.5	54.0	162.3	0.0	0.0	0.0	0.0
	Ash	7,616.8	266.1	639.8	841.3	999.4	996.9	954.4	805.7	702.6	346.0	358.0	348.1	149.6	69.8	139.2	0.0
	Cottonwood and aspen	3,826.6	6.0	3.6	50.9	114.3	132.4	149.8	211.7	188.8	229.1	387.8	955.6	397.2	571.3	174.6	253.5
	Basswood	8.7	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	2,606.5	24.2	61.5	80.2	146.6	202.4	311.7	346.6	335.8	189.9	257.5	198.7	241.0	210.5	0.0	0.0
	Other eastern soft hardwoods	27,087.8	1,884.7	3,468.1	2,824.7	3,164.6	3,028.7	2,536.8	1,993.7	1,815.7	1,258.3	1,449.4	1,366.3	702.7	1,047.1	226.3	320.8
	Other eastern hard hardwoods	4,023.0	571.8	665.6	551.8	656.6	564.5	322.8	237.6	233.5	112.4	41.7	0.0	64.8	0.0	0.0	0.0
	Eastern noncommercial hardwoods	3,596.1	718.7	769.2	529.2	505.7	304.3	239.2	152.4	96.0	38.0	0.0	85.3	97.4	60.8	0.0	0.0
	Woodland hardwoods	143.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.1	84.0	0.0	0.0	0.0
	Urban-specific hardwoods	22.8	22.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	163,458.8	6,175.4	11,207.1	12,487.5	16,670.5	18,214.4	18,164.4	16,740.7	14,504.5	11,885.1	9,109.4	12,580.2	7,192.1	4,629.4	2,183.5	1,714.7
All species		218,428.6	7,327.8	14,118.1	17,902.9	24,556.1	26,530.9	26,349.0	24,580.5	20,236.8	16,504.6	10,881.7	13,607.5	7,305.0	4,629.4	2,183.5	1,714.7

[1] Calculations based on TREE_REGIONAL_BIOMASS.REGIONAL_DRYBIOT.

Table A3.45—Aboveground green weight[1] of live trees on forest land by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)														
			1.0–2.9	3.0–4.9	5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		thousand tons															
Softwood	Loblolly and shortleaf pines	104,315.6	1,608.9	4,506.0	8,639.9	14,027.1	15,158.4	16,116.0	16,108.1	12,118.6	9,664.2	3,663.2	2,479.3	225.8	0.0	0.0	0.0
	Other yellow pines	16.4	0.0	0.0	5.2	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	30,333.5	1,784.9	3,862.3	6,390.4	6,007.2	5,038.0	3,133.9	1,730.3	1,229.1	491.0	544.2	122.2	0.0	0.0	0.0	0.0
	Woodland softwoods	1,897.8	17.2	55.0	82.4	105.7	247.3	173.8	383.8	353.0	78.0	54.6	110.3	0.0	103.5	0.0	133.2
	Total softwoods	136,563.2	3,411.1	8,423.3	15,117.9	20,151.2	20,443.7	19,423.7	18,222.2	13,700.7	10,233.2	4,262.0	2,711.8	225.8	103.5	0.0	133.2
Hardwood	Select white oaks	28,388.4	326.3	732.8	1,370.5	2,309.3	3,118.4	3,983.6	3,771.5	2,450.8	3,393.8	2,358.9	2,698.0	903.5	971.0	0.0	0.0
	Select red oaks	22,698.2	296.0	580.6	840.1	1,313.2	1,791.2	2,240.7	2,785.0	1,621.2	2,336.5	1,140.7	2,307.1	2,539.0	1,612.3	396.8	897.8
	Other white oaks	137,878.8	2,104.2	5,793.7	13,734.9	20,674.3	22,966.4	19,142.5	16,184.0	13,137.0	9,876.4	5,663.0	4,889.2	2,657.4	640.5	415.4	0.0
	Other red oaks	78,741.0	2,592.7	5,856.7	6,486.6	7,899.3	8,363.3	8,452.1	8,015.0	6,973.0	4,945.9	5,094.7	7,252.3	3,363.4	1,887.1	704.9	854.1
	Hickory	51,896.0	2,079.4	3,879.5	4,514.3	5,389.3	5,466.2	5,541.2	5,459.3	4,893.9	2,974.1	2,527.1	3,374.5	2,801.7	1,104.0	1,362.7	528.9
	Hard maple	814.8	41.6	92.8	120.1	90.9	147.0	130.1	101.7	0.0	0.0	90.7	0.0	0.0	0.0	0.0	0.0
	Soft maple	5,422.4	479.4	628.0	490.2	370.0	341.8	254.5	70.8	330.4	407.0	0.0	945.5	363.9	333.9	407.1	0.0
	Sweetgum	5,308.5	233.5	340.6	542.1	664.0	759.0	746.0	560.9	635.0	542.7	182.5	102.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	3,329.3	204.7	523.6	222.6	318.2	379.0	271.6	489.1	302.3	185.6	108.0	324.6	0.0	0.0	0.0	0.0
	Ash	17,290.2	627.3	1,499.7	1,965.6	2,402.5	2,309.6	2,235.0	1,795.9	1,506.7	771.1	763.4	696.1	299.2	139.6	278.4	0.0
	Cottonwood and aspen	8,403.2	17.4	32.9	147.8	253.6	264.9	355.4	423.3	501.3	549.6	837.7	1,911.1	1,109.5	1,142.6	349.1	507.1
	Basswood	19.5	0.0	17.4	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	6,889.1	55.8	207.3	246.1	431.1	756.4	1,001.1	814.8	913.1	546.8	616.2	397.4	482.0	421.0	0.0	0.0
	Other eastern soft hardwoods	73,250.8	5,657.7	10,143.4	8,076.2	8,490.8	8,071.7	6,931.7	5,930.3	4,828.5	3,219.8	3,819.9	3,398.5	1,494.2	2,094.1	452.6	641.5
	Other eastern hard hardwoods	11,880.8	1,717.4	2,140.5	1,674.2	1,796.6	1,652.8	854.0	692.4	611.3	368.9	83.5	159.7	129.5	0.0	0.0	0.0
	Eastern noncommercial hardwoods	12,007.6	2,006.9	2,266.1	1,796.3	1,772.1	1,215.3	943.3	675.9	413.5	232.0	50.5	228.7	285.4	121.7	0.0	0.0
	Woodland hardwoods	3,639.1	72.1	192.7	631.4	670.2	528.2	412.6	339.4	138.4	199.1	97.3	189.9	168.0	0.0	0.0	0.0
	Urban-specific hardwoods	58.7	46.9	11.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	467,916.5	18,559.3	34,940.1	42,861.1	54,845.4	58,131.0	53,495.6	48,109.0	39,256.3	30,549.2	23,434.0	28,874.7	16,596.7	10,467.7	4,366.9	3,429.4
All species		604,479.8	21,970.3	43,363.4	57,979.1	74,996.6	78,574.7	72,919.3	66,331.2	52,957.0	40,782.4	27,696.0	31,586.5	16,822.4	10,571.2	4,366.9	3,562.6

[1] Calculations based on TREE_REGIONAL_BIOMASS.REGIONAL_DRYBIOT.

Table A3.46—Aboveground green weight[1] of live trees on timberland by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)														
			1.0–2.9	3.0–4.9	5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		thousand tons															
Softwood	Loblolly and shortleaf pines	98,005.9	1,539.9	4,246.4	8,395.7	13,566.8	14,712.4	15,280.6	14,920.9	11,035.7	8,946.1	3,203.2	1,932.5	225.8	0.0	0.0	0.0
	Other yellow pines	16.4	0.0	0.0	5.2	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	11,917.2	765.1	1,575.7	2,429.9	2,193.3	1,920.6	1,088.7	758.6	428.7	292.9	341.4	122.2	0.0	0.0	0.0	0.0
	Total softwoods	109,939.6	2,304.9	5,822.0	10,830.8	15,771.3	16,633.1	16,369.3	15,679.6	11,464.4	9,239.0	3,544.6	2,054.7	225.8	0.0	0.0	0.0
Hardwood	Select white oaks	24,129.2	278.3	618.7	1,224.7	1,915.1	2,696.0	3,609.6	3,196.7	2,215.0	2,985.1	2,054.0	1,939.0	785.9	611.2	0.0	0.0
	Select red oaks	19,486.1	239.1	441.2	584.9	1,076.6	1,386.7	1,993.4	2,308.4	1,240.3	2,129.7	909.4	1,945.4	2,539.0	1,397.5	396.8	897.8
	Other white oaks	70,867.9	994.5	2,707.2	5,577.5	9,529.7	10,817.3	9,822.2	8,193.0	7,774.5	6,391.3	2,891.2	3,687.5	1,552.1	514.6	415.4	0.0
	Other red oaks	58,348.1	1,416.8	3,319.1	3,253.8	4,082.3	5,492.7	6,098.8	6,612.5	5,852.5	4,279.4	4,673.2	6,965.7	3,363.4	1,378.8	704.9	854.1
	Hickory	43,067.2	1,524.3	2,716.9	3,294.5	4,261.8	4,272.3	4,683.2	4,667.9	4,174.2	2,624.2	2,321.0	3,224.5	2,306.8	1,104.0	1,362.7	528.9
	Hard maple	572.5	38.7	12.9	105.5	63.4	91.9	67.6	101.7	0.0	0.0	90.7	0.0	0.0	0.0	0.0	0.0
	Soft maple	5,312.9	449.4	588.2	482.5	362.0	341.8	230.5	70.8	330.4	407.0	0.0	945.5	363.9	333.9	407.1	0.0
	Sweetgum	4,506.0	228.6	340.6	502.6	604.0	516.7	570.4	461.4	523.9	473.1	182.5	102.0	0.0	0.0	0.0	0.0
	Tupelo and blackgum	2,765.0	192.6	436.3	192.5	271.4	355.2	223.9	373.9	153.7	132.9	108.0	324.6	0.0	0.0	0.0	0.0
	Ash	15,233.5	532.1	1,279.5	1,682.6	1,998.7	1,993.7	1,908.8	1,611.5	1,405.2	692.0	716.0	696.1	299.2	139.6	278.4	0.0
	Cottonwood and aspen	7,653.1	11.9	7.2	101.8	228.6	264.9	299.6	423.3	377.7	458.2	775.5	1,911.1	794.4	1,142.6	349.1	507.1
	Basswood	17.4	0.0	17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	5,213.0	48.5	122.9	160.4	293.3	404.7	623.3	693.1	671.6	379.9	514.9	397.4	482.0	421.0	0.0	0.0
	Other eastern soft hardwoods	54,175.7	3,769.4	6,936.2	5,649.5	6,329.2	6,057.3	5,073.6	3,987.4	3,631.4	2,516.6	2,898.7	2,732.7	1,405.4	2,094.1	452.6	641.5
	Other eastern hard hardwoods	8,046.0	1,143.5	1,331.3	1,103.7	1,313.2	1,128.9	645.5	475.1	467.0	224.8	83.5	0.0	129.5	0.0	0.0	0.0
	Eastern noncommercial hardwoods	7,192.2	1,437.4	1,538.4	1,058.4	1,011.5	608.5	478.3	304.7	192.0	76.1	0.0	170.5	194.8	121.7	0.0	0.0
	Woodland hardwoods	286.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	118.2	168.0	0.0	0.0	0.0
	Urban-specific hardwoods	45.6	45.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	326,917.6	12,350.7	22,414.1	24,975.0	33,340.9	36,428.7	36,328.7	33,481.4	29,009.1	23,770.2	18,218.7	25,160.4	14,384.3	9,258.9	4,366.9	3,429.4
All species		436,857.2	14,655.7	28,236.1	35,805.8	49,112.3	53,061.8	52,698.0	49,161.0	40,473.5	33,009.3	21,763.3	27,215.1	14,610.0	9,258.9	4,366.9	3,429.4

[1] Calculations based on TREE_REGIONAL_BIOMASS.REGIONAL_DRYBIOT.

Table A3.47—Merchantable dry weight[1] of live trees on forest land by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)												
			5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		thousand tons													
Softwood	Loblolly and shortleaf pines	41,971.2	3,120.4	5,784.8	6,500.3	7,035.9	7,090.2	5,363.7	4,277.4	1,621.5	1,075.9	101.1	0.0	0.0	0.0
	Other yellow pines	6.2	1.7	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	10,128.9	2,437.0	2,480.6	2,123.1	1,332.7	739.4	529.2	206.5	228.1	52.4	0.0	0.0	0.0	0.0
	Woodland softwoods	620.8	19.4	28.4	76.4	55.5	132.3	124.2	28.0	22.2	42.0	0.0	40.1	0.0	52.2
	Total softwoods	52,727.1	5,578.5	8,298.4	8,699.9	8,424.1	7,961.8	6,017.0	4,511.9	1,871.8	1,170.2	101.1	40.1	0.0	52.2
Hardwood	Select white oaks	10,550.6	465.0	871.2	1,214.2	1,571.5	1,493.3	956.7	1,329.2	873.1	1,078.2	352.6	345.8	0.0	0.0
	Select red oaks	8,368.8	293.0	493.3	696.0	881.2	1,103.0	639.4	900.9	427.2	879.3	905.8	626.2	162.6	360.8
	Other white oaks	48,737.9	4,545.0	7,679.3	8,817.4	7,384.4	6,251.8	5,009.5	3,708.6	2,152.7	1,809.4	1,038.3	249.4	92.1	0.0
	Other red oaks	26,496.7	2,156.9	2,934.8	3,205.2	3,261.8	3,147.7	2,689.8	1,950.3	1,957.4	2,800.6	1,209.5	626.6	215.2	340.9
	Hickory	17,806.5	1,438.6	2,015.0	2,136.6	2,202.4	2,160.1	1,967.9	1,198.4	1,014.2	1,355.4	1,125.0	411.1	564.3	217.5
	Hard maple	249.6	39.4	31.3	56.4	49.7	38.8	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	1,657.8	166.6	138.6	130.5	104.0	24.3	137.8	143.6	0.0	380.5	153.8	105.9	172.2	0.0
	Sweetgum	1,887.8	182.8	259.5	316.9	316.9	240.9	274.6	202.6	73.7	19.9	0.0	0.0	0.0	0.0
	Tupelo and blackgum	1,057.1	79.1	127.6	155.0	109.0	206.0	123.4	72.5	46.4	138.2	0.0	0.0	0.0	0.0
	Ash	6,158.1	690.0	956.5	966.1	943.7	750.0	641.0	326.4	331.3	297.5	104.1	59.2	92.3	0.0
	Cottonwood and aspen	3,261.4	52.0	101.6	110.7	150.7	179.8	193.5	232.7	354.1	768.0	364.9	441.5	101.9	210.0
	Basswood	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	2,580.0	80.9	161.2	290.7	390.3	323.5	352.2	221.5	246.3	160.5	190.3	162.5	0.0	0.0
	Other eastern soft hardwoods	22,800.1	2,814.7	3,343.7	3,291.2	2,853.8	2,433.0	2,007.4	1,309.8	1,579.0	1,368.6	615.2	734.9	177.5	271.3
	Other eastern hard hardwoods	2,833.3	532.5	652.0	615.2	323.9	255.2	232.4	107.3	20.4	52.1	42.3	0.0	0.0	0.0
	Eastern noncommercial hardwoods	2,866.4	585.0	661.1	472.2	363.1	260.1	161.4	89.1	20.6	91.9	112.6	49.3	0.0	0.0
	Woodland hardwoods	1,071.2	174.4	198.0	165.9	129.1	111.8	49.5	72.7	36.3	73.2	60.2	0.0	0.0	0.0
	Total hardwoods	158,384.0	14,296.8	20,624.5	22,640.3	21,035.6	18,979.3	15,436.3	11,865.4	9,166.7	11,273.2	6,274.6	3,812.5	1,578.3	1,400.5
All species		211,111.2	19,875.3	28,922.9	31,340.1	29,459.7	26,941.2	21,453.3	16,377.3	11,038.5	12,443.5	6,375.7	3,852.6	1,578.3	1,452.7

[1] Calculations based on TREE_REGIONAL_BIOMASS.REGIONAL_DRYBIOM.

Table A3.48—Merchantable dry weight[1] of live trees on timberland by species group and diameter class, Oklahoma, 2019

Species group		All classes	Diameter class (inches)												
			5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–24.9	25.0–28.9	29.0–32.9	33.0–36.9	37.0+
		thousand tons													
Softwood	Loblolly and shortleaf pines	39,394.7	3,031.1	5,594.6	6,308.5	6,671.0	6,570.7	4,885.1	3,958.7	1,417.3	856.6	101.1	0.0	0.0	0.0
	Other yellow pines	6.2	1.7	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern softwoods	3,929.7	923.8	906.4	808.0	462.3	324.6	184.6	126.1	141.6	52.4	0.0	0.0	0.0	0.0
	Total softwoods	43,330.6	3,956.6	6,505.6	7,116.4	7,133.3	6,895.3	5,069.7	4,084.8	1,558.9	909.0	101.1	0.0	0.0	0.0
Hardwood	Select white oaks	9,021.4	415.5	722.5	1,049.5	1,424.2	1,269.4	869.1	1,176.9	759.3	776.6	309.2	249.1	0.0	0.0
	Select red oaks	7,228.8	204.9	408.8	536.2	782.1	914.9	485.4	820.4	353.4	741.8	905.8	551.7	162.6	360.8
	Other white oaks	25,269.9	1,844.8	3,542.1	4,152.1	3,802.2	3,160.8	2,999.0	2,449.2	1,081.9	1,342.4	603.6	199.7	92.1	0.0
	Other red oaks	20,340.8	1,091.3	1,530.9	2,129.0	2,361.9	2,614.9	2,251.8	1,690.0	1,787.5	2,686.8	1,209.5	431.0	215.2	340.9
	Hickory	15,110.6	1,049.0	1,599.4	1,674.3	1,860.7	1,851.5	1,681.8	1,056.3	930.5	1,293.4	920.7	411.1	564.3	217.5
	Hard maple	190.4	35.3	21.2	34.7	26.4	38.8	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	1,642.5	164.1	135.5	130.5	94.2	24.3	137.8	143.6	0.0	380.5	153.8	105.9	172.2	0.0
	Sweetgum	1,554.4	168.9	235.3	216.1	242.2	199.5	226.8	172.0	73.7	19.9	0.0	0.0	0.0	0.0
	Tupelo and blackgum	870.1	68.8	108.5	145.2	88.9	158.4	65.1	50.6	46.4	138.2	0.0	0.0	0.0	0.0
	Ash	5,460.6	591.3	795.4	833.8	807.8	675.0	598.0	295.7	310.7	297.5	104.1	59.2	92.3	0.0
	Cottonwood and aspen	3,017.2	35.6	91.3	110.7	127.0	179.8	149.0	193.5	327.5	768.0	281.4	441.5	101.9	210.0
	Black walnut	1,963.7	52.3	109.4	155.3	242.4	276.6	254.9	153.8	205.9	160.5	190.3	162.5	0.0	0.0
	Other eastern soft hardwoods	17,205.8	1,967.6	2,488.7	2,461.9	2,076.1	1,626.0	1,508.9	1,031.0	1,200.5	1,084.8	576.6	734.9	177.5	271.3
	Other eastern hard hardwoods	1,973.7	352.5	478.1	420.0	242.3	177.9	180.7	59.6	20.4	0.0	42.3	0.0	0.0	0.0
	Eastern noncommercial hardwoods	1,548.0	341.9	377.6	235.2	184.4	116.0	72.0	26.8	0.0	68.4	76.3	49.3	0.0	0.0
	Woodland hardwoods	108.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.1	60.2	0.0	0.0	0.0
	Total hardwoods	112,506.1	8,383.8	12,644.6	14,284.6	14,362.8	13,283.7	11,480.2	9,319.4	7,131.6	9,807.0	5,433.7	3,396.0	1,578.3	1,400.5
All species		155,836.8	12,340.4	19,150.2	21,401.0	21,496.1	20,178.9	16,549.9	13,404.2	8,690.5	10,715.9	5,534.8	3,396.0	1,578.3	1,400.5

[1] Calculations based on TREE_REGIONAL_BIOMASS.REGIONAL_DRYBIOM.

Table A3.49—Total carbon [1] of live trees on forest land by ownership class and land status, Oklahoma, 2019

Ownership class		All forest land	Unreserved			Reserved		
			Total	Timberland	Unproductive	Total	Productive	Unproductive
		thousand tons						
U.S. Forest Service	National forest	10,169.1	9,257.3	9,030.5	226.8	911.8	911.8	0.0
	National grassland	66.2	66.2	10.8	55.3	0.0	0.0	0.0
	Total	10,235.3	9,323.4	9,041.3	282.1	911.8	911.8	0.0
Other Federal	Bureau of Land Management	31.7	31.7	0.0	31.7	0.0	0.0	0.0
	U.S. Fish and Wildlife Service	1,303.0	0.0	0.0	0.0	1,303.0	1,016.8	286.2
	U.S. Dept. of Defense/Dept. of Energy	7,486.5	7,135.0	6,570.9	564.1	351.5	264.2	87.2
	Other Federal	381.8	306.2	241.2	65.0	75.6	75.6	0.0
	Total	9,203.1	7,472.9	6,812.1	660.8	1,730.1	1,356.7	373.4
State and local government	State	5,842.9	4,370.2	3,053.5	1,316.8	1,472.7	1,259.5	213.2
	Local	1,454.6	1,454.6	981.4	473.2	0.0	0.0	0.0
	Total	7,297.5	5,824.8	4,034.9	1,789.9	1,472.7	1,259.5	213.2
Forest industry	Corporate	10,907.6	10,907.6	10,907.6	0.0	0.0	0.0	0.0
	Individual	96.0	96.0	94.5	1.5	0.0	0.0	0.0
	Total	11,003.5	11,003.5	11,002.1	1.5	0.0	0.0	0.0
Nonindustrial private	Corporate	21,173.8	21,173.8	14,295.2	6,878.6	0.0	0.0	0.0
	Conservation/natural resources organization	535.8	535.8	389.8	146.0	0.0	0.0	0.0
	Unincorporated local partnership/association/club	585.8	585.8	386.3	199.5	0.0	0.0	0.0
	Native American	3,454.6	3,454.6	2,900.2	554.3	0.0	0.0	0.0
	Individual	87,630.5	87,630.5	60,352.4	27,278.1	0.0	0.0	0.0
	Total	113,380.6	113,380.6	78,323.9	35,056.7	0.0	0.0	0.0
All classes		151,119.9	147,005.3	109,214.3	37,791.0	4,114.6	3,528.0	586.6

[1] Estimates of carbon calculated by multiplying aboveground dry tree biomass by 0.5. Calculations based on TREE_REGIONAL_BIOMASS.REGIONAL_DRYBIOT.

Table A3.50—Average annual net growth of live trees by ownership class and land status, Oklahoma, 2019 (2009–2014 to 2015–2019)

Ownership class [1]		Timberland	Forest land
		million cubic feet per year	
U.S. Forest Service	National forest	16.4	17.1
	Total	16.4	17.1
Other Federal	U.S. Fish and Wildlife Service	0.0	-1.9
	U.S. Dept. of Defense/ Dept. of Energy	8.7	7.3
	Other Federal	0.8	0.9
	Total	9.5	6.3
State and local government	State	3.7	10.1
	Local	0.7	0.7
	Total	4.4	10.7
Forest industry	Corporate	60.7	60.7
	Individual	-1.1	-1.1
	Total	59.5	59.5
Nonindustrial private	Corporate	48.6	65.1
	Conservation/natural resources organization	0.6	0.6
	Unincorporated partnership/association/club	0.5	-0.2
	Native American	-1.2	0.0
	Individual	110.5	121.8
	Total	159.1	187.3
All classes		249.0	281.1

[1] Based on current conditions.

Table A3.51—Average annual net growth of live trees on forest land by forest-type group and stand-size class, Oklahoma, 2019 (2009–2014 to 2015–2019)

Forest-type group [1]		All classes	Stand-size class [1]			
			Large diameter	Medium diameter	Small diameter	Nonstocked
		million cubic feet per year				
Softwood types	**Loblolly-shortleaf pine**	107.7	46.3	32.1	29.3	0.0
	Other eastern softwoods	7.2	2.5	3.6	1.0	0.0
	Pinyon-juniper	5.6	5.5	0.0	0.0	0.0
	Total softwoods	120.4	54.4	35.7	30.3	0.0
Hardwood types	**Oak-pine**	35.9	11.7	12.1	12.1	0.0
	Oak-hickory	87.2	32.4	34.1	20.7	0.0
	Oak-gum-cypress	13.8	12.1	1.0	0.7	0.0
	Elm-ash-cottonwood	22.5	4.0	13.3	5.2	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0	0.0
	Aspen-birch	0.5	0.0	0.0	0.5	0.0
	Other hardwoods	-0.3	0.7	-1.3	0.3	0.0
	Woodland hardwoods	0.0	0.0	0.2	-0.2	0.0
	Exotic hardwoods	-0.9	-1.0	0.1	0.0	0.0
	Total hardwoods	158.8	59.8	59.6	39.4	0.0
Nonstocked		1.8	0.0	0.0	0.0	1.8
All groups		281.1	114.2	95.3	69.7	1.8

[1] Based on past conditions.

Table A3.52—Average annual net growth of live trees on timberland by forest-type group and stand-size class, Oklahoma, 2019 (2009–2014 to 2015–2019)

Forest-type group [1]		All size classes	Stand-size class [1]			
			Large diameter	Medium diameter	Small diameter	Nonstocked
		million cubic feet per year				
Softwood types	**Loblolly-shortleaf pine**	106.8	45.9	31.7	29.3	0.0
	Other eastern softwoods	1.4	0.6	1.4	-0.6	0.0
	Pinyon-juniper	0.0	0.0	0.0	0.0	0.0
	Total softwoods	108.2	46.5	33.1	28.6	0.0
Hardwood types	**Oak-pine**	32.2	13.4	11.7	7.0	0.0
	Oak-hickory	76.4	23.9	33.6	18.9	0.0
	Oak-gum-cypress	13.6	12.1	1.2	0.3	0.0
	Elm-ash-cottonwood	17.3	2.7	11.4	3.2	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0	0.0
	Aspen-birch	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	0.4	0.3	0.1	0.1	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0
	Exotic hardwoods	-0.8	-1.0	0.2	0.0	0.0
	Total hardwoods	139.2	51.3	58.2	29.6	0.0
Nonstocked		1.7	0.0	0.0	0.0	1.7
All groups		249.0	97.8	91.3	58.3	1.7

[1] Based on past conditions.

Table A3.53—Average annual net growth of live trees on forest land by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet per year					
Softwood	Loblolly and shortleaf pines	132.8	14.5	0.4	2.5	56.0	59.3
	Other eastern softwoods	17.6	0.1	0.2	2.1	0.3	14.9
	Woodland softwoods	5.2	0.0	0.0	0.0	0.0	5.1
	Total softwoods	155.5	14.6	0.6	4.6	56.3	79.4
Hardwood	Select white oaks	6.0	0.9	0.1	0.6	-0.1	4.6
	Select red oaks	16.5	0.3	0.9	0.9	0.7	13.7
	Other white oaks	33.0	1.1	-1.5	1.1	0.3	32.1
	Other red oaks	7.2	0.1	0.8	-0.6	0.0	7.0
	Hickory	7.5	-0.1	4.0	0.5	0.1	3.1
	Hard maple	0.4	0.0	0.0	0.0	0.0	0.3
	Soft maple	-0.3	0.0	-2.0	0.4	0.2	1.1
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	2.6	0.0	0.1	0.0	0.4	2.0
	Tupelo and blackgum	1.6	0.5	0.1	0.0	0.1	1.0
	Ash	10.0	-0.2	1.4	0.4	0.2	8.1
	Cottonwood and aspen	6.3	0.0	1.6	0.1	0.0	4.7
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	0.6	0.0	0.1	-0.1	0.0	0.6
	Other eastern soft hardwoods	27.2	0.0	0.2	0.6	1.1	25.3
	Other eastern hard hardwoods	1.8	0.0	0.1	1.9	0.1	-0.2
	Eastern noncommercial hardwoods	4.4	0.0	0.0	0.4	0.1	3.8
	Woodland hardwoods	0.7	0.0	0.0	0.0	0.0	0.7
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	125.5	2.5	5.7	6.1	3.2	107.9
All species		281.1	17.1	6.3	10.7	59.5	187.3

[1] Based on current conditions.

Table A3.54—Average annual net growth of live trees on timberland by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet per year					
Softwood	Loblolly and shortleaf pines	130.7	14.6	0.2	2.1	56.0	57.7
	Other eastern softwoods	11.3	0.1	0.6	0.0	0.3	10.3
	Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	141.9	14.6	0.9	2.1	56.3	67.9
Hardwood	Select white oaks	4.4	0.8	0.0	0.4	-0.1	3.3
	Select red oaks	14.7	0.0	0.9	0.5	0.7	12.5
	Other white oaks	24.8	1.0	-0.9	0.3	0.3	24.1
	Other red oaks	6.9	0.1	1.8	-0.5	0.0	5.5
	Hickory	6.1	-0.1	4.0	0.3	0.1	1.8
	Hard maple	0.3	0.0	0.0	0.0	0.0	0.3
	Soft maple	-0.3	0.0	-2.0	0.4	0.2	1.1
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	2.5	-0.1	0.1	0.0	0.4	2.0
	Tupelo and blackgum	1.4	0.2	0.1	0.0	0.1	1.0
	Ash	8.5	-0.2	1.4	0.3	0.2	6.8
	Cottonwood and aspen	5.4	0.0	1.6	0.1	0.0	3.8
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	0.9	0.0	0.0	0.0	0.0	0.8
	Other eastern soft hardwoods	21.5	0.0	1.4	0.2	1.1	18.8
	Other eastern hard hardwoods	5.0	0.0	0.2	0.2	0.1	4.5
	Eastern noncommercial hardwoods	4.9	0.0	0.1	0.0	0.1	4.8
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	107.1	1.8	8.6	2.3	3.2	91.1
All species		249.0	16.4	9.5	4.4	59.5	159.1

[1] Based on current conditions.

Table A3.55—Average annual net growth of growing-stock trees on timberland by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet per year					
Softwood	Loblolly and shortleaf pines	124.9	14.5	0.4	2.0	53.6	54.4
	Other eastern softwoods	5.5	0.0	0.2	0.0	0.1	5.2
	Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	130.4	14.6	0.5	2.0	53.7	59.6
Hardwood	Select white oaks	4.7	0.5	0.1	0.4	0.2	3.6
	Select red oaks	11.1	0.1	0.8	0.6	0.7	8.8
	Other white oaks	17.6	0.7	0.7	0.2	0.3	15.6
	Other red oaks	8.9	0.1	2.0	-0.3	-0.2	7.2
	Hickory	6.4	-0.2	2.9	0.4	0.0	3.4
	Hard maple	0.1	0.0	0.0	0.0	0.0	0.1
	Soft maple	0.3	0.0	-0.7	0.1	0.2	0.6
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	2.2	0.0	0.1	0.0	0.3	1.8
	Tupelo and blackgum	1.0	0.1	0.0	0.0	0.0	0.9
	Ash	6.3	0.0	1.2	0.2	0.1	4.8
	Cottonwood and aspen	6.3	0.0	1.5	0.1	0.0	4.7
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	0.7	0.0	0.0	0.0	0.0	0.6
	Other eastern soft hardwoods	14.6	0.2	0.4	0.4	0.3	13.4
	Other eastern hard hardwoods	0.7	0.0	-0.1	0.2	0.0	0.6
	Eastern noncommercial hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	80.9	1.6	9.1	2.3	2.1	65.9
All species		211.3	16.1	9.6	4.3	55.8	125.6

[1] Based on current conditions.

Table A3.56—Average annual net growth of sawtimber on timberland by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million board feet per year					
Softwood	Loblolly and shortleaf pines	479.0	85.0	1.5	10.8	170.5	211.1
	Other eastern softwoods	17.9	0.0	0.0	0.0	0.2	17.7
	Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	496.9	85.1	1.5	10.8	170.7	228.8
Hardwood	Select white oaks	21.2	3.9	0.1	1.1	1.6	14.5
	Select red oaks	58.2	0.7	5.0	1.7	4.3	46.4
	Other white oaks	54.8	2.9	2.0	1.3	0.5	48.2
	Other red oaks	43.7	0.7	10.7	-0.3	-0.8	33.3
	Hickory	28.3	-0.1	16.7	1.6	0.2	9.9
	Hard maple	0.3	0.0	0.0	0.0	0.0	0.3
	Soft maple	-0.5	0.0	-5.2	0.8	1.4	2.5
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	6.9	0.0	0.3	0.0	1.4	5.1
	Tupelo and blackgum	2.8	0.1	0.0	0.0	0.0	2.6
	Ash	19.6	0.0	3.5	0.4	0.6	15.1
	Cottonwood and aspen	37.2	0.0	9.7	0.5	0.0	27.0
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	1.3	0.0	0.0	0.1	0.0	1.1
	Other eastern soft hardwoods	45.7	0.1	0.5	1.2	-0.1	43.9
	Other eastern hard hardwoods	-0.7	0.0	-0.3	0.1	0.0	-0.5
	Eastern noncommercial hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	318.8	8.5	43.0	8.6	9.0	249.6
All species		815.7	93.5	44.6	19.5	179.8	478.4

[1] Based on current conditions.

Table A3.57—Average annual mortality of live trees by ownership class and land status, Oklahoma, 2019 (2009–2014 to 2015–2019)

Ownership class [1]		Timberland	Forest land
		million cubic feet per year	
U.S. Forest Service	National forest	6.6	7.0
	Total	6.6	7.0
Other Federal	U.S. Fish and Wildlife Service	0.0	4.1
	U.S. Dept. of Defense/ Dept. of Energy	11.7	13.1
	Other Federal	0.0	0.0
	Total	11.7	17.2
State and local government	State	2.2	5.9
	Local	0.5	0.6
	Total	2.7	6.6
Forest industry	Corporate	8.0	8.0
	Individual	1.4	1.4
	Total	9.3	9.3
Nonindustrial private	Corporate	11.1	16.0
	Conservation/natural resources organization	0.1	0.1
	Unincorporated partnership/association/club	0.1	1.0
	Native American	5.2	5.7
	Individual	66.8	90.5
	Total	83.4	113.3
All classes		113.8	153.4

[1] Based on current conditions.

Table A3.58—Average annual mortality of live trees on forest land by forest-type group and stand-size class, Oklahoma, 2019 (2009–2014 to 2015–2019)

Forest-type group [1]		All classes	Stand-size class [1]			
			Large diameter	Medium diameter	Small diameter	Nonstocked
		million cubic feet per year				
Softwood types	Loblolly-shortleaf pine	10.7	8.5	1.9	0.3	0.0
	Other eastern softwoods	5.0	0.2	2.8	2.0	0.0
	Pinyon-juniper	0.5	0.5	0.0	0.0	0.0
	Total softwoods	16.2	9.3	4.6	2.3	0.0
Hardwood types	Oak-pine	13.7	9.9	3.5	0.3	0.0
	Oak-hickory	79.7	42.4	33.3	4.0	0.0
	Oak-gum-cypress	6.6	5.7	0.9	0.0	0.0
	Elm-ash-cottonwood	33.7	25.9	7.0	0.8	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0	0.0
	Aspen-birch	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	1.5	0.1	1.4	0.0	0.0
	Woodland hardwoods	0.3	0.0	0.2	0.1	0.0
	Exotic hardwoods	1.2	1.0	0.2	0.0	0.0
	Total hardwoods	136.6	85.0	46.3	5.2	0.0
Nonstocked		0.6	0.0	0.0	0.0	0.6
All groups		153.4	94.3	51.0	7.6	0.6

[1] Based on past conditions.

Table A3.59—Average annual mortality of live trees on timberland by forest-type group and stand-size class, Oklahoma, 2019 (2009–2014 to 2015–2019)

Forest-type group [1]		All classes	Stand-size class [1]			
			Large diameter	Medium diameter	Small diameter	Nonstocked
		million cubic feet per year				
Softwood types	Loblolly-shortleaf pine	9.6	7.4	1.8	0.3	0.0
	Other eastern softwoods	1.3	0.2	0.0	1.1	0.0
	Pinyon-juniper	0.0	0.0	0.0	0.0	0.0
	Total softwoods	10.9	7.7	1.8	1.4	0.0
Hardwood types	Oak-pine	9.6	6.4	3.0	0.3	0.0
	Oak-hickory	56.4	32.4	22.2	1.8	0.0
	Oak-gum-cypress	6.1	5.7	0.4	0.0	0.0
	Elm-ash-cottonwood	29.5	23.6	5.6	0.3	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0	0.0
	Aspen-birch	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	0.1	0.1	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0
	Exotic hardwoods	1.1	1.0	0.1	0.0	0.0
	Total hardwoods	102.9	69.1	31.3	2.4	0.0
Nonstocked		0.0	0.0	0.0	0.0	0.0
All groups		113.8	76.8	33.2	3.8	0.0

[1] Based on past conditions.

Table A3.60—Average annual mortality of live trees on forest land by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet per year					
Softwood	Loblolly and shortleaf pines	13.8	4.0	0.6	1.1	5.1	3.0
	Other eastern softwoods	8.2	0.0	1.2	0.8	0.0	6.1
	Woodland softwoods	0.5	0.0	0.0	0.0	0.0	0.5
	Total softwoods	22.5	4.0	1.8	1.9	5.2	9.7
Hardwood	Select white oaks	5.1	0.4	0.2	0.4	1.1	3.0
	Select red oaks	2.4	0.4	0.1	0.1	0.0	1.8
	Other white oaks	26.0	0.3	4.5	1.2	0.3	19.8
	Other red oaks	32.9	0.3	1.9	1.4	1.8	27.5
	Hickory	16.7	0.7	1.1	0.4	0.5	14.0
	Hard maple	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	3.3	0.3	2.8	0.0	0.1	0.1
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	1.4	0.3	0.5	0.0	0.3	0.3
	Tupelo and blackgum	0.2	0.1	0.0	0.0	0.0	0.1
	Ash	3.4	0.2	1.3	0.0	0.0	1.9
	Cottonwood and aspen	1.1	0.0	0.0	0.0	0.0	1.1
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	0.1	0.0	0.0	0.0	0.0	0.1
	Other eastern soft hardwoods	29.4	0.2	2.5	1.0	0.0	25.8
	Other eastern hard hardwoods	5.8	0.0	0.4	0.0	0.0	5.3
	Eastern noncommercial hardwoods	2.9	0.0	0.2	0.0	0.0	2.7
	Woodland hardwoods	0.3	0.0	0.0	0.0	0.0	0.3
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	130.9	3.0	15.5	4.6	4.2	103.7
All species		153.4	7.0	17.2	6.6	9.3	113.3

[1] Based on current conditions.

Table A3.61—Average annual mortality of live trees on timberland by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet per year					
Softwood	Loblolly and shortleaf pines	12.7	3.9	0.6	0.1	5.1	3.0
	Other eastern softwoods	2.0	0.0	0.0	0.1	0.0	1.8
	Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	14.7	4.0	0.6	0.2	5.2	4.8
Hardwood	Select white oaks	4.4	0.4	0.2	0.3	1.1	2.4
	Select red oaks	2.2	0.3	0.1	0.1	0.0	1.7
	Other white oaks	16.6	0.2	2.8	0.7	0.3	12.6
	Other red oaks	28.3	0.3	0.7	0.9	1.8	24.6
	Hickory	14.0	0.6	0.8	0.4	0.5	11.7
	Hard maple	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	3.3	0.3	2.8	0.0	0.1	0.1
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	1.1	0.3	0.2	0.0	0.3	0.3
	Tupelo and blackgum	0.1	0.0	0.0	0.0	0.0	0.1
	Ash	3.3	0.2	1.3	0.0	0.0	1.7
	Cottonwood and aspen	1.1	0.0	0.0	0.0	0.0	1.1
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	0.1	0.0	0.0	0.0	0.0	0.1
	Other eastern soft hardwoods	20.7	0.1	1.8	0.1	0.0	18.6
	Other eastern hard hardwoods	3.1	0.0	0.2	0.0	0.0	2.8
	Eastern noncommercial hardwoods	1.0	0.0	0.2	0.0	0.0	0.8
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	99.1	2.6	11.2	2.5	4.2	78.6
All species		113.8	6.6	11.7	2.7	9.3	83.4

[1] Based on current conditions.

Table A3.62—Average annual mortality of growing-stock trees on timberland by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet per year					
Softwood	Loblolly and shortleaf pines	11.8	3.9	0.4	0.1	4.9	2.5
	Other eastern softwoods	0.3	0.0	0.0	0.0	0.0	0.2
	Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	12.1	3.9	0.4	0.1	4.9	2.7
Hardwood	Select white oaks	1.8	0.4	0.0	0.1	0.7	0.6
	Select red oaks	0.9	0.1	0.1	0.0	0.0	0.7
	Other white oaks	5.6	0.1	0.2	0.3	0.2	4.8
	Other red oaks	15.1	0.2	0.2	0.7	1.5	12.7
	Hickory	7.2	0.5	0.6	0.2	0.4	5.4
	Hard maple	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	1.1	0.1	0.9	0.0	0.0	0.0
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	0.9	0.3	0.2	0.0	0.2	0.3
	Tupelo and blackgum	0.0	0.0	0.0	0.0	0.0	0.0
	Ash	1.5	0.0	1.0	0.0	0.0	0.6
	Cottonwood and aspen	0.1	0.0	0.0	0.0	0.0	0.1
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern soft hardwoods	2.3	0.0	0.4	0.0	0.0	1.9
	Other eastern hard hardwoods	0.7	0.0	0.1	0.0	0.0	0.5
	Eastern noncommercial hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	37.3	1.7	3.6	1.3	3.0	27.7
All species		49.4	5.6	4.1	1.3	7.9	30.4

[1] Based on current conditions.

Table A3.63—Average annual mortality of sawtimber on timberland by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million board feet per year					
Softwood	Loblolly and shortleaf pines	43.1	16.2	1.6	0.2	16.5	8.7
	Other eastern softwoods	0.4	0.0	0.0	0.0	0.1	0.3
	Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	43.5	16.2	1.6	0.2	16.6	9.0
Hardwood	Select white oaks	4.3	0.7	0.0	0.0	2.0	1.6
	Select red oaks	2.5	0.0	0.0	0.0	0.0	2.5
	Other white oaks	21.5	0.0	0.9	0.8	0.5	19.4
	Other red oaks	58.4	0.6	0.0	2.1	6.5	49.1
	Hickory	23.0	1.6	1.4	0.0	1.2	18.8
	Hard maple	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	5.4	0.0	5.4	0.0	0.0	0.0
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	1.2	1.2	0.0	0.0	0.0	0.0
	Tupelo and blackgum	0.0	0.0	0.0	0.0	0.0	0.0
	Ash	4.8	0.0	3.4	0.0	0.0	1.4
	Cottonwood and aspen	0.0	0.0	0.0	0.0	0.0	0.0
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	0.0	0.0	0.0	0.0	0.0	0.0
	Other eastern soft hardwoods	3.5	0.0	1.0	0.0	0.0	2.5
	Other eastern hard hardwoods	1.7	0.0	0.4	0.0	0.0	1.4
	Eastern noncommercial hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	126.4	4.1	12.5	2.9	10.2	96.6
All species		169.9	20.3	14.1	3.1	26.9	105.5

[1] Based on current conditions.

Table A3.64—Average annual net removals of live trees by ownership class and land status, Oklahoma, 2019 (2009–2014 to 2015–2019)

Ownership class [1]		Timberland	Forest land
		million cubic feet per year	
U.S. Forest Service	National forest	6.1	4.2
	Total	6.1	4.2
Other Federal	U.S. Dept. of Defense/ Dept. of Energy	0.5	0.5
	Other Federal	0.1	0.0
	Total	0.6	0.5
State and local government	State	9.3	3.4
	Local	0.8	0.6
	Total	10.0	4.0
Forest industry	Corporate	39.0	39.0
	Total	39.0	39.0
Nonindustrial private	Corporate	40.2	33.6
	Unincorporated partnership/association/club	0.0	1.6
	Native American	0.0	0.0
	Individual	78.3	80.2
	Total	118.6	115.3
All classes		174.3	163.0

[1] Based on current conditions.

Table A3.65—Average annual removals of live trees on forest land by forest-type group and stand-size class, Oklahoma, 2019 (2009–2014 to 2015–2019)

Forest-type group [1]		All classes	Stand-size class [1]			
			Large diameter	Medium diameter	Small diameter	Nonstocked
		million cubic feet per year				
Softwood types	Loblolly-shortleaf pine	73.1	63.8	8.6	0.7	0.0
	Other eastern softwoods	0.3	0.2	0.1	0.1	0.0
	Pinyon-juniper	0.0	0.0	0.0	0.0	0.0
	Total softwoods	73.4	63.9	8.7	0.8	0.0
Hardwood types	Oak-pine	17.8	12.3	5.5	0.0	0.0
	Oak-hickory	38.6	21.4	15.9	1.3	0.0
	Oak-gum-cypress	3.8	1.5	2.1	0.1	0.0
	Elm-ash-cottonwood	27.1	23.6	2.4	1.1	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0	0.0
	Aspen-birch	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	0.4	0.4	0.0	0.0	0.0
	Woodland hardwoods	0.4	0.0	0.4	0.0	0.0
	Exotic hardwoods	1.6	0.3	1.3	0.0	0.0
	Total hardwoods	89.6	59.5	27.5	2.6	0.0
Nonstocked		0.0	0.0	0.0	0.0	0.0
All groups		163.0	123.4	36.3	3.3	0.0

[1] Based on past conditions.

Table A3.66—Average annual removals of live trees on timberland by forest-type group and stand-size class, Oklahoma, 2019 (2009–2014 to 2015–2019)

Forest-type group [1]		All classes	Stand-size class [1]			
			Large diameter	Medium diameter	Small diameter	Nonstocked
		million cubic feet per year				
Softwood types	Loblolly-shortleaf pine	73.1	63.8	8.6	0.7	0.0
	Other eastern softwoods	0.5	0.2	0.1	0.2	0.0
	Pinyon-juniper	0.0	0.0	0.0	0.0	0.0
	Total softwoods	73.5	63.9	8.7	0.9	0.0
Hardwood types	Oak-pine	15.7	11.2	4.5	0.0	0.0
	Oak-hickory	54.6	24.7	27.1	2.8	0.0
	Oak-gum-cypress	3.6	1.5	2.1	0.0	0.0
	Elm-ash-cottonwood	25.0	21.9	2.9	0.2	0.0
	Maple-beech-birch	0.0	0.0	0.0	0.0	0.0
	Aspen-birch	0.0	0.0	0.0	0.0	0.0
	Other hardwoods	1.6	1.6	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0
	Exotic hardwoods	0.3	0.3	0.0	0.0	0.0
	Total hardwoods	100.8	61.2	36.6	3.0	0.0
Nonstocked		0.0	0.0	0.0	0.0	0.0
All groups		174.3	125.1	45.3	3.9	0.0

[1] Based on past conditions.

Table A3.67—Average annual removals of live trees on forest land by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet per year					
Softwood	Loblolly and shortleaf pines	81.1	4.0	0.0	2.9	31.5	42.7
	Other eastern softwoods	3.5	0.0	0.0	0.1	0.0	3.5
	Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	84.6	4.0	0.0	2.9	31.5	46.1
Hardwood	Select white oaks	2.1	0.0	0.0	0.0	1.7	0.3
	Select red oaks	1.8	0.0	0.1	0.0	0.6	1.1
	Other white oaks	14.4	0.1	0.0	0.3	1.2	12.9
	Other red oaks	12.4	0.0	0.0	0.2	2.4	9.7
	Hickory	17.8	0.0	0.3	0.0	0.3	17.2
	Hard maple	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	0.2	0.0	0.0	0.0	0.0	0.2
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	2.6	0.0	0.0	0.0	0.7	2.0
	Tupelo and blackgum	0.9	0.0	0.0	0.0	0.3	0.5
	Ash	1.6	0.0	0.0	0.4	0.0	1.2
	Cottonwood and aspen	0.0	0.0	0.0	0.0	0.0	0.0
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	1.0	0.0	0.0	0.0	0.0	1.0
	Other eastern soft hardwoods	20.4	0.0	0.0	0.1	0.3	20.0
	Other eastern hard hardwoods	1.3	0.0	0.0	0.0	0.0	1.3
	Eastern noncommercial hardwoods	1.5	0.0	0.0	0.0	0.0	1.5
	Woodland hardwoods	0.4	0.0	0.0	0.0	0.0	0.4
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	78.4	0.1	0.5	1.1	7.5	69.2
All species		163.0	4.2	0.5	4.0	39.0	115.3

[1] Based on current conditions.

Table A3.68—Average annual removals of live trees on timberland by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet per year					
Softwood	Loblolly and shortleaf pines	81.9	4.0	0.0	2.9	31.5	43.5
	Other eastern softwoods	3.3	0.2	0.0	0.9	0.0	2.2
	Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	85.3	4.2	0.0	3.8	31.5	45.7
Hardwood	Select white oaks	2.7	0.0	0.0	0.1	1.7	0.9
	Select red oaks	2.3	0.0	0.1	0.3	0.6	1.3
	Other white oaks	28.1	1.5	0.1	3.7	1.2	21.7
	Other red oaks	12.9	0.0	0.0	0.2	2.4	10.3
	Hickory	18.2	0.2	0.3	0.7	0.3	16.7
	Hard maple	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	0.2	0.0	0.0	0.0	0.0	0.2
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	2.6	0.0	0.0	0.0	0.7	2.0
	Tupelo and blackgum	0.9	0.0	0.0	0.0	0.3	0.5
	Ash	1.8	0.0	0.0	0.9	0.0	0.9
	Cottonwood and aspen	0.0	0.0	0.0	0.0	0.0	0.0
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	1.0	0.0	0.0	0.0	0.0	1.0
	Other eastern soft hardwoods	16.3	0.2	0.0	0.3	0.3	15.6
	Other eastern hard hardwoods	0.5	0.0	0.0	0.0	0.0	0.4
	Eastern noncommercial hardwoods	1.4	0.0	0.0	0.0	0.0	1.4
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	89.1	1.9	0.6	6.2	7.5	72.8
All species		174.3	6.1	0.6	10.0	39.0	118.6

[1] Based on current conditions.

Table A.69—Average annual removals of growing-stock trees on timberland by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million cubic feet per year					
Softwood	Loblolly and shortleaf pines	79.5	4.0	0.0	2.8	30.1	42.5
	Other eastern softwoods	0.3	0.2	0.0	0.0	0.0	0.1
	Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	79.9	4.2	0.0	2.8	30.1	42.7
Hardwood	Select white oaks	2.2	0.0	0.0	0.0	1.5	0.7
	Select red oaks	1.2	0.0	0.1	0.3	0.6	0.2
	Other white oaks	10.1	1.0	0.1	0.1	1.1	7.9
	Other red oaks	7.6	0.0	0.0	0.0	1.8	5.7
	Hickory	10.9	0.0	0.2	0.4	0.1	10.2
	Hard maple	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	0.0	0.0	0.0	0.0	0.0	0.0
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	2.1	0.0	0.0	0.0	0.6	1.6
	Tupelo and blackgum	0.3	0.0	0.0	0.0	0.1	0.2
	Ash	0.8	0.0	0.0	0.3	0.0	0.5
	Cottonwood and aspen	0.0	0.0	0.0	0.0	0.0	0.0
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	0.9	0.0	0.0	0.0	0.0	0.9
	Other eastern soft hardwoods	5.7	0.1	0.0	0.3	0.2	5.2
	Other eastern hard hardwoods	0.1	0.0	0.0	0.0	0.0	0.1
	Eastern noncommercial hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	42.1	1.1	0.5	1.5	5.9	33.1
All species		121.9	5.3	0.5	4.4	36.0	75.8

[1] Based on current conditions.

Table A3.70—Average annual removals of sawtimber on timberland by species group and ownership group, Oklahoma, 2019 (2009–2014 to 2015–2019)

Species group		All ownerships	Ownership group [1]				
			U.S. Forest Service	Other Federal	State and local government	Forest industry	Nonindustrial private
		million board feet per year					
Softwood	Loblolly and shortleaf pines	357.5	18.5	0.0	14.7	135.4	188.9
	Other eastern softwoods	0.8	0.3	0.0	0.0	0.0	0.5
	Woodland softwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total softwoods	358.3	18.8	0.0	14.7	135.4	189.4
Hardwood	Select white oaks	6.6	0.0	0.0	0.0	6.6	0.0
	Select red oaks	1.4	0.0	0.0	0.0	1.4	0.0
	Other white oaks	21.9	3.0	0.0	0.0	3.3	15.7
	Other red oaks	22.2	0.0	0.0	0.0	3.1	19.1
	Hickory	35.6	0.0	0.0	1.6	0.0	34.0
	Hard maple	0.0	0.0	0.0	0.0	0.0	0.0
	Soft maple	0.0	0.0	0.0	0.0	0.0	0.0
	Beech	0.0	0.0	0.0	0.0	0.0	0.0
	Sweetgum	3.0	0.0	0.0	0.0	1.2	1.7
	Tupelo and blackgum	0.3	0.0	0.0	0.0	0.0	0.3
	Ash	0.4	0.0	0.0	0.0	0.0	0.4
	Cottonwood and aspen	0.0	0.0	0.0	0.0	0.0	0.0
	Basswood	0.0	0.0	0.0	0.0	0.0	0.0
	Black walnut	3.5	0.0	0.0	0.0	0.0	3.5
	Other eastern soft hardwoods	11.5	0.0	0.0	0.0	0.0	11.5
	Other eastern hard hardwoods	0.3	0.0	0.0	0.0	0.0	0.3
	Eastern noncommercial hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Woodland hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Urban-specific hardwoods	0.0	0.0	0.0	0.0	0.0	0.0
	Total hardwoods	106.6	3.0	0.0	1.6	15.6	86.5
All species		464.9	21.8	0.0	16.2	151.0	275.9

[1] Based on current conditions.

Dooley, K. 2026. Oklahoma's Forests, 2019. Resour. Bull. SRS–251. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 111 p. https://doi.org/10.2737/SRS-RB-251.

This resource bulletin describes the principal findings of the 2019 forest inventory of Oklahoma (conducted January 13, 2010 to July 6, 2021)—the first report on a complete, annualized inventory of central and western Oklahoma, and changes since the previous report, Oklahoma's Forests, 2014. The survey finds nearly 12 million acres in Oklahoma are forest land, mostly in private ownership. These forest lands contain more than 5 billion trees, 10 billion cubic feet of wood, and 250 million short tons of biomass. Net change in volume was positive, with an increase of 93.9 million cubic feet.

KEYWORDS: FIA, Oklahoma, forest status, forest change, monitoring, assessment, trees, volume, disturbance.

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