

2022

Timber Supply, St Joe, Arkansas



University of Arkansas at
Monticello
College of Forestry,
Agriculture, and Natural
Resources

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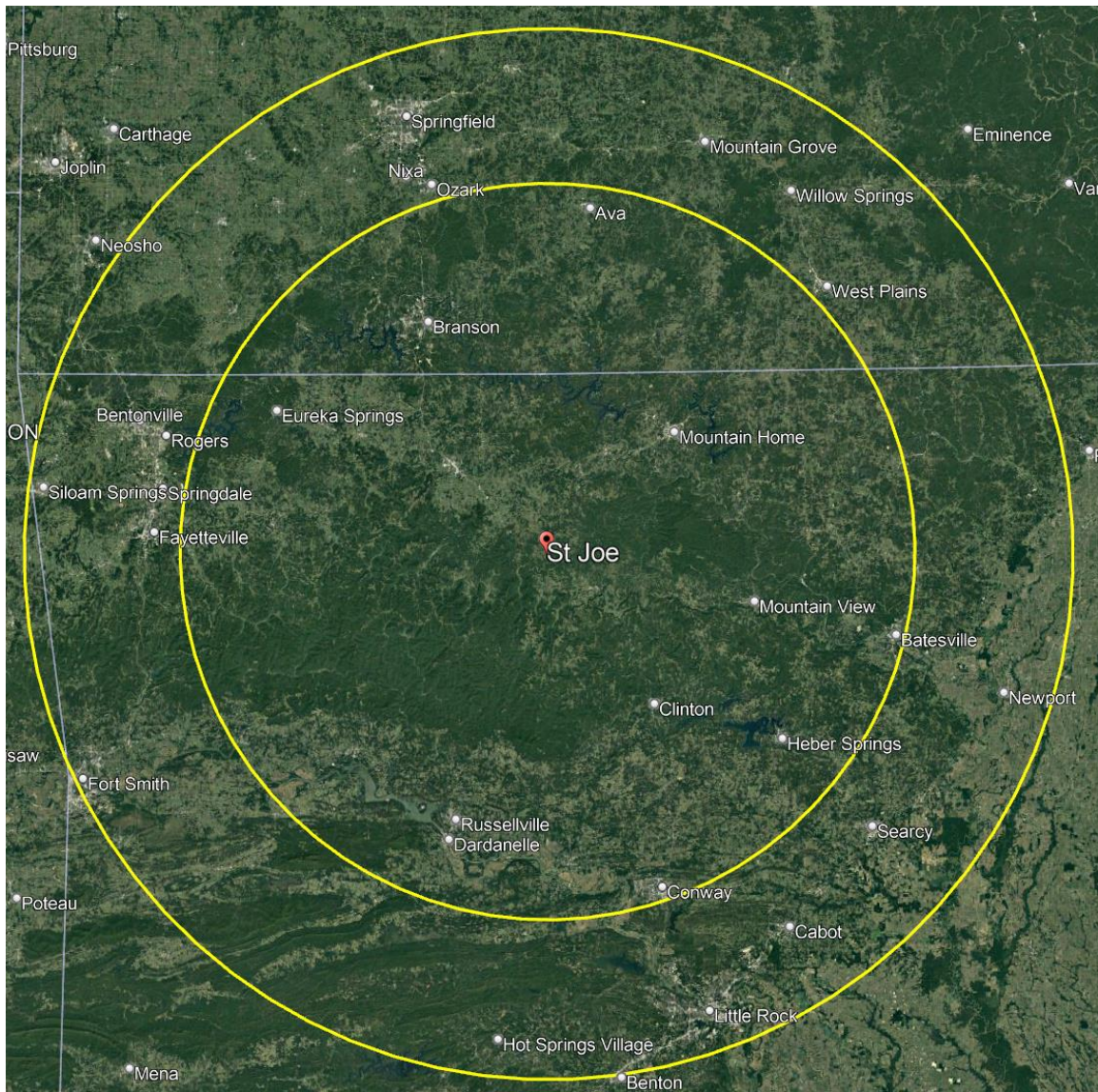


Figure 1. 70 and 100-mile radii around St Joe, Arkansas.

Summary

The timber resources in the 70-miles surrounding St Joe, Arkansas can support additional harvests greater than 1.0 million tons per year in pine saw logs and 0.13 million tons in pine pulpwood and top wood. Within 100 miles, these values increase to 2.5 and 7.9 million tons per year in saw logs and pulpwood/top wood, respectively. Annual hardwood surplus within 70 miles is 2.9 million tons of sawtimber and 1.03 million tons of pulpwood. When the supply area is increased to a 100-mile radius, the annual surplus in hardwood sawtimber is 5.1 million tons, but there is a DEFICIT of 5.2 million tons in pulpwood and topwood. Surpluses in soft hardwood are a reflection of growth and movement of pulpwood class trees into sawtimber class. In hard hardwoods, the deficit in pulpwood class trees is a reflection of diameter growth moving pulpwood class trees into sawtimber. However, for hard hardwoods, the deficit in pulpwood is even more severe, causing an overall growth deficit in hard hardwoods.

This data comes from the most recent FIA data (AR-2020, MO-2019, and OK-2018) and does not reflect changes in forest cover, growth, or removals from that time to present. Changes in existing mill production and other forest disturbances could have a substantial effect on the values provided here, and those changes will likely increase over time.

Highlights of Tables

- There are 6.0 and 11.0 million acres of timber land within 70 and 100 miles, respectively, of St Joe, Arkansas
- Upland hardwood is the dominant forest type in the region (67%) followed by pine (13%) and Oak/Pine (10%)
- Naturally regenerated forests cover account for 94% of all forestland in the region, but 36% of pine forests are artificially regenerated. Only 1% of non-pine forests are artificially regenerated
- The site index of pine is higher in private (68) than public timber land (64.5).
- 78% of the timberland is privately owned. Forest growing stock, growth, and removals are generally proportional to ownership.
- Within 70 miles of St Joe
 - 47.5 million tons of pine growing stock, 36.4 million tons of which is pine saw timber and 11.0 million tons of pulpwood and top wood
 - 262.3 million tons of hardwood growing stock, 128.4 million tons of which is saw timber and 13.9 million tons is pulpwood and top wood
 - Annual surplus in pine growth is 1.0 million tons in saw timber and 0.13 million tons in pulpwood
 - Annual surplus in hardwood growth is 2.9 million tons in saw timber and 1.03 million tons in pulpwood
- Within 100 miles of St Joe
 - 108.2 million tons of pine growing stock, 84.4 million tons of which is pine saw timber and 23.7 million tons of pulpwood and top wood
 - 476.3 million tons of hardwood growing stock, 237.2 million tons of which is saw timber and 239.1 million tons is pulpwood and top wood
 - Annual surplus in pine growth is 2.5 million tons in saw timber and 7.9 million tons in pulpwood

- Annual surplus in hardwood growth is 5.1 million tons in saw timber, but there is an annual deficit of 5.2 million tons in hardwood pulpwood and topwood.
- Hardwood resources consist primarily of various oak species, beech, sweetgum, and tupelo/blackgum. 26% of the hardwood sawtimber would be considered high-grade trees suitable for factory grade lumber production.

Hardwood resources are plentiful in the region, but only 26% of the resources are considered “high quality” (Grades 1 and 2) which will produce substantial proportions of grade lumber (Figure 2). Grade 3 trees represent 51% of the sawtimber resource in the region and will produce some factory lumber but the majority of grade 3 and lower trees will largely produce crossties and pallet wood.

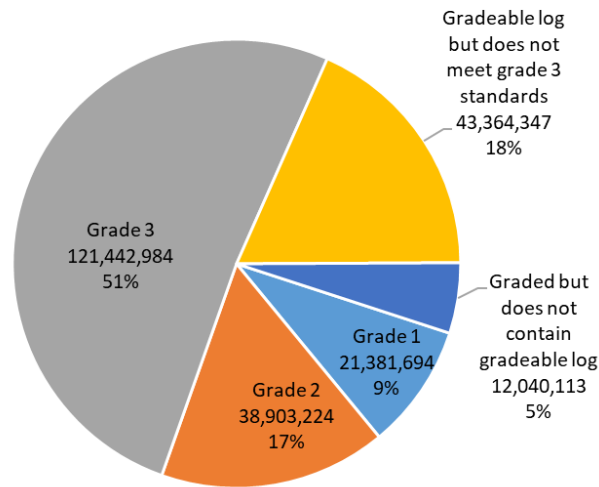


Figure 2. Hardwood saw timber resources by tree trade within a 100-mile radius of St Joe, Arkansas. Volumes are saw timber in green short tons.

The species groups present in the region are largely red and white oaks and sweetgum, which combined make up 43% of the total hardwood saw timber. Select red oak (4%) and select white oak (25%) are present as well. Select species are generally those preferred for factory grade lumber production.

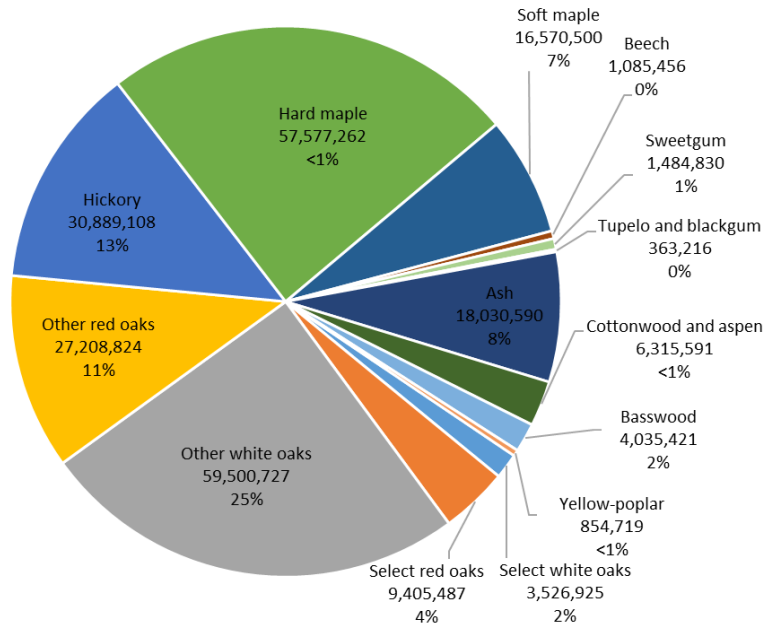


Figure 3. Major hardwood species groups present within a 100-mile radius of St Joe, Arkansas. Volume numbers are saw timber in green short tons.

Many hardwood species present could sustain substantial increases in their sawtimber harvest levels. Non-select white oaks, red oaks, hickory, hard maple, soft maple, and ash comprise the majority of the sawtimber surpluses. (Figure 4).

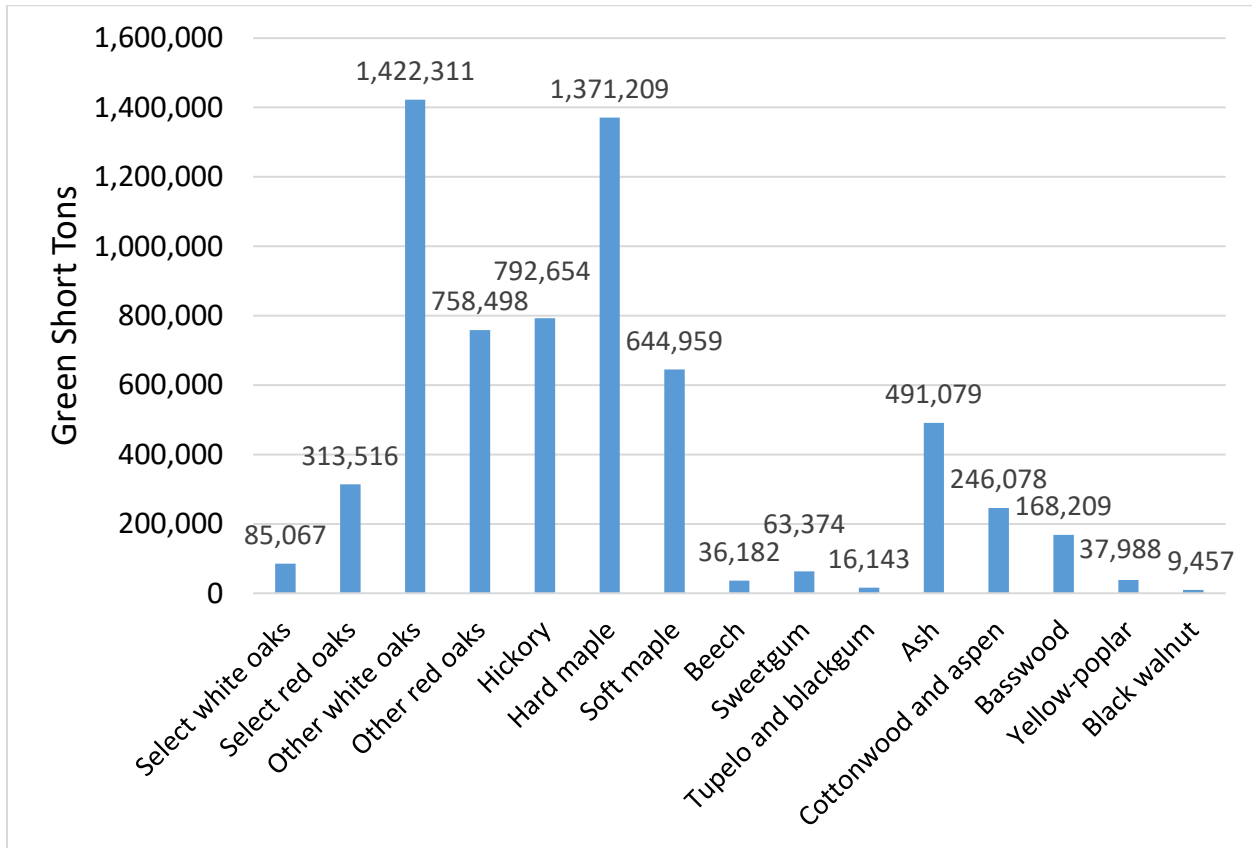


Figure 4. Sustainable annual allowable increase in saw timber harvesting in various species groups. Values are in saw timber green short tons per year within a 100-mile radius of St Joe, Arkansas.

Purpose/Objectives

The purpose of this analysis is to create a one-time snapshot of merchantable timber around St Joe Arkansas. The data tables attached will provide information on the following:

- Timberland area within 70 and 100 miles aerial radius of St Joe, Arkansas by ownership and forest type group (Tables 1 and 2)
- Timberland area within 100 miles aerial radius of St Joe, Arkansas by forest type group and stand origin (Table 3)
- Within 70 miles and 100 miles for major species groups and ownership groups:
 - Current growing stock for merchantable bole, saw logs, and pulpwood/top wood (Table 4 and 8)
 - Annual net growth for merchantable bole, saw logs, and pulpwood/top wood (Table 5 and 9)
 - Annual removals group for merchantable bole, saw logs, and pulpwood/top wood (Table 6 and 10)
 - Annual net surplus for merchantable bole, saw logs, and pulpwood/top wood (Table 7 and 11)
- Hardwood saw timber growing stock by grade and estimates of sustainable surplus (or deficit) by species group (Table 12)

Methods

The USDA Forest Service Forest Inventory and Analysis (FIA) database is the source of the data for these tables. Data comes from the Arkansas (2020), Missouri (2019), and Oklahoma (2018) inventories, which, at the time of this report are the most current available. The online software EVALIDATOR and DATIM processed the database queries for these reports. EVALIDATOR and DATIM can be accessed on the FIA National Program website (<https://www.fia.fs.fed.us/tools-data/>).

Some specifics to the database queries are important to note:

- The center of the analysis radii of 70 and 100 miles is 35.989415 degrees north latitude and - 92.800891 degrees west longitude (St Joe, Arkansas)
- The results show acre and tonnages based on timberland based on FIA definition (FIADEF)
- Ownership categories are either PUBLIC or PRIVATE
- Areas are in acres
- Tree biomass is reported in GREEN SHORT TONS

This report is an initial survey of timber resources. The Arkansas Center for Forest Business upon request can provide more detailed analysis and information regarding the region.

Table 1. Timberland acres by forest type group and ownership within a 70-mile radius of St Joe, Arkansas.

Forest type group	Total	Ownership group	
		Public	Private
Total	6,039,143	1,316,725	4,722,418
Loblolly / shortleaf pine group	621,097	169,210	451,887
Other eastern softwoods group	246,696	48,691	198,006
Pinyon / juniper group	12,715	0	12,715
Oak / pine group	663,564	118,206	545,358
Oak / hickory group	4,223,157	920,419	3,302,738
Oak / gum / cypress group	123,029	29,061	93,968
Elm / ash / cottonwood group	116,607	16,309	100,299
Other hardwoods group	7,278	7,278	0
Nonstocked	24,998	7,551	17,447

Table 2. Timberland acres by forest type group and ownership within a 100-mile radius of St Joe, Arkansas.

Forest type group	Total	Ownership group	
		Public	Private
Total	10,955,200	2,422,853	8,532,347
Loblolly / shortleaf pine group	1,445,136	554,740	890,395
Other eastern softwoods group	357,796	48,691	309,106
Pinyon / juniper group	15,995	0	15,995
Oak / pine group	1,101,314	273,069	828,245
Oak / hickory group	7,321,436	1,398,359	5,923,077
Oak / gum / cypress group	374,595	95,192	279,402
Elm / ash / cottonwood group	269,023	35,112	233,911
Other hardwoods group	22,952	7,278	15,674
Nonstocked	46,953	10,411	36,542

Table 3. Stand origin by acres and forest cover type within 100-mile radius of St Joe, Arkansas.

Forest type group	Total	Stand origin Natural stands	Clear evidence of artificial regeneration
Total	12,201,836	10,803,201	1,398,635
Loblolly / shortleaf pine group	2,946,898	1,695,000	1,251,897
Other eastern softwoods group	303,720	303,720	0
Pinyon / juniper group	12,715	12,715	0
Oak / pine group	1,490,518	1,418,155	72,363
Oak / hickory group	6,682,854	6,645,601	37,252
Oak / gum / cypress group	345,012	321,250	23,761
Elm / ash / cottonwood group	330,604	324,288	6,316
Maple / beech / birch group	3,839	3,839	0
Other hardwoods group	23,756	23,756	0
Nonstocked	61,921	54,876	7,045

Table 4. Total timberland acres by site index and forest type group within 100-mile radius of St Joe, Arkansas

Forest type group	Total	Site index								Not available
		20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90+	
Total	10,955,200	82,388	262,205	888,193	2,267,501	2,987,808	1,012,359	330,095	83,608	3,041,044
Loblolly / shortleaf pine group	1,445,136	0	4,720	39,174	207,852	532,039	210,803	98,366	17,906	334,276
Other eastern softwoods group	357,796	22,403	42,442	44,475	26,600	42,955	17,144	1,500	0	160,277
Pinyon / juniper group	15,995	0	0	0	0	0	0	0	0	15,995
Oak / pine group	1,101,314	31,862	60,033	103,770	306,496	257,947	53,864	20,016	0	267,326
Oak / hickory group	7,321,436	28,123	154,229	688,058	1,683,943	2,095,806	636,639	159,233	22,016	1,853,389
Oak / gum / cypress group	374,595	0	0	4,721	12,799	20,036	57,736	44,741	30,049	204,512
Elm / ash / cottonwood group	269,023	0	781	0	16,578	37,460	25,660	3,379	11,997	173,168
Other hardwoods group	22,952	0	0	6,327	7,278	0	3,348	0	0	5,998
Nonstocked	46,953	0	0	1,669	5,954	1,564	7,164	2,860	1,640	26,103

Table 5. Public timberland acres by site index and forest type group within 100-mile radius of St Joe, Arkansas

Forest type group	Total	Site index								Not available
		20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90+	
Total	2,422,853	24,657	57,079	136,962	572,429	897,911	252,275	51,353	20,361	409,826
Loblolly / shortleaf pine group	554,740	0	0	17,395	101,912	258,716	89,681	11,825	0	75,211
Other eastern softwoods group	48,691	9,688	9,039	10,761	0	0	0	0	0	19,203
Pinyon / juniper group	0	0	0	0	0	0	0	0	0	0
Oak / pine group	273,069	6,841	13,232	25,079	96,797	89,770	8,011	0	0	33,338
Oak / hickory group	1,398,359	8,127	34,027	82,170	361,027	527,906	128,731	24,671	2,568	229,133
Oak / gum / cypress group	95,192	0	0	1,558	0	7,749	22,075	11,997	11,794	40,019
Elm / ash / cottonwood group	35,112	0	781	0	1,640	13,770	0	0	5,998	12,922
Other hardwoods group	7,278	0	0	0	7,278	0	0	0	0	0
Nonstocked	10,411	0	0	0	3,775	0	3,775	2,860	0	0

Table 6. Private timberland acres by site index and forest type group within 100-mile radius of St Joe, Arkansas

Forest type group	Total	Site index								Not available
		20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90+	
Total	8,532,347	57,731	205,125	751,231	1,695,072	2,089,897	760,084	278,742	63,247	2,631,218
Loblolly / shortleaf pine group	890,395	0	4,720	21,779	105,940	273,323	121,121	86,541	17,906	259,065
Other eastern softwoods group	309,106	12,715	33,403	33,714	26,600	42,955	17,144	1,500	0	141,075
Pinyon / juniper group	15,995	0	0	0	0	0	0	0	0	15,995
Oak / pine group	828,245	25,021	46,801	78,691	209,699	168,178	45,853	20,016	0	233,987
Oak / hickory group	5,923,077	19,996	120,201	605,889	1,322,917	1,567,901	507,908	134,561	19,448	1,624,256
Oak / gum / cypress group	279,402	0	0	3,164	12,799	12,287	35,661	32,744	18,255	164,493
Elm / ash / cottonwood group	233,911	0	0	0	14,938	23,690	25,660	3,379	5,998	160,246
Other hardwoods group	15,674	0	0	6,327	0	0	3,348	0	0	5,998
Nonstocked	36,542	0	0	1,669	2,178	1,564	3,388	0	1,640	26,103

Table 7. Growing stock of merchantable bole biomass, saw log portion, and pulpwood/top wood portion in green tons by major species group and major ownership group within 70 miles of St Joe, Arkansas.

TOTAL MERCHANTABLE BOLE GROWING STOCK IN TONS				
Species group	Total	Ownership group		Not available
		Public	Private	
Total	321,840,143	87,694,524	234,145,619	0
Pines	47,485,426	16,512,633	30,972,793	0
Other softwoods	12,030,889	2,174,118	9,856,771	0
Soft hardwoods	34,034,520	9,379,600	24,654,920	0
Hard hardwoods	228,289,308	59,628,173	168,661,135	0

SAWLOG PORTION OF GROWING STOCK IN TONS				
Species group	Total	Ownership group		Not available
		Public	Private	
Total	168,352,419	53,484,268	114,868,151	0
Pines	36,443,289	14,228,942	22,214,346	0
Other softwoods	3,483,527	668,743	2,814,784	0
Soft hardwoods	14,662,467	4,704,974	9,957,493	0
Hard hardwoods	113,763,136	33,881,609	79,881,527	0

PULPWOOD and TOPWOOD PORTION OF GROWING STOCK IN TONS				
Species group	Total	Ownership group		Not available
		Public	Private	
Total	153,487,724	34,210,256	119,277,468	0
Pines	11,042,137	2,283,691	8,758,447	0
Other softwoods	8,547,362	1,505,375	7,041,987	0
Soft hardwoods	19,372,053	4,674,626	14,697,427	0
Hard hardwoods	114,526,172	25,746,564	88,779,608	0

Table 8. Annual net growth of merchantable bole biomass, saw log portion, and pulpwood/top wood portion in green tons by major species group and major ownership group within 70 miles of St Joe, Arkansas.

MERCHANTABLE BOLE BIOMASS NET ANNUAL GROWTH IN TONS				
Species group	Total	Ownership group		
		Public	Private	Not available
Total	8,259,163	1,714,395	6,549,457	-4,689
Pines	2,137,527	455,436	1,680,819	1,272
Other softwoods	413,226	59,329	352,656	1,241
Soft hardwoods	1,163,398	280,220	881,155	2,023
Hard hardwoods	4,545,012	919,410	3,634,827	-9,225

SAWLOG PORTION OF NET ANNUAL GROWTH IN TONS				
Species group	Total	Ownership group		
		Public	Private	Not available
Total	5,792,725	1,431,846	4,356,070	4,809
Pines	1,783,077	477,235	1,305,124	718
Other softwoods	159,299	26,076	132,915	307
Soft hardwoods	613,266	169,489	442,756	1,022
Hard hardwoods	3,237,083	759,046	2,475,275	2,763

PULPWOOD and TOPWOOD PORTION OF NET ANNUAL GROWTH IN TONS				
Species group	Total	Ownership group		
		Public	Private	Not available
Total	2,466,437	282,549	2,193,386	-9,498
Pines	354,450	-21,800	375,695	554
Other softwoods	253,927	33,253	219,740	933
Soft hardwoods	550,132	110,731	438,399	1,002
Hard hardwoods	1,307,930	160,365	1,159,553	-11,988

Table 9. Annual removals of merchantable bole biomass, saw log portion, and pulpwood/top wood portion in green tons by major species group and major ownership group within 70 miles of St Joe, Arkansas.

MERCHANTABLE BOLE BIOMASS ANNUAL REMOVALS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	346,752	1,910,053	530,284	346,752
Pines	207,427	756,216	17,286	207,427
Other softwoods	7,037	47,416	16,249	7,037
Soft hardwoods	11,928	134,685	75,370	11,928
Hard hardwoods	120,360	971,736	421,379	120,360

SAWLOG PORTION OF ANNUAL REMOVALS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	255,535	1,155,004	271,606	255,535
Pines	178,319	568,637	11,889	178,319
Other softwoods	1,988	9,369	3,490	1,988
Soft hardwoods	7,166	58,022	34,762	7,166
Hard hardwoods	68,062	518,976	221,465	68,062

PULPWOOD and TOPWOOD PORTION OF ANNUAL REMOVALS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	91,217	755,049	258,678	91,217
Pines	29,108	187,579	5,397	29,108
Other softwoods	5,049	38,047	12,759	5,049
Soft hardwoods	4,761	76,663	40,608	4,761
Hard hardwoods	52,298	452,760	199,914	52,298

Table 10. Annual surplus of merchantable bole biomass, saw log portion, and pulpwood/top wood portion in green tons by major species group and major ownership group within 70 miles of St Joe, Arkansas.

MERCHANTABLE BOLE BIOMASS ANNUAL NET SURPLUS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	5,472,073	1,367,643	4,639,404	-534,973
Pines	1,156,597	248,009	924,603	-16,014
Other softwoods	342,524	52,292	305,240	-15,008
Soft hardwoods	941,415	268,292	746,470	-73,347
Hard hardwoods	3,031,537	799,050	2,663,092	-430,604

SAWLOG PORTION OF ANNUAL NET SURPLUS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	4,110,580	1,176,311	3,201,066	-266,797
Pines	1,024,232	298,917	736,487	-11,171
Other softwoods	144,452	24,088	123,546	-3,182
Soft hardwoods	513,316	162,322	384,734	-33,741
Hard hardwoods	2,428,580	690,984	1,956,299	-218,703

PULPWOOD and TOPWOOD PORTION OF ANNUAL NET SURPLUS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	1,361,493	191,332	1,438,338	-268,176
Pines	132,365	-50,908	188,116	-4,843
Other softwoods	198,072	28,204	181,694	-11,826
Soft hardwoods	428,099	105,970	361,735	-39,606
Hard hardwoods	602,958	108,067	706,793	-211,902

Table 11. Growing stock of merchantable bole biomass, saw log portion, and pulpwood/top wood portion in green tons by major species group and major ownership group within 100 miles of St Joe, Arkansas.

TOTAL MERCHANTABLE BOLE GROWING STOCK IN TONS				
Species Group	Total	Ownership group		Not available
		Public	Private	
Total	605,178,689	168,502,649	436,676,040	0
Pines	108,190,770	50,371,758	57,819,012	0
Other softwoods	20,700,644	4,040,023	16,660,622	0
Soft hardwoods	64,552,265	18,370,978	46,181,287	0
Hard hardwoods	411,735,010	95,719,890	316,015,120	0

SAWLOG PORTION OF GROWING STOCK IN TONS				
Species Group	Total	Ownership group		Not available
		Public	Private	
Total	329,518,001	107,628,072	221,889,929	0
Pines	84,449,858	42,104,058	42,345,800	0
Other softwoods	7,853,330	2,013,904	5,839,426	0
Soft hardwoods	29,305,141	10,136,122	19,169,019	0
Hard hardwoods	207,909,673	53,373,989	154,535,684	0

PULPWOOD and TOPWOOD PORTION OF GROWING STOCK IN TONS				
Species Group	Total	Ownership group		Not available
		Public	Private	
Total	275,660,688	60,874,577	214,786,111	0
Pines	23,740,912	8,267,700	15,473,212	0
Other softwoods	12,847,314	2,026,119	10,821,196	0
Soft hardwoods	35,247,124	8,234,856	27,012,268	0
Hard hardwoods	203,825,337	42,345,901	161,479,436	0

Table 12. Annual net growth of merchantable bole biomass, saw log portion, and pulpwood/top wood portion in green tons by major species group and major ownership group within 100 miles of St Joe, Arkansas.

MERCHANTABLE BOLE BIOMASS NET ANNUAL GROWTH IN TONS

Species Group	Total	Ownership group		
		Public	Private	Not available
Total	21,079,217	5,261,477	15,784,066	33,674
Pines	12,611,445	3,005,933	9,586,062	19,450
Other softwoods	5,307,225	1,614,230	3,662,007	30,987
Soft hardwoods	939,510	149,196	788,391	1,923
Hard hardwoods	2,221,037	492,118	1,747,606	-18,687

SAWLOG PORTION OF NET ANNUAL GROWTH IN TONS

Species Group	Total	Ownership group		
		Public	Private	Not available
Total	11,482,657	3,063,954	8,390,099	28,604
Pines	4,174,358	1,539,513	2,604,144	30,701
Other softwoods	346,084	75,173	270,431	479
Soft hardwoods	1,074,717	261,278	825,914	-12,475
Hard hardwoods	5,887,499	1,187,990	4,689,610	9,899

PULPWOOD and TOPWOOD PORTION OF NET ANNUAL GROWTH IN TONS

Species Group	Total	Ownership group		
		Public	Private	Not available
Total	9,596,560	2,197,523	7,393,968	5,069
Pines	8,437,087	1,466,420	6,981,918	-11,250
Other softwoods	4,961,141	1,539,057	3,391,576	30,508
Soft hardwoods	-135,207	-112,082	-37,523	14,398
Hard hardwoods	-3,666,462	-695,872	-2,942,004	-28,586

Table 13. Annual removals of merchantable bole biomass, saw log portion, and pulpwood/top wood portion in green tons by major species group and major ownership group within 100 miles of St Joe, Arkansas.

MERCHANTABLE BOLE BIOMASS ANNUAL REMOVALS IN TONS

Species Group	Total	Ownership group		
		Public	Private	Not available
Total	5,619,622	473,654	3,954,436	1,191,532
Pines	2,214,776	220,760	1,745,912	248,104
Other softwoods	129,840	7,110	54,759	67,972
Soft hardwoods	325,221	33,636	179,539	112,046
Hard hardwoods	2,949,784	212,148	1,974,227	763,410

SAWLOG PORTION OF ANNUAL REMOVALS IN TONS

Species Group	Total	Ownership group		
		Public	Private	Not available
Total	3,561,003	327,940	2,506,683	726,380
Pines	1,646,079	185,899	1,245,987	214,193
Other softwoods	53,098	2,427	12,048	38,623
Soft hardwoods	152,202	22,248	80,173	49,781
Hard hardwoods	1,709,623	117,365	1,168,474	423,784

PULPWOOD and TOPWOOD PORTION OF ANNUAL REMOVALS IN TONS

Species Group	Total	Ownership group		
		Public	Private	Not available
Total	2,058,619	145,714	1,447,753	465,152
Pines	568,696	34,861	499,924	33,911
Other softwoods	76,742	4,683	42,711	29,349
Soft hardwoods	173,020	11,389	99,366	62,265
Hard hardwoods	1,240,161	94,782	805,752	339,626

Table 14. Annual surplus of merchantable bole biomass, saw log portion, and pulpwood/top wood portion in green tons by major species group and major ownership group within 100 miles of St Joe, Arkansas.

MERCHANTABLE BOLE BIOMASS ANNUAL NET SURPLUS IN TONS				
Species Group	Total	Ownership group		
		Public	Private	Not available
Total	15,459,595	4,787,823	11,829,630	-1,157,858
Pines	10,396,669	2,785,173	7,840,150	-228,654
Other softwoods	5,177,385	1,607,120	3,607,249	-36,984
Soft hardwoods	614,289	115,560	608,853	-110,123
Hard hardwoods	-728,748	279,970	-226,621	-782,097

SAWLOG PORTION OF ANNUAL NET SURPLUS IN TONS				
Species Group	Total	Ownership group		
		Public	Private	Not available
Total	7,921,655	2,736,015	5,883,416	-697,776
Pines	2,528,278	1,353,614	1,358,157	-183,492
Other softwoods	292,986	72,746	258,383	-38,144
Soft hardwoods	922,516	239,030	745,741	-62,256
Hard hardwoods	4,177,875	1,070,624	3,521,135	-413,884

PULPWOOD and TOPWOOD PORTION OF ANNUAL NET SURPLUS IN TONS				
Species Group	Total	Ownership group		
		Public	Private	Not available
Total	7,537,941	2,051,809	5,946,214	-460,082
Pines	7,868,391	1,431,559	6,481,993	-45,162
Other softwoods	4,884,399	1,534,374	3,348,865	1,159
Soft hardwoods	-308,227	-123,471	-136,889	-47,868
Hard hardwoods	-4,906,623	-790,654	-3,747,756	-368,212

Table 15. Hardwood saw timber growing stock and sustainable harvest increase in green tons of saw log portion of growing stock on timberland within 70 miles of St Joe, Arkansas.

Species group	Growing Stock Volume in green short tons					Gradeable log but does not meet grade 3 standards	Graded but does not contain gradeable log	Annual Sustainable Harvest Increase
	Total	Grade 1	Grade 2	Grade 3				
Total	237,132,362	21,381,694	38,903,224	121,442,984	43,364,347	12,040,113	6,491,575	
Select red oaks	3,526,925	1,031,417	1,032,511	1,462,996	0	0	85,067	
Other white oaks	9,405,487	1,083,401	8,934	7,998,655	0	314,497	313,516	
Other red oaks	59,500,727	5,354,385	11,915,929	30,370,064	8,737,353	3,122,996	1,422,311	
Hickory	27,208,824	2,880,884	6,811,464	11,421,343	4,444,715	1,650,418	758,498	
Hard maple	30,889,108	541,954	3,728,973	16,891,699	8,298,066	1,428,416	792,654	
Soft maple	57,577,262	4,221,741	7,327,726	27,026,094	15,896,134	3,105,568	1,371,209	
Beech	16,570,500	368,303	2,428,503	9,823,217	3,383,541	566,935	644,959	
Sweetgum	1,085,456	0	34,923	553,869	438,458	58,206	36,182	
Tupelo and blackgum	1,484,830	213,445	67,430	888,341	266,025	49,589	63,374	
Ash	363,216	0	75,307	159,969	70,672	57,269	16,143	
Cottonwood and aspen	18,030,590	2,531,584	3,158,979	10,329,505	1,095,020	915,502	491,079	
Basswood	6,315,591	1,683,643	1,500,836	2,267,673	501,951	361,488	246,078	
Yellow-poplar	4,035,421	895,628	707,954	1,790,199	232,412	409,228	168,209	
Black walnut	854,719	575,309	0	279,410	0	0	37,988	
Other eastern soft hardwoods	283,707	0	103,756	179,951	0	0	9,457	
Other eastern hard hardwoods	120,441	103,081	0	0	17,360	0	5,353	
Other	3,520,233	239,174	903,724	1,955,792	191,372	230,170	59,524	

GLOSSARY OF TERMS

Average annual net growth of growing stock: The annual change in volume of sound wood in live sawtimber and poletimber trees, and the total volume of trees entering these classes through ingrowth, less volume losses resulting from natural causes, over the last 5 years of inventory. Annual net growth is annual gross growth – annual mortality.

Average annual removals from growing stock: The average net growing-stock volume in growing-stock trees removed annually for roundwood forest products and the volume of removals for other purposes (i.e. land conversion).

Annual net surplus: The difference between average annual net growth and average annual net removals.

Forest type: A classification of forestland 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 the first group to be 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 tree: All live trees 5.0 inches (12.7) cm DBH or larger that meet (now or prospectively) regional merchantability requirements in terms of saw-log length, grade, and cull deductions. Excludes rough and rotten cull trees.

Log grade: A log classification based on external characteristics as indicators of quality or value. Also see Tree grade. (See USDA, 2003 on tree grading field techniques.)

Merchantable: Refers to a pulpwood or sawlog section that meets pulpwood or sawlog specifications, respectively.

Net annual growth: The average annual net increase in the volume of trees during the period between inventories. Components include the increment in net volume of trees at the beginning of the specific year surviving to its end, plus the net volume of trees reaching the minimum size class during the year, minus the volume of trees that died during the year, and minus the net volume of trees that became cull trees during the year.

Net volume in cubic feet: The gross volume in cubic feet less deductions for rot, roughness, and poor form. Volume is computed for the central stem from a 1-foot stump to a minimum 4.0-inch top diameter outside bark, or to the point where the central stem breaks into limbs.

Nonstocked: Forestland stocked with less than 10 percent of full stocking with all live trees. Examples are recently cutover areas or recently reverted agricultural fields.

Other red oaks: A group of species in the genus *Quercus* that includes scarlet oak, northern pin oak, southern red oak, bear oak, shingle oak, laurel oak, blackjack oak, water oak, pin oak, willow oak, and black oak.

Other white oaks: A group of species in the genus *Quercus* that includes overcup oak, chestnut oak, and post oak.

Other softwoods: softwood species other than pines. Will include redcedar, bald cypress, and cypress

Pulpwood: Roundwood, whole-tree chips, or wood residues used for the production of wood pulp.

Saw log: A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark of 6 inches for softwoods and 8 inches for hardwoods, or meeting other combinations of size and defect specified by regional standards.

Sawtimber tree: A live tree of commercial species containing at least a 12-foot sawlog or two noncontiguous saw logs 8 feet or longer, and meeting regional specifications for freedom from defect. Softwoods must be at least 9.0 inches d.b.h. Hardwoods must be at least 11.0 inches diameter outside bark (d.o.b.).

Select red oaks: A group of species in the genus *Quercus* that includes cherrybark oak, northern red oak, and Shumard oak.

Select white oaks: A group of species in the genus *Quercus* that includes white oak, swamp white oak, bur oak, swamp chestnut oak, and chinkapin oak.

Timberland: Forestland that is producing or is capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation. (Note: Areas qualifying as timberland are capable of producing in excess of 20 cubic feet per acre per year of industrial wood in natural stands. Currently inaccessible and inoperable areas are included.)

Tons: Tons expressed in this report are short tons (2000 pounds) and are expressed in green weight. Tons in this report are calculated from net volume in cubic feet, which excludes bark.

Topwood: Merchantable pulpwood that is found above the sawlog portion of sawtimber trees.

Adapted from Forest Inventory and Analysis Glossary of Terms. Last accessed July 3, 2021.

<https://www.nrs.fs.fed.us/fia/data-tools/state-reports/glossary/>



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