

2022

Timber Supply, Mena, Arkansas



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

15 June 2022

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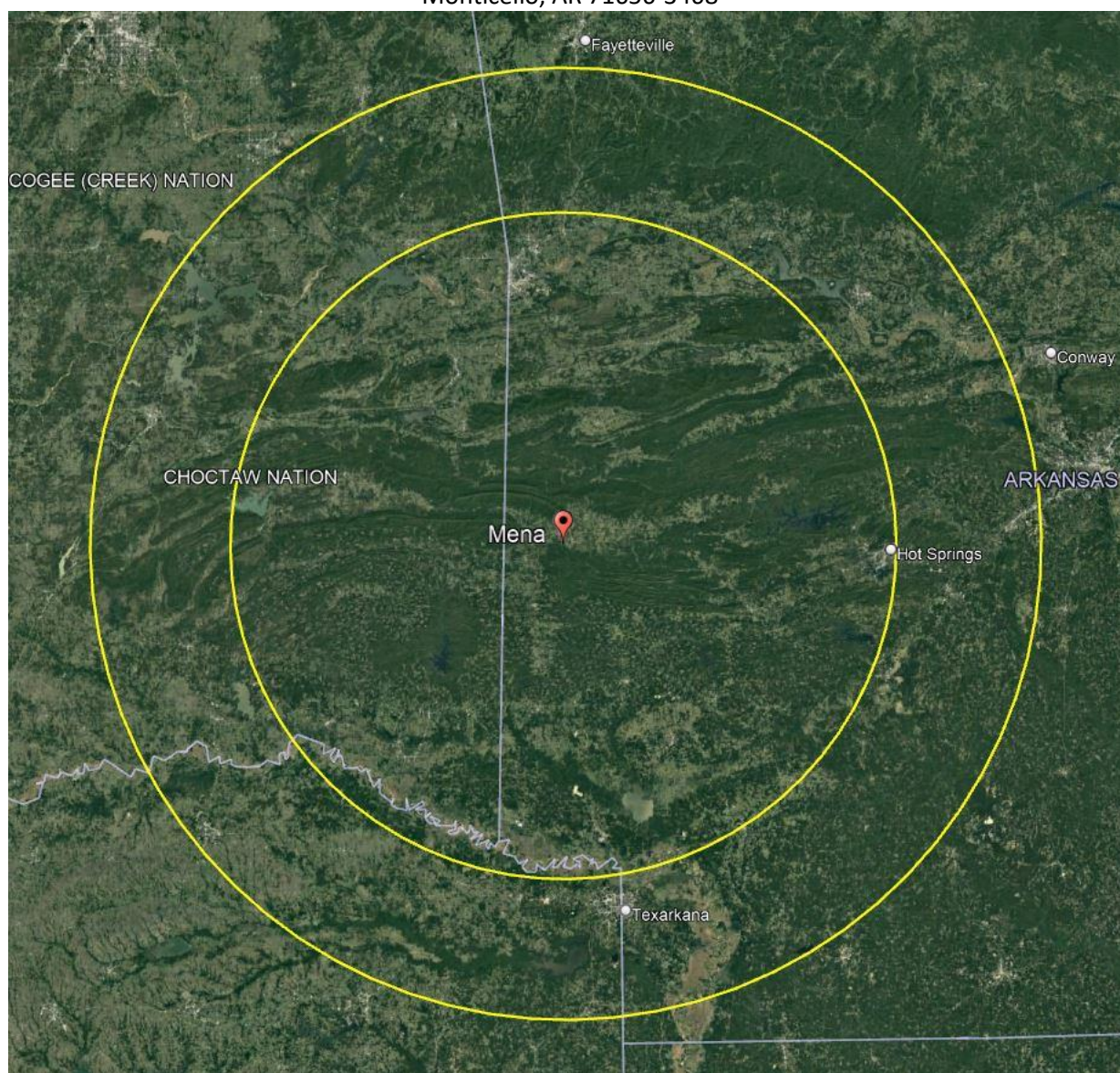


Figure 1. 70 and 100-mile radii around Mena, Arkansas.

Summary

The timber resources in the 70-miles surrounding Mena, Arkansas can support additional harvests greater than 3.8 million tons per year in pine saw logs and 1.5 million tons in pine pulpwood and top wood. Within 100 miles, these values increase to 6.4 and 10.1 million tons per year in saw logs and pulpwood/top wood, respectively. Annual hardwood surplus within 70 miles is 2.1 million tons of sawtimber and 1.0 million tons of pulpwood. When the supply area is increased to a 100-mile radius, the annual surplus in hardwood sawtimber is 4.0 million tons, but there is a DEFICIT of 5.3 million tons in pulpwood and topwood. Net hardwood growth is less than removals, but much of the deficit in the pulpwood and topwood categories is caused by pulpwood class trees increasing in diameter and moving into sawtimber classes. However, the high deficits in pulpwood net growth will cause a decrease in available sawtimber over time.

This data comes from the most recent FIA data (AR-2020, TX-2020, 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 7.1 and 13.5 million acres of timber land within 70 and 100 miles, respectively, of Mena, Arkansas
- Pine is the dominant forest type in the region (41%) followed by Oak/pine (12%) and upland hardwood (7%)
- Naturally regenerated forests cover account for 75% of all forestland in the region, but 53% of pine forests are artificially regenerated. Only 5% of non-pine forests are artificially regenerated
- The site index of pine is higher in private (75) than public timber land (55).
- 77% of the timberland is privately owned. Forest growing stock, growth, and removals are generally proportional to ownership.
- Within 70 miles of Mena
 - 211.5 million tons of pine growing stock, 159.0 million tons of which is pine saw timber and 52.4 million tons of pulpwood and top wood
 - 182.4 million tons of hardwood growing stock, 93.0 million tons of which is saw timber and 89.4 million tons is pulpwood and top wood
 - Annual surplus in pine growth is 3.8 million tons in saw timber and 1.5 million tons in pulpwood
 - Annual surplus in hardwood growth is 2.1 million tons in saw timber and 1.0 million tons in pulpwood
- Within 100 miles of Mena
 - 351.2 million tons of pine growing stock, 261.2 million tons of which is pine saw timber and 90.0 million tons of pulpwood and top wood
 - 405.4 million tons of hardwood growing stock, 213.0 million tons of which is saw timber and 192.3 million tons is pulpwood and top wood
 - Annual surplus in pine growth is 6.4 million tons in saw timber and 10.1 million tons in pulpwood
 - Annual surplus in hardwood growth is 4.0 million tons in saw timber, but there is an annual deficit of 5.3 million tons in hardwood pulpwood and topwood.

- Hardwood resources consist primarily of various oak species, beech, sweetgum, and tupelo/blackgum. 32% 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 32% 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 50% 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.

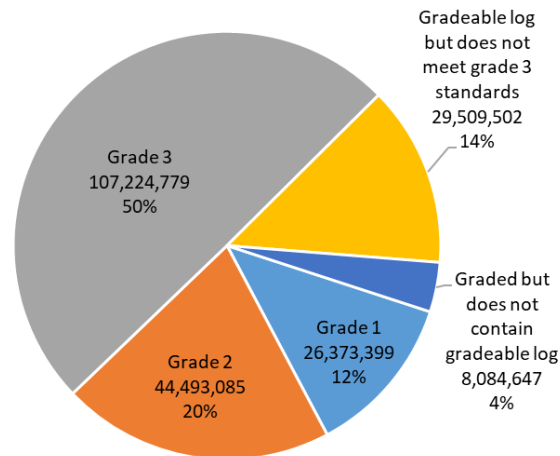


Figure 2. Hardwood saw timber resources by tree trade within a 100-mile radius of Mena, Arkansas. Volumes are saw timber in green short tons.

The species groups present in the region are largely red and white oaks and sweetgum, which combined make up 86% of the total hardwood saw timber. Select red oak (15%) and select white oak (23%) are present as well. Select species are generally those preferred for factory grade lumber production.

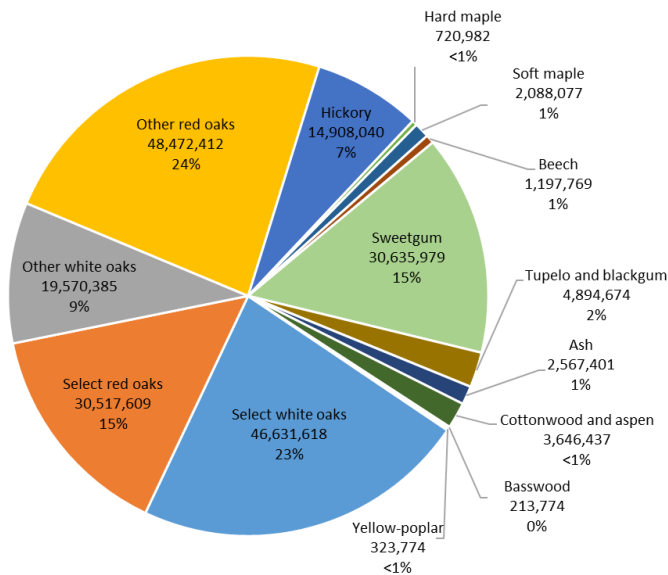


Figure 3. Major hardwood species groups present within a 100-mile radius of Mena, Arkansas. Volume numbers are saw timber in green short tons.

Many species present could sustain substantial increases in sawtimber harvest levels. The primary species are select white oaks, select red oaks, other red oaks, and sweetgum. (Figure 4).

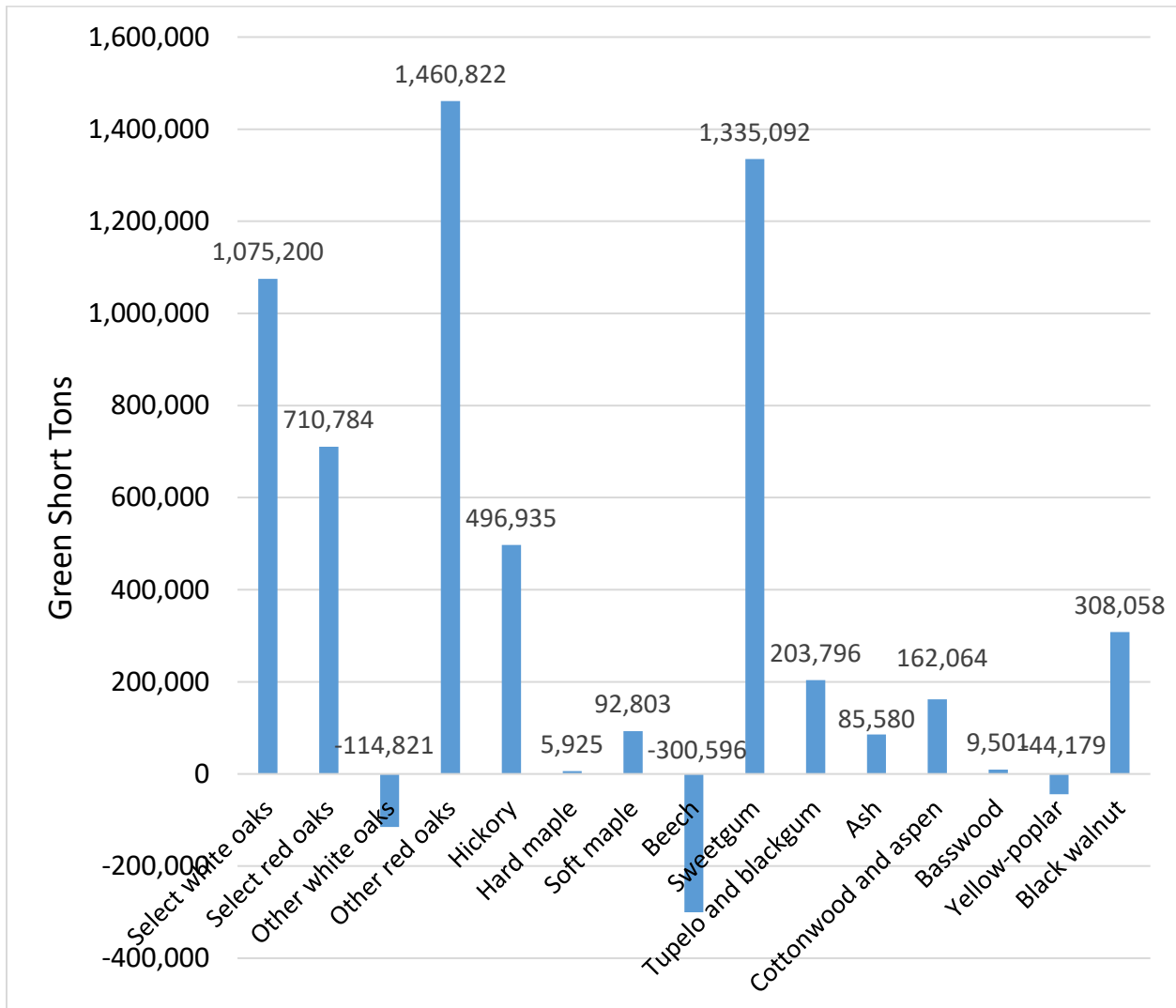


Figure 4. Sustainable annual allowable increase in saw timber harvesting in various species groups. Values are in saw timber green short tons per year within a 100-mile radius of Mena, Arkansas.

Purpose/Objectives

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

- Timberland area within 70 and 100 miles aerial radius of Mena, Arkansas by ownership and forest type group (Tables 1 and 2)
- Timberland area within 100 miles aerial radius of Mena, 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), Texas (2020), 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 34.537048 degrees north latitude and - 93.493025 degrees west longitude (Mena, 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 Mena, Arkansas.

Forest type group	Total	Ownership group	
		Public	Private
Total	7,058,935	1,803,331	5,255,604
Loblolly / shortleaf pine group	3,363,388	874,062	2,489,325
Other eastern softwoods group	76,915	2,999	73,916
Oak / pine group	1,048,635	331,642	716,993
Oak / hickory group	1,873,611	505,862	1,367,748
Oak / gum / cypress group	439,689	48,028	391,661
Elm / ash / cottonwood group	196,308	36,125	160,184
Other hardwoods group	17,990	0	17,990
Nonstocked	42,399	4,613	37,787

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

Forest type group	Total	Ownership group	
		Public	Private
Total	13,459,392	3,070,785	10,388,606
Loblolly / shortleaf pine group	5,574,989	1,121,538	4,453,451
Other eastern softwoods group	144,552	8,908	135,644
Oak / pine group	1,649,220	441,501	1,207,719
Oak / hickory group	4,628,752	1,325,893	3,302,859
Oak / gum / cypress group	917,820	92,682	825,139
Elm / ash / cottonwood group	433,264	69,828	363,436
Maple / beech / birch group	1,477	0	1,477
Other hardwoods group	23,812	5,823	17,990
Exotic hardwoods group	4,223	0	4,223
Nonstocked	81,282	4,613	76,669

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

Forest type group	Total	Stand origin	
		Natural stands	Clear evidence of artificial regeneration
Total	13,459,392	10,094,718	3,364,674
Loblolly / shortleaf pine group	5,574,989	2,599,202	2,975,787
Other eastern softwoods group	144,552	142,956	1,595
Oak / pine group	1,649,220	1,461,398	187,822
Oak / hickory group	4,628,752	4,501,878	126,874
Oak / gum / cypress group	917,820	870,986	46,834
Elm / ash / cottonwood group	433,264	421,411	11,853
Maple / beech / birch group	1,477	1,477	0
Other hardwoods group	23,812	23,812	0
Exotic hardwoods group	4,223	4,223	0
Nonstocked	81,282	67,373	13,909

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

Forest type group	Total	Site index							Not available
		30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90+	
Total	13,459,392	54,807	642,600	1,894,218	3,105,998	2,288,823	1,151,859	464,254	3,856,832
Loblolly / shortleaf pine group	5,574,989	12,851	114,011	566,993	1,283,727	1,337,390	644,715	312,880	1,302,422
Other eastern softwoods group	144,552	0	16,254	20,965	21,419	5,981	1,500	0	78,433
Oak / pine group	1,649,220	17,945	86,644	347,031	414,549	201,823	167,193	30,171	383,863
Oak / hickory group	4,628,752	24,010	425,691	902,470	1,257,495	522,578	199,330	41,690	1,255,489
Oak / gum / cypress group	917,820	0	0	24,685	69,331	167,061	108,007	60,829	487,908
Elm / ash / cottonwood group	433,264	0	0	14,361	49,944	32,427	20,730	18,684	297,118
Maple / beech / birch group	1,477	0	0	0	0	0	1,477	0	0
Other hardwoods group	23,812	0	0	11,766	0	6,048	0	0	5,998
Exotic hardwoods group	4,223	0	0	0	0	0	0	0	4,223
Nonstocked	81,282	0	0	5,947	9,533	15,515	8,908	0	41,379

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

Forest type group	Total	Site index							Not available
		30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90+	
Total	3,070,785	16,343	203,658	756,625	1,096,340	366,108	111,272	36,589	483,850
Loblolly / shortleaf pine group	1,121,538	5,443	63,239	258,945	420,835	204,513	43,788	0	124,775
Other eastern softwoods group	8,908	0	5,909	0	0	0	0	0	2,999
Oak / pine group	441,501	5,257	24,929	130,661	174,739	25,642	9,931	6,037	64,304
Oak / hickory group	1,325,893	5,643	109,582	361,197	482,258	114,629	25,323	6,430	220,832
Oak / gum / cypress group	92,682	0	0	0	4,737	19,812	18,721	18,124	31,288
Elm / ash / cottonwood group	69,828	0	0	0	13,770	1,512	10,648	5,998	37,900
Maple / beech / birch group	0	0	0	0	0	0	0	0	0
Other hardwoods group	5,823	0	0	5,823	0	0	0	0	0
Exotic hardwoods group	0	0	0	0	0	0	0	0	0
Nonstocked	4,613	0	0	0	0	0	2,860	0	1,752

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

Forest type group	Total	Site index							Not available
		30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90+	
Total	3,070,785	16,343	203,658	756,625	1,096,340	366,108	111,272	36,589	483,850
Loblolly / shortleaf pine group	1,121,538	5,443	63,239	258,945	420,835	204,513	43,788	0	124,775
Other eastern softwoods group	8,908	0	5,909	0	0	0	0	0	2,999
Oak / pine group	441,501	5,257	24,929	130,661	174,739	25,642	9,931	6,037	64,304
Oak / hickory group	1,325,893	5,643	109,582	361,197	482,258	114,629	25,323	6,430	220,832
Oak / gum / cypress group	92,682	0	0	0	4,737	19,812	18,721	18,124	31,288
Elm / ash / cottonwood group	69,828	0	0	0	13,770	1,512	10,648	5,998	37,900
Maple / beech / birch group	0	0	0	0	0	0	0	0	0
Other hardwoods group	5,823	0	0	5,823	0	0	0	0	0
Exotic hardwoods group	0	0	0	0	0	0	0	0	0
Nonstocked	4,613	0	0	0	0	0	2,860	0	1,752

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 Mena, Arkansas.

TOTAL MERCHANTABLE BOLE GROWING STOCK IN TONS				
Species group	Total	Ownership group		Not available
		Public	Private	
Total	400,074,843	129,087,653	270,987,190	0
Pines	211,471,265	73,654,965	137,816,300	0
Other softwoods	6,168,063	830,424	5,337,639	0
Soft hardwoods	41,457,139	9,415,318	32,041,821	0
Hard hardwoods	140,978,376	45,186,946	95,791,430	0

SAWLOG PORTION OF GROWING STOCK IN TONS				
Species group	Total	Ownership group		Not available
		Public	Private	
Total	255,421,666	88,186,324	167,235,343	0
Pines	159,043,994	61,801,737	97,242,258	0
Other softwoods	3,369,170	362,836	3,006,334	0
Soft hardwoods	18,418,913	4,434,552	13,984,361	0
Hard hardwoods	74,589,589	21,587,200	53,002,390	0

PULPWOOD and TOPWOOD PORTION OF GROWING STOCK IN TONS				
Species group	Total	Ownership group		Not available
		Public	Private	
Total	144,653,177	40,901,329	103,751,847	0
Pines	52,427,271	11,853,228	40,574,042	0
Other softwoods	2,798,893	467,588	2,331,305	0
Soft hardwoods	23,038,226	4,980,766	18,057,460	0
Hard hardwoods	66,388,787	23,599,746	42,789,040	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 Mena, Arkansas.

MERCHANTABLE BOLE BIOMASS NET ANNUAL GROWTH IN TONS				
Species group	Total	Ownership group		
		Public	Private	Not available
Total	18,678,375	3,357,302	15,304,006	17,068
Pines	13,429,333	2,062,223	11,350,913	16,197
Other softwoods	212,356	32,264	180,092	0
Soft hardwoods	1,251,358	226,879	1,025,888	-1,409
Hard hardwoods	3,785,328	1,035,936	2,747,112	2,281

SAWLOG PORTION OF NET ANNUAL GROWTH IN TONS				
Species group	Total	Ownership group		
		Public	Private	Not available
Total	13,247,433	2,874,553	10,356,199	16,681
Pines	10,008,134	2,049,784	7,944,208	14,141
Other softwoods	124,448	19,172	105,276	0
Soft hardwoods	636,482	131,989	504,493	0
Hard hardwoods	2,478,369	673,608	1,802,221	2,540

PULPWOOD and TOPWOOD PORTION OF NET ANNUAL GROWTH IN TONS				
Species group	Total	Ownership group		
		Public	Private	Not available
Total	5,430,942	482,749	4,947,806	387
Pines	3,421,200	12,439	3,406,705	2,056
Other softwoods	87,908	13,092	74,815	0
Soft hardwoods	614,876	94,890	521,395	-1,409
Hard hardwoods	1,306,959	362,327	944,891	-259

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 Mena, Arkansas.

MERCHANTABLE BOLE BIOMASS ANNUAL REMOVALS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	10,064,205	439,444	9,394,660	230,101
Pines	8,142,898	367,992	7,619,113	155,793
Other softwoods	12,387	4,762	7,624	0
Soft hardwoods	468,129	0	463,930	4,199
Hard hardwoods	1,440,791	66,690	1,303,993	70,109

SAWLOG PORTION OF ANNUAL REMOVALS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	7,262,629	300,167	6,793,949	168,513
Pines	6,223,036	270,376	5,814,170	138,490
Other softwoods	4,080	2,096	1,984	0
Soft hardwoods	163,817	0	163,817	0
Hard hardwoods	871,697	27,696	813,978	30,023

PULPWOOD and TOPWOOD PORTION OF ANNUAL REMOVALS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	2,801,575	139,277	2,600,711	61,588
Pines	1,919,862	97,616	1,804,943	17,303
Other softwoods	8,307	2,666	5,640	0
Soft hardwoods	304,311	0	300,112	4,199
Hard hardwoods	569,095	38,994	490,015	40,086

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 Mena, Arkansas.

MERCHANTABLE BOLE BIOMASS ANNUAL NET SURPLUS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	8,614,171	2,917,858	5,909,346	-213,033
Pines	5,286,435	1,694,232	3,731,800	-139,596
Other softwoods	199,969	27,502	172,468	0
Soft hardwoods	783,229	226,879	561,959	-5,609
Hard hardwoods	2,344,537	969,246	1,443,120	-67,828

SAWLOG PORTION OF ANNUAL NET SURPLUS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	5,984,804	2,574,386	3,562,250	-151,832
Pines	3,785,098	1,779,409	2,130,038	-124,349
Other softwoods	120,368	17,076	103,293	0
Soft hardwoods	472,665	131,989	340,676	0
Hard hardwoods	1,606,673	645,913	988,243	-27,483

PULPWOOD and TOPWOOD PORTION OF ANNUAL NET SURPLUS IN TONS

Species group	Total	Ownership group		
		Public	Private	Not available
Total	2,629,367	343,472	2,347,096	-61,201
Pines	1,501,337	-85,177	1,601,762	-15,247
Other softwoods	79,601	10,426	69,175	0
Soft hardwoods	310,564	94,890	221,283	-5,609
Hard hardwoods	737,864	323,333	454,876	-40,345

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 Mena, Arkansas.

TOTAL MERCHANTABLE BOLE GROWING STOCK IN TONS				
Species Group	Total	Ownership group		Not available
		Public	Private	
Total	767,778,672	222,032,606	545,746,067	0
Pines	351,194,227	98,427,340	252,766,886	0
Other softwoods	11,228,718	2,015,044	9,213,675	0
Soft hardwoods	91,273,437	21,073,834	70,199,603	0
Hard hardwoods	314,082,290	100,516,388	213,565,903	0

SAWLOG PORTION OF GROWING STOCK IN TONS				
Species Group	Total	Ownership group		Not available
		Public	Private	
Total	479,899,914	148,738,133	331,161,781	0
Pines	261,216,221	82,870,176	178,346,045	0
Other softwoods	5,637,318	949,183	4,688,135	0
Soft hardwoods	41,733,372	10,503,911	31,229,461	0
Hard hardwoods	171,313,003	54,414,863	116,898,140	0

PULPWOOD and TOPWOOD PORTION OF GROWING STOCK IN TONS				
Species Group	Total	Ownership group		Not available
		Public	Private	
Total	287,878,758	73,294,473	214,584,286	0
Pines	89,978,006	15,557,164	74,420,841	0
Other softwoods	5,591,400	1,065,861	4,525,540	0
Soft hardwoods	49,540,065	10,569,923	38,970,142	0
Hard hardwoods	142,769,287	46,101,525	96,667,763	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 Mena, Arkansas.

MERCHANTABLE BOLE BIOMASS NET ANNUAL GROWTH IN TONS				
Species Group	Total	Ownership group		
		Public	Private	Not available
Total	57,498,888	8,075,737	49,373,872	49,279
Pines	30,526,042	4,420,476	26,086,653	18,912
Other softwoods	23,239,076	2,922,037	20,291,367	25,671
Soft hardwoods	476,910	83,700	393,209	0
Hard hardwoods	3,256,861	649,523	2,602,643	4,696

SAWLOG PORTION OF NET ANNUAL GROWTH IN TONS				
Species Group	Total	Ownership group		
		Public	Private	Not available
Total	23,777,149	4,447,211	19,314,631	15,308
Pines	16,903,318	2,773,299	14,106,173	23,845
Other softwoods	217,233	37,092	180,141	0
Soft hardwoods	1,497,728	344,537	1,152,825	366
Hard hardwoods	5,158,870	1,292,282	3,875,492	-8,903

PULPWOOD and TOPWOOD PORTION OF NET ANNUAL GROWTH IN TONS				
Species Group	Total	Ownership group		
		Public	Private	Not available
Total	33,721,739	3,628,526	30,059,241	33,971
Pines	13,622,724	1,647,177	11,980,480	-4,933
Other softwoods	23,021,843	2,884,945	20,111,226	25,671
Soft hardwoods	-1,020,818	-260,837	-759,616	-366
Hard hardwoods	-1,902,010	-642,760	-1,272,849	13,599

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 Mena, Arkansas.

MERCHANTABLE BOLE BIOMASS ANNUAL REMOVALS IN TONS

Species Group	Total	Ownership group		
		Public	Private	Not available
Total	19,031,859	793,543	17,635,516	602,799
Pines	13,960,057	637,472	13,081,238	241,348
Other softwoods	81,135	11,850	24,833	44,452
Soft hardwoods	1,063,250	4,016	993,863	65,371
Hard hardwoods	3,927,417	140,206	3,535,582	251,628

SAWLOG PORTION OF ANNUAL REMOVALS IN TONS

Species Group	Total	Ownership group		
		Public	Private	Not available
Total	13,172,835	558,528	12,230,647	383,659
Pines	10,484,824	494,318	9,789,824	200,683
Other softwoods	45,248	3,693	6,241	35,314
Soft hardwoods	356,856	0	339,682	17,175
Hard hardwoods	2,285,906	60,517	2,094,901	130,488

PULPWOOD and TOPWOOD PORTION OF ANNUAL REMOVALS IN TONS

Species Group	Total	Ownership group		
		Public	Private	Not available
Total	5,859,024	235,015	5,404,869	219,140
Pines	3,475,232	143,154	3,291,414	40,665
Other softwoods	35,886	8,157	18,592	9,138
Soft hardwoods	706,394	4,016	654,181	48,197
Hard hardwoods	1,641,511	79,689	1,440,682	121,140

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 Mena, Arkansas.

MERCHANTABLE BOLE BIOMASS ANNUAL NET SURPLUS IN TONS				
Species Group	Total	Ownership group		
		Public	Private	Not available
Total	38,467,029	7,282,194	31,738,356	-553,520
Pines	16,565,985	3,783,005	13,005,415	-222,435
Other softwoods	23,157,941	2,910,188	20,266,534	-18,781
Soft hardwoods	-586,340	79,685	-600,653	-65,371
Hard hardwoods	-670,556	509,316	-932,940	-246,933

SAWLOG PORTION OF ANNUAL NET SURPLUS IN TONS				
Species Group	Total	Ownership group		
		Public	Private	Not available
Total	10,604,314	3,888,682	7,083,984	-368,352
Pines	6,418,493	2,278,982	4,316,349	-176,837
Other softwoods	171,985	33,399	173,900	-35,314
Soft hardwoods	1,140,872	344,537	813,144	-16,809
Hard hardwoods	2,872,965	1,231,765	1,780,591	-139,391

PULPWOOD and TOPWOOD PORTION OF ANNUAL NET SURPLUS IN TONS				
Species Group	Total	Ownership group		
		Public	Private	Not available
Total	27,862,715	3,393,511	24,654,373	-185,169
Pines	10,147,492	1,504,023	8,689,066	-45,598
Other softwoods	22,985,956	2,876,789	20,092,634	16,533
Soft hardwoods	-1,727,212	-264,852	-1,413,797	-48,563
Hard hardwoods	-3,543,521	-722,449	-2,713,531	-107,541

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 Mena, 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	215,685,412	26,373,399	44,493,085	107,224,779	29,509,502	8,084,647	5,511,705	
Select white oaks	46,631,618	6,709,642	10,870,677	22,398,687	5,085,869	1,566,743	1,075,200	
Select red oaks	30,517,609	6,213,383	9,594,071	11,364,367	2,577,432	768,356	710,784	
Other white oaks	19,570,385	723,446	3,119,382	11,210,770	3,965,018	551,769	-114,821	
Other red oaks	48,472,412	3,373,521	8,998,235	26,162,722	8,569,217	1,368,717	1,460,822	
Hickory	14,908,040	1,078,555	3,046,196	7,881,650	2,678,314	223,325	496,935	
Hard maple	720,982	0	0	462,291	230,197	28,495	5,925	
Soft maple	2,088,077	59,382	246,998	939,310	459,773	382,614	92,803	
Beech	1,197,769	0	121,414	805,899	163,234	107,222	-300,596	
Sweetgum	30,635,979	4,547,418	4,851,222	16,401,223	3,057,876	1,778,239	1,335,092	
Tupelo and blackgum	4,894,674	190,809	899,175	2,611,034	746,830	446,827	203,796	
Ash	2,567,401	158,335	615,857	1,432,567	160,498	200,143	85,580	
Cottonwood and aspen	3,646,437	2,857,517	450,376	338,544	0	0	162,064	
Basswood	213,774	0	90,932	122,842	0	0	9,501	
Yellow-poplar	323,774	0	17,347	165,826	34,789	105,812	-44,179	
Black walnut	9,296,482	461,391	1,571,206	4,927,045	1,780,455	556,385	308,058	
Other eastern soft hardwoods	556,658	0	0	342,559	162,081	52,018	24,740	

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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