LLCOA
Forest Stewardship Plan

Appendix A

COMPREHENSIVE INVENTORY FOR
STAND A-1 – 88.00 +/- acres

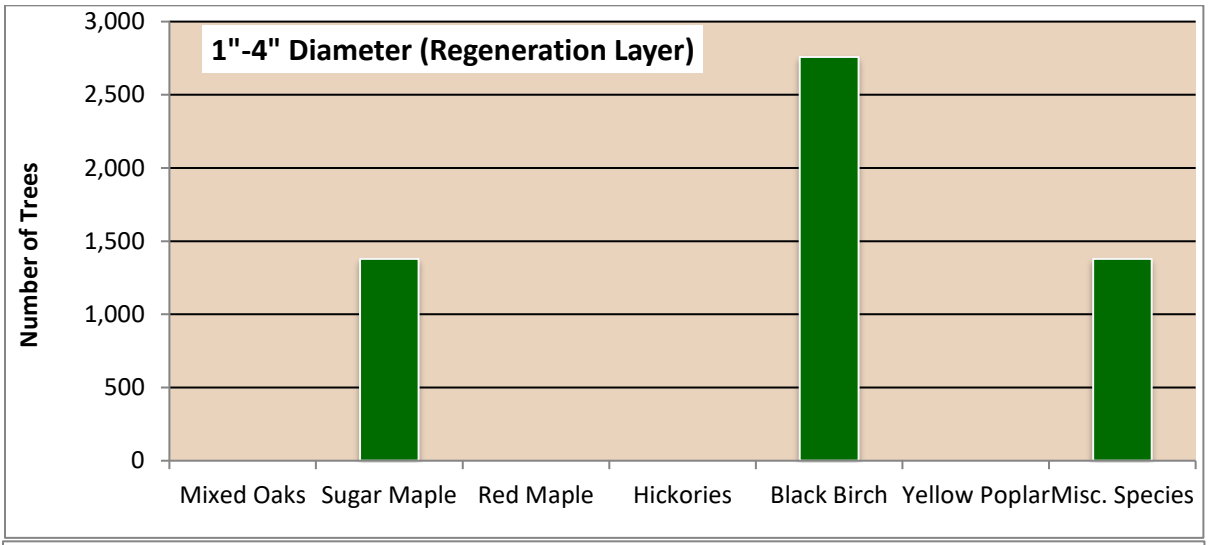
1. Number of Trees

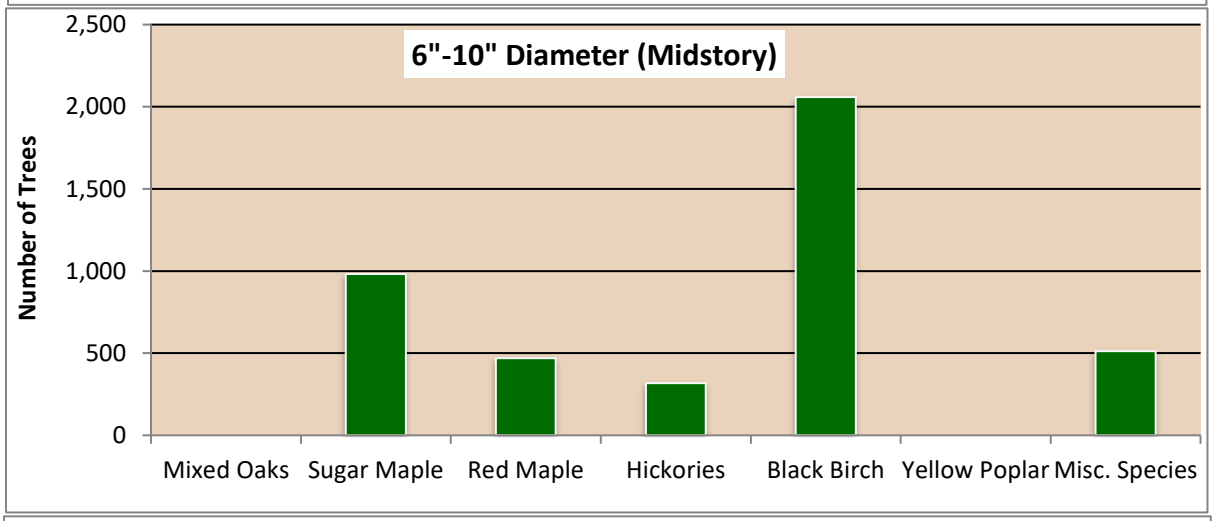
The following is an estimate of the number of 1" diameter and larger trees within the wooded stand, by species and size class. Sizes are reported in diameters at breast height (DBH).

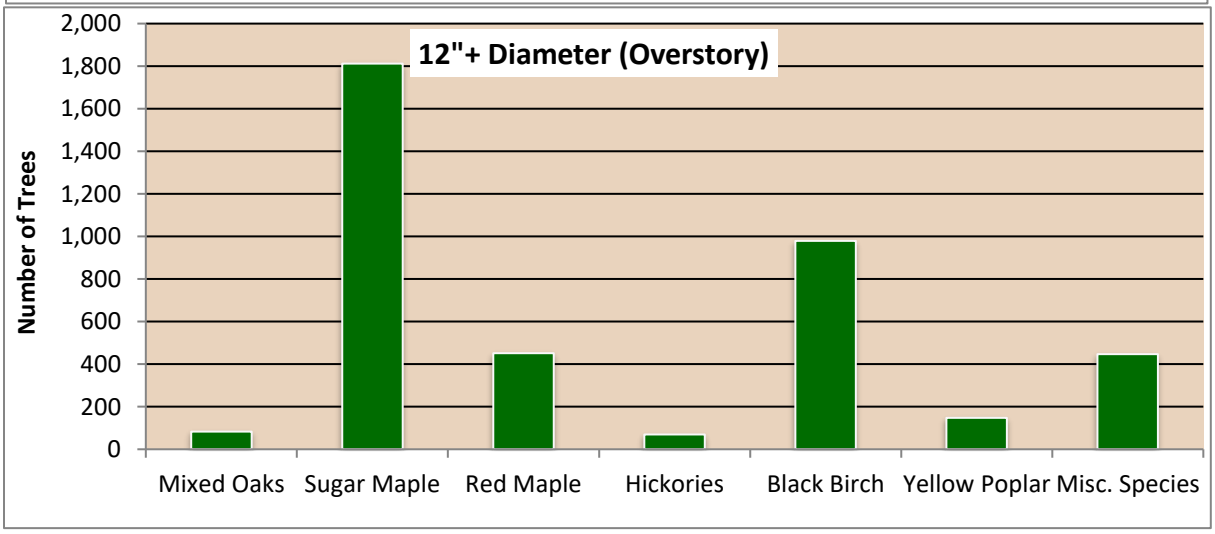
	Size Class				
Species	**1-4"**	**6-10"**	**12-14"**	**16"+**	**Total**
Mixed Oaks	---	---	---	82	82
Sugar Maple	1,379	981	897	915	4,171
Red Maple	---	469	172	279	920
Hickories	---	318	---	70	388
Black Birch	2,758	2,058	362	616	5,795
Yellow Poplar	---	---	---	147	147
Misc. Species	1,379	512	385	62	2,338
Total	**5,516**	**4,338**	**1,816**	**2,171**	**13,842**

Average number of trees per acre	157
Average tree diameter (DBH)	10.4”
Average total basal area per acre	92 sq. ft.
Average stocking percent	78%

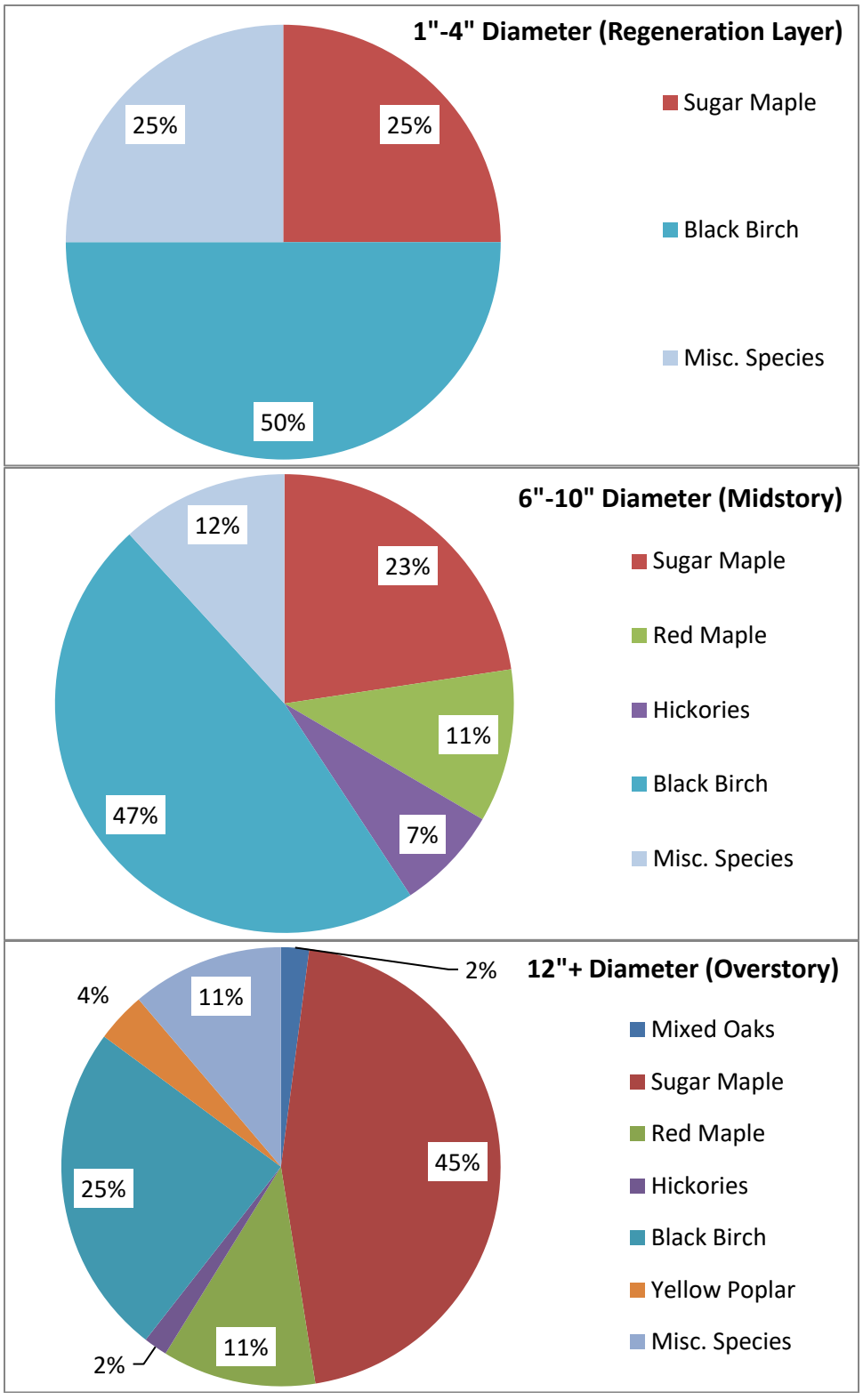
Graphic Representation of Number of Trees







Graphic Representation of Number of Trees – Percent Distribution



2. Timber Volume

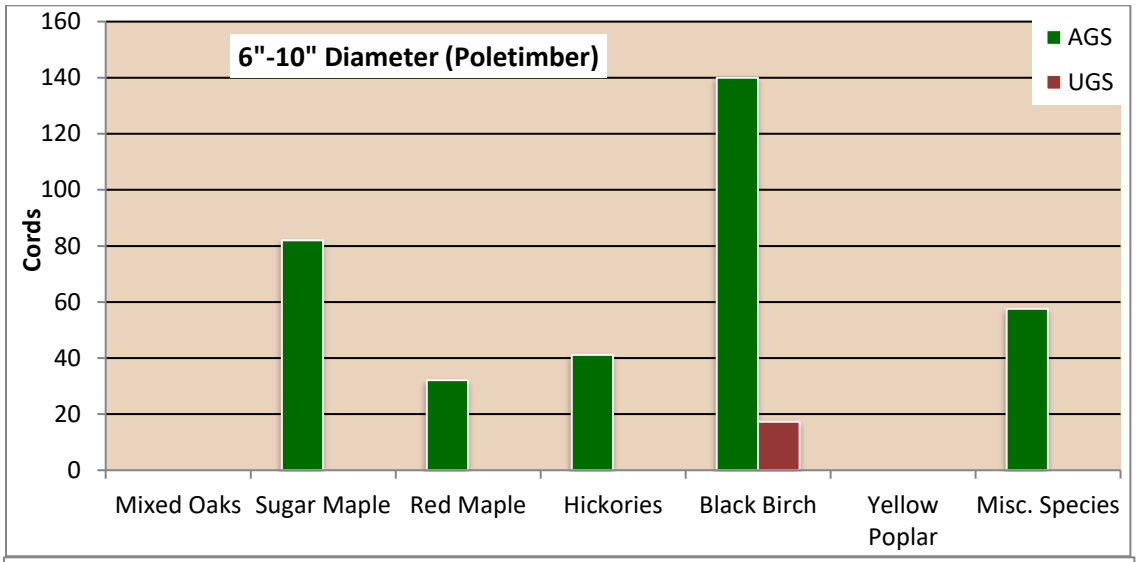
The following is an estimate of the total gross merchantable volume contained in trees on within the wooded stand, by species, size class, and quality. Volume is estimated by the Doyle Log Rule for trees of average form. Poletimber volume is reported in cords. Sawtimber volume is reported in board feet, and in cords (in parentheses).

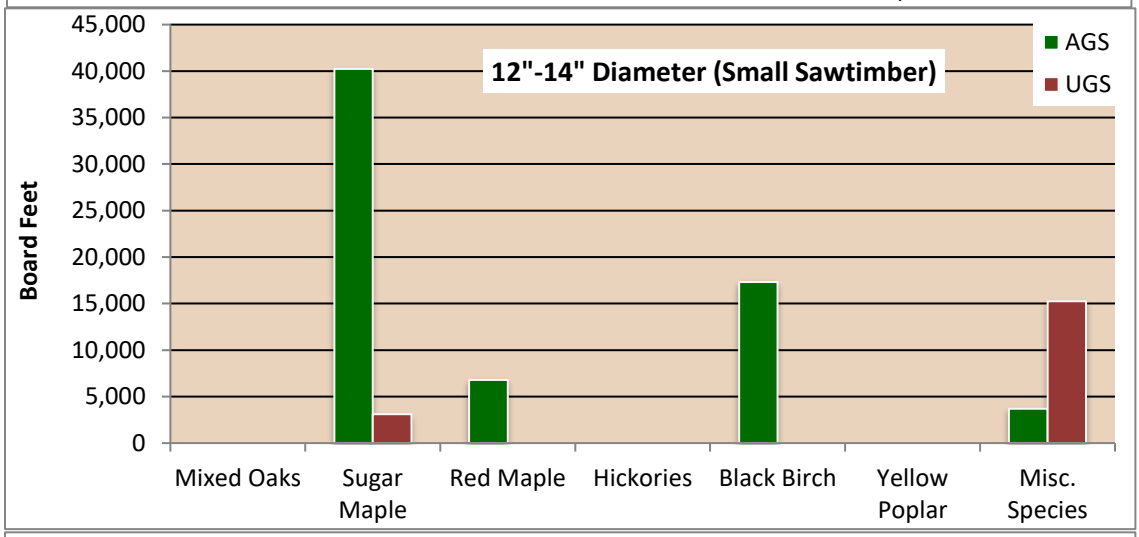
	---------- Size Class ----------							
	Poletimber		---------- Sawtimber ----------				Sawtimber Total	
	6-10"		12-14"		16"+			
Species	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**
Mixed Oaks	---	---	---	---	19,239	---	19,239	---
Sugar Maple	82	---	40,246	3,102	152,212	14,545	192,458	17,647
Red Maple	32	---	6,808	---	10,989	27,329	17,796	27,329
Hickories	41	---	---	---	15,601	---	15,601	---
Black Birch	140	17	17,310	---	108,349	24,224	125,659	24,224
Yellow Poplar	---	---	---	---	42,406	5,622	42,406	5,622
Misc. Species	58	---	3,705	15,259	5,581	6,976	9,286	22,235
Total	**353**	**17**	**68,069 (569)**	**18,361 (149)**	**354,376 (1,862)**	**78,695 (417)**	**422,445 (2,431)**	**97,057 (565)**

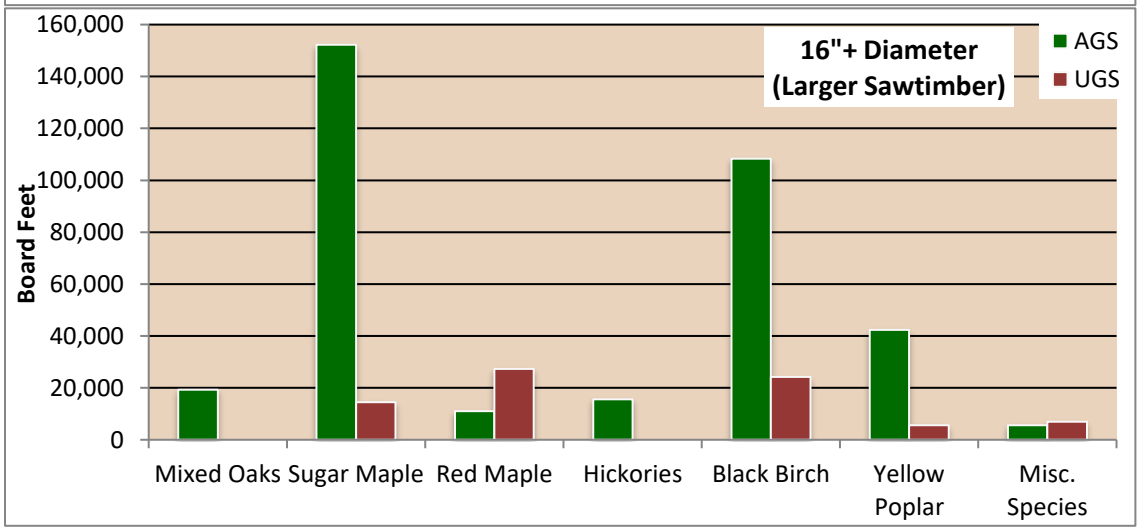
Average poletimber volume per acre ..... 4.2 cords
Average AGS poletimber volume per acre ..... 4.0 cords
Average UGS poletimber volume per acre ..... 0.2 cords

Average sawtimber volume per acre ..... 5,903 Bd.ft. (34.0 cords)
Average AGS sawtimber volume per acre ..... 4,801 Bd.ft (27.6 cords)
Average UGS sawtimber volume per acre ..... 1,102 Bd.ft (6.4 cords)

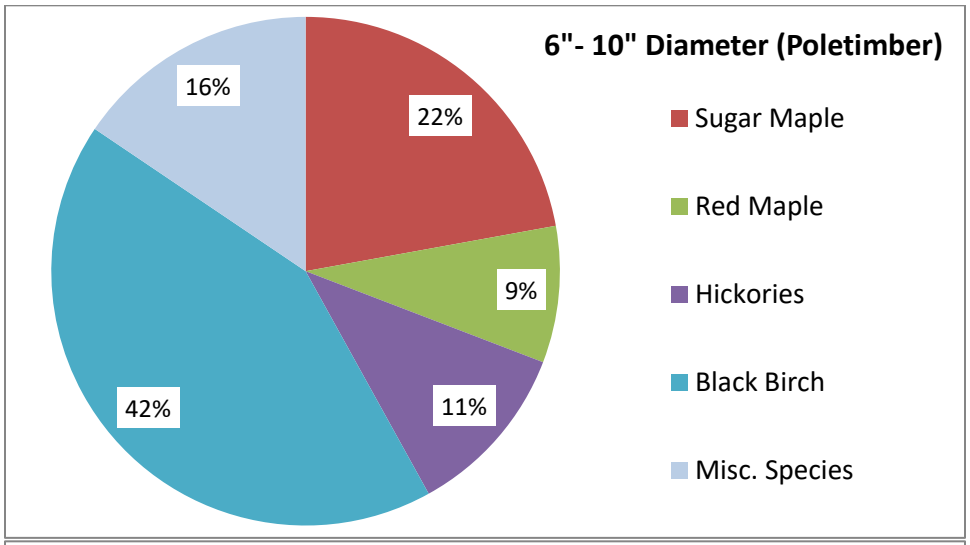
Graphic Representation of Timber Volume

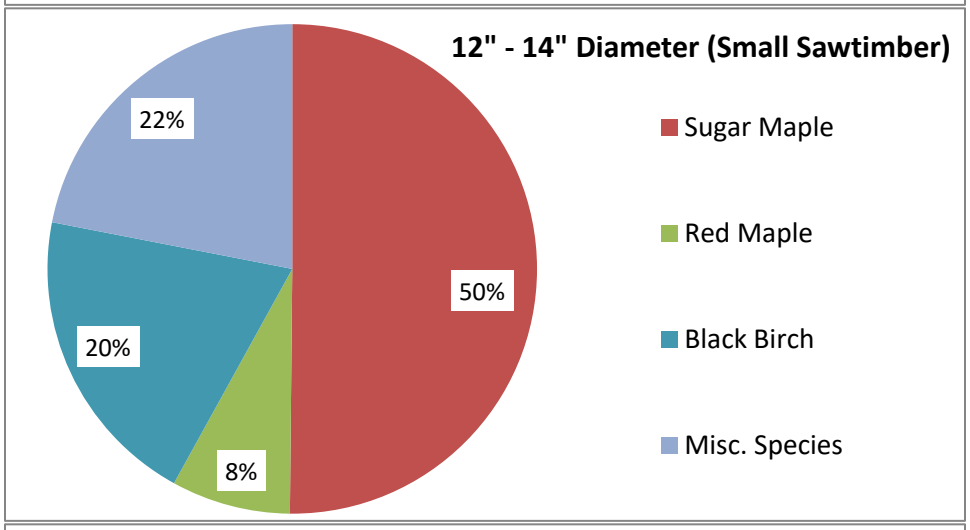


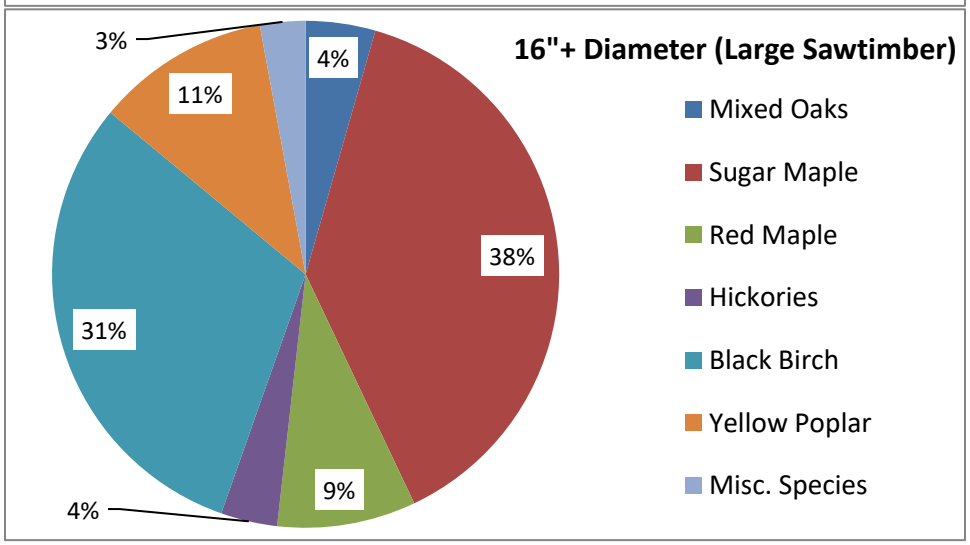




Graphic Representation of Timber Volume – Percent Distribution







3. Timber Growth

The following is an estimate of the current annual growth of the trees within the wooded stand, by size class. Poletimber growth is reported in cords. Sawtimber growth is reported in cords, and in board feet (Bd. ft.).

Size Class	Current gross volume (cords)	Current gross volume (Bd.ft.)	Current annual growth rate (%)	Current annual growth (cords)	Current annual growth (Bd.ft.)
6 - 8"	258	---	2.0	5.2	---
10"	112	---	2.0	2.2	---
12"	370	42,138	2.1	7.8	885
14"	348	44,292	2.2	7.7	974
16"	339	63,130	2.0	6.8	1,263
18"	382	72,260	1.8	6.9	1,301
20"+	1,558	297,681	1.5	23.4	4,465
Total	**3,366**	**519,502**		**59.8**	**8,888**

Average current annual poletimber growth per acre ..... 0.08 cords
Average current annual AGS poletimber volume per acre ..... 0.08 cords
Average current annual UGS poletimber volume per acre ..... --- cords

Average current annual sawtimber growth per acre..... 101 Bd.ft. (0.60 cords)
Average current annual AGS sawtimber vol./acre ..... 82 Bd.ft. (0.48 cords)
Average current annual UGS sawtimber vol./acre ..... 19 Bd.ft. (0.12 cords)

4. Graphical Representation of Average Timber Stocking

The graph below illustrates the current average level of timber stocking within the wooded stand. It is apparent that, on the average, the woodland is *fully stocked*. This means that, on the average, the inherent growth potential of the sites on which the stand is located is being fully utilized by the trees that are growing there. FSI, salvage work, timber harvesting, non-native shrub and vine control, restoration work, and/or tree planting can result in a further improvement of stand quality while maintaining *full stocking*.

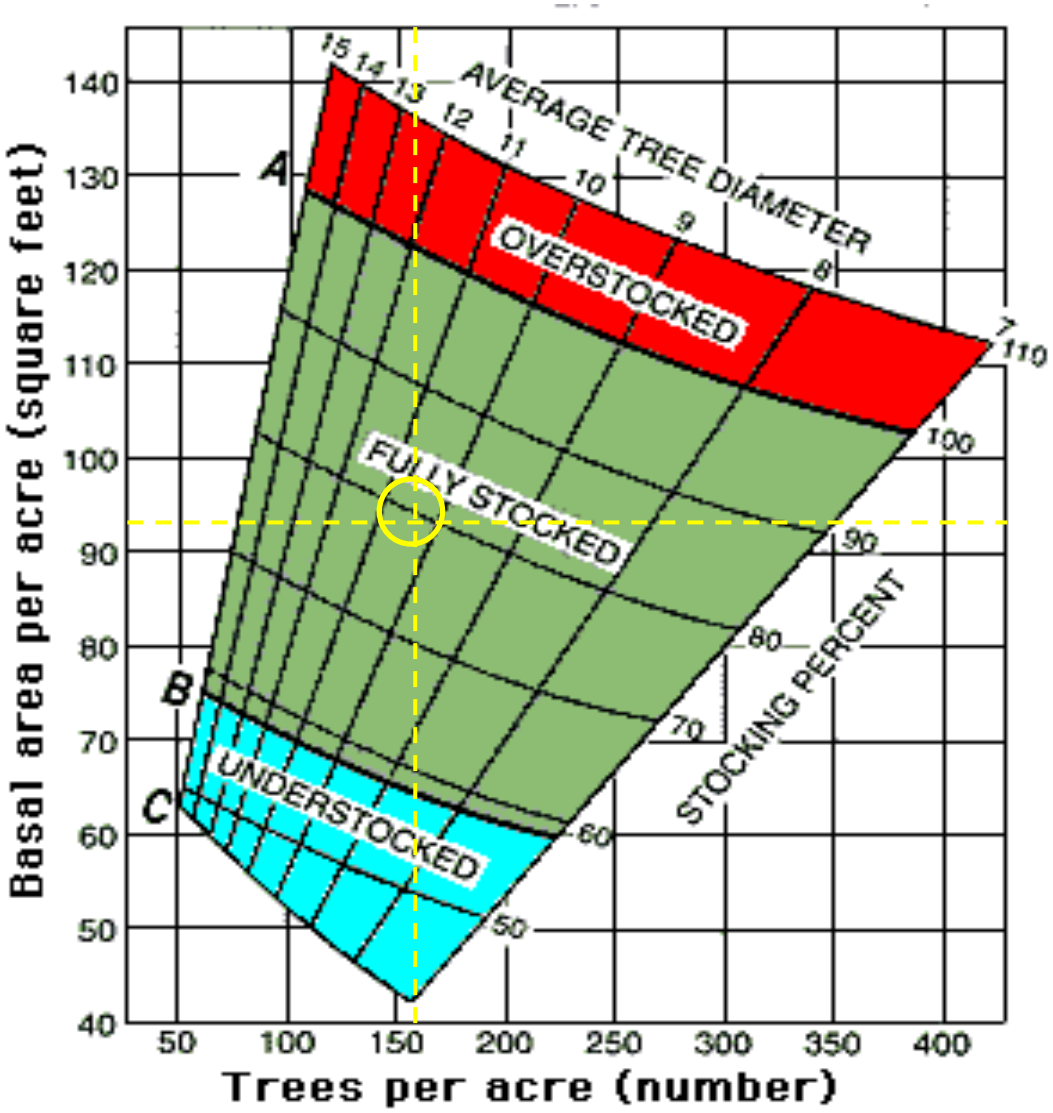


Figure – Relation of basal area, number of trees, and average tree diameter to stocking percentage for upland central hardwoods. The area between curves A and B on both charts indicates the range of stocking where trees can fully utilize the growing space. Curve C shows the lower limit of stocking necessary to reach the B level in the 10 years on average sites

From: Roach B.A., and S.F. Gingrich (1968). Even-aged silviculture for upland central hardwoods. USDA-FS Agric. Handbook 355

COMPREHENSIVE INVENTORY FOR STAND A-2 – 120.00 +/- acres

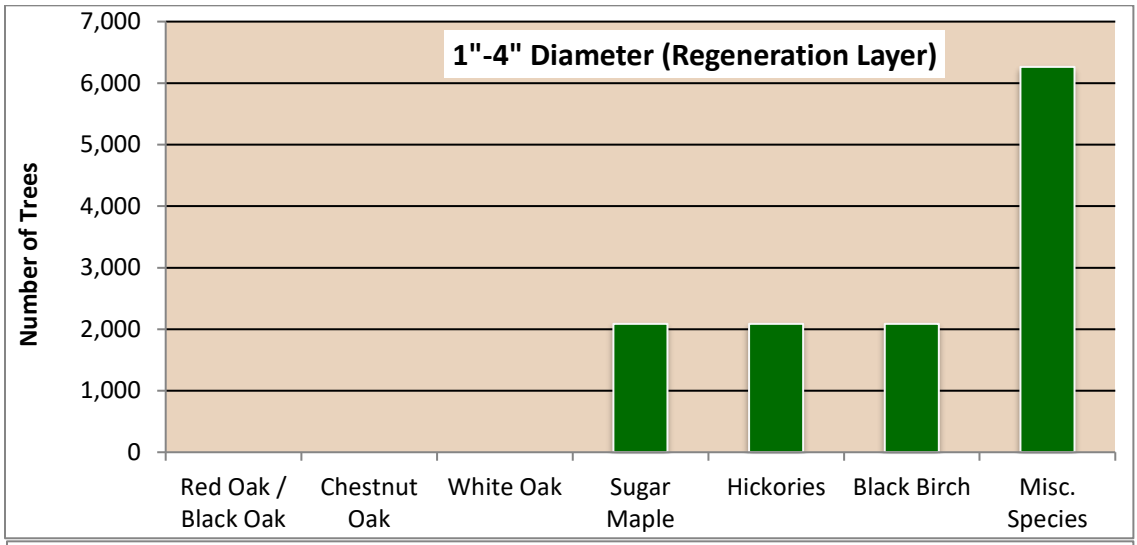
1. Number of Trees

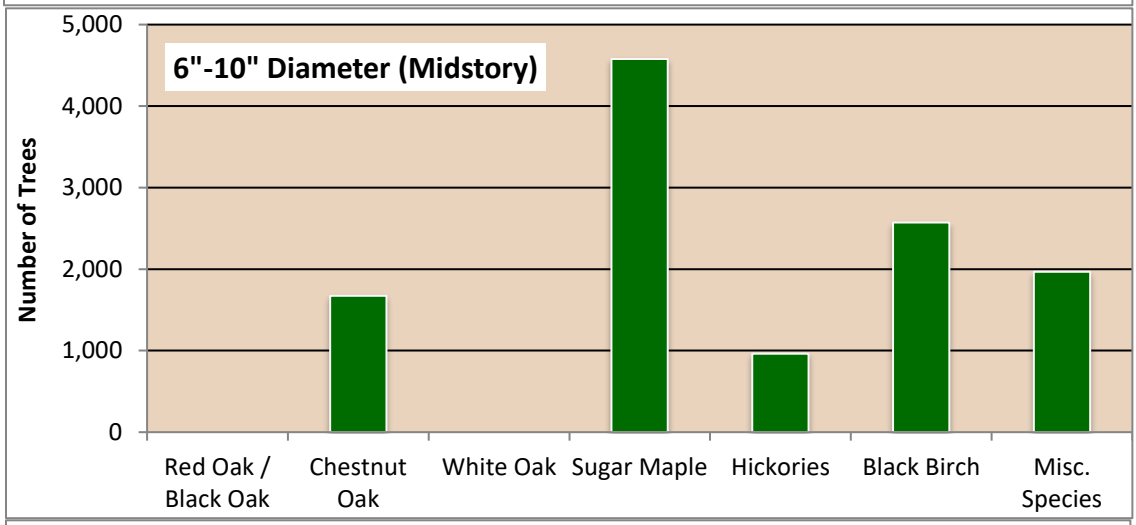
The following is an estimate of the number of 1" diameter and larger trees within the wooded stand, by species and size class. Sizes are reported in diameters at breast height (DBH).

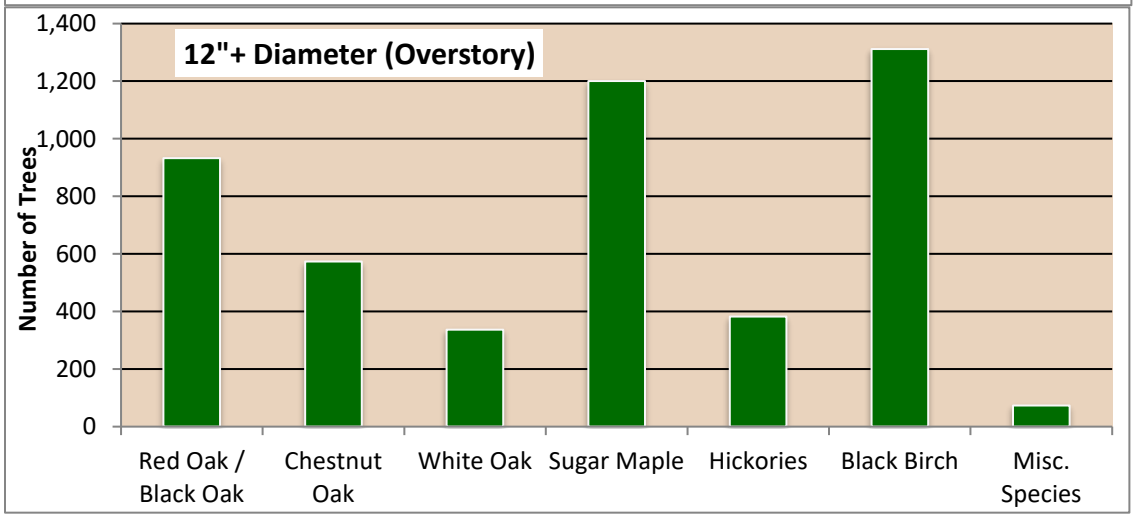
	Size Class				
Species	**1-4"**	**6-10"**	**12-14"**	**16"+**	**Total**
Red Oak / Black Oak	---	---	96	837	933
Chestnut Oak	---	1,673	192	382	2,247
White Oak	---	---	96	241	337
Sugar Maple	2,088	4,577	644	556	7,865
Hickories	2,088	963	130	252	3,434
Black Birch	2,088	2,571	1,105	206	5,971
Misc. Species	6,264	1,967	---	73	8,305
Total	**12,529**	**11,752**	**2,263**	**2,547**	**29,091**

Average number of trees per acre	236
Average tree diameter (DBH)	8.6”
Average total basal area per acre	95 sq. ft.
Average stocking percent	86%

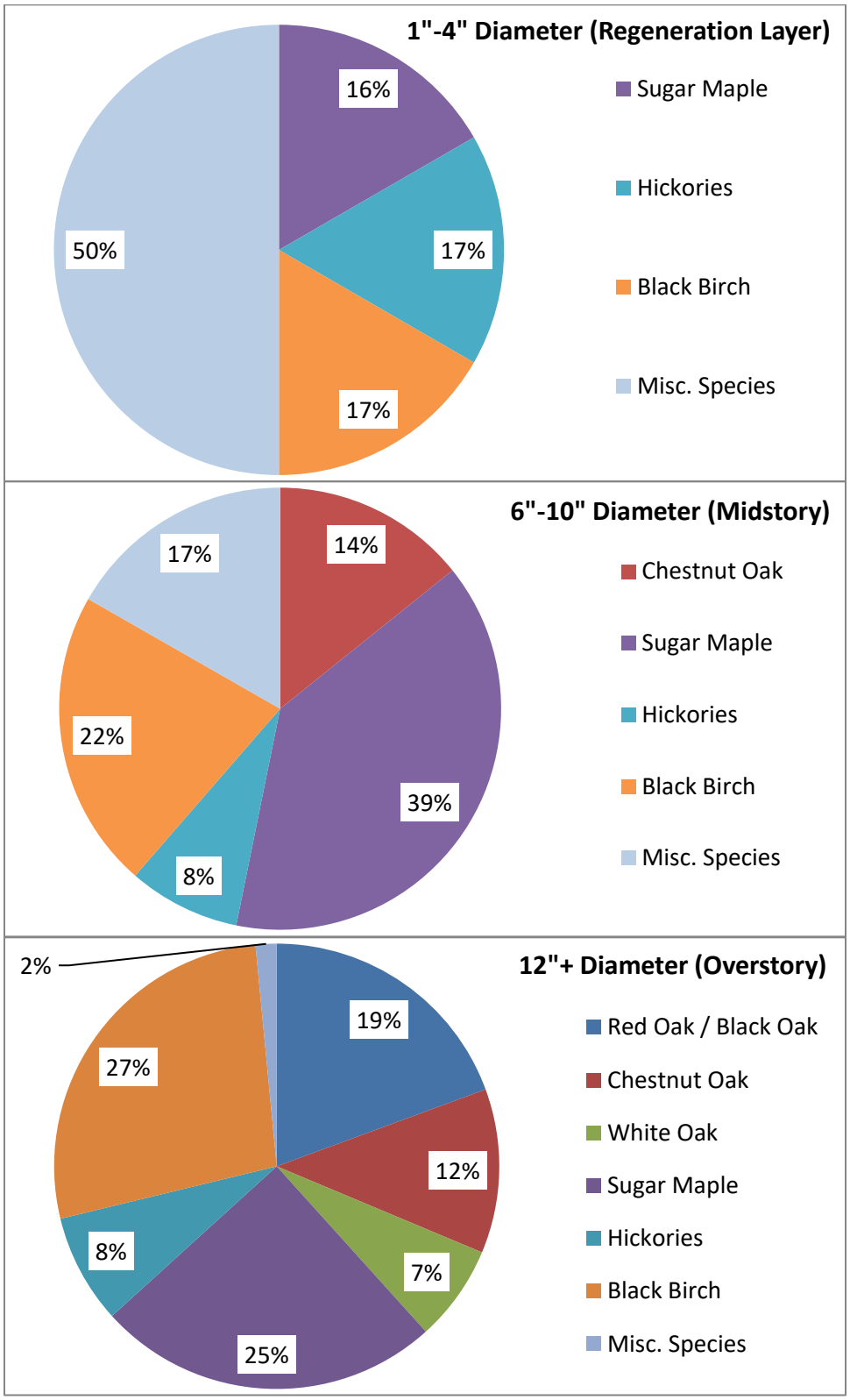
Graphic Representation of Number of Trees







Graphic Representation of Number of Trees – Percent Distribution



2. Timber Volume

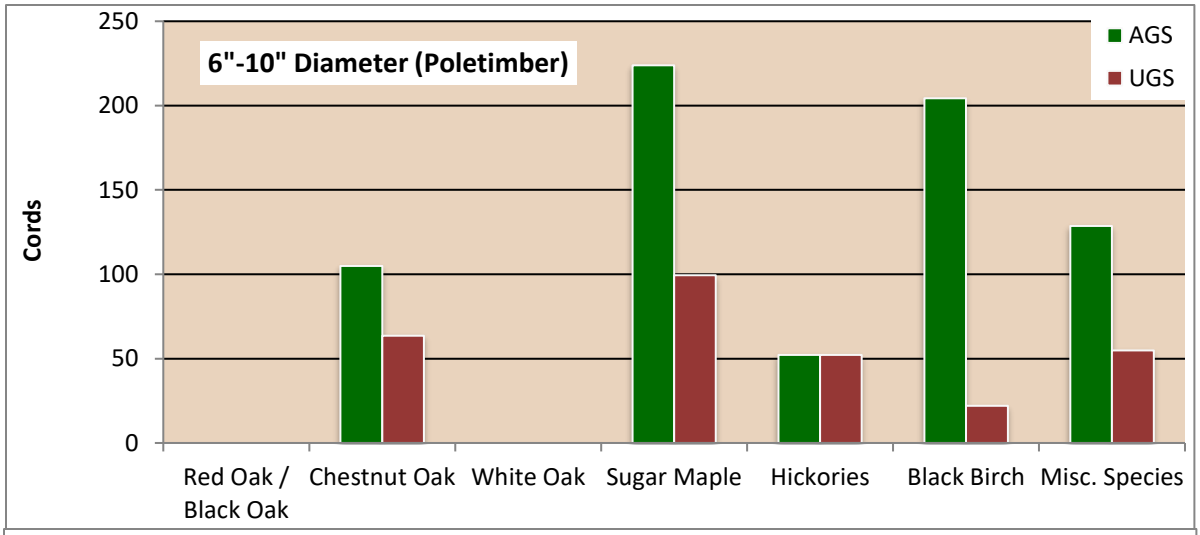
The following is an estimate of the total gross merchantable volume contained in trees on within the wooded stand, by species, size class, and quality. Volume is estimated by the Doyle Log Rule for trees of average form. Poletimber volume is reported in cords. Sawtimber volume is reported in board feet, and in cords (in parentheses).

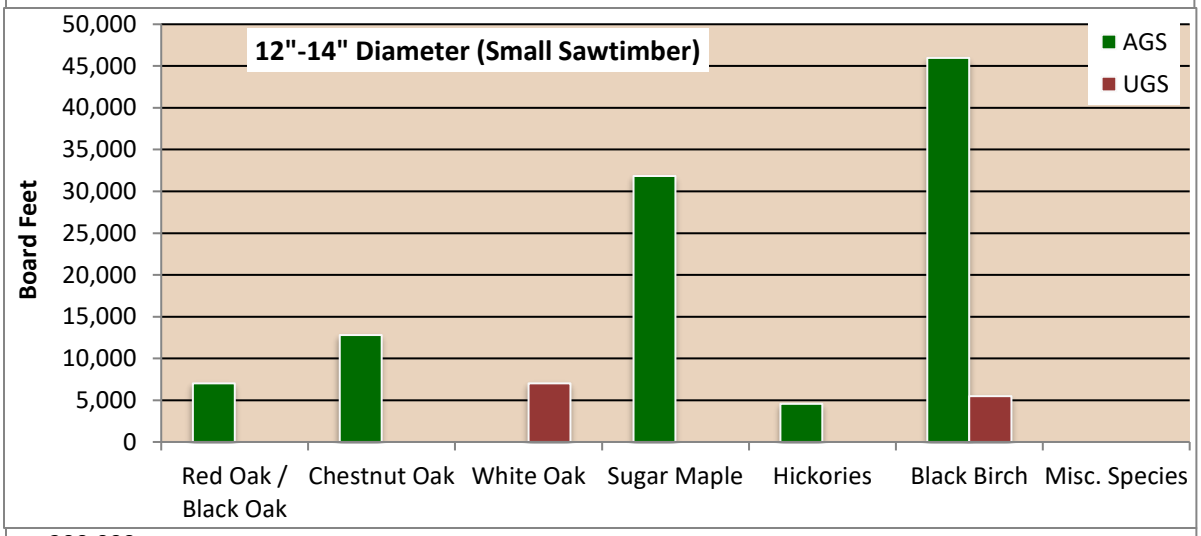
	---------- Size Class ----------							
	Poletimber		---------- Sawtimber ----------				Sawtimber Total	
	6-10"		12-14"		16"+			
Species	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**
Red Oak / Black Oak	---	---	7,188	---	186,254	---	193,442	---
Chestnut Oak	107	65	13,130	---	63,356	19,076	76,485	19,076
White Oak	---	---	---	7,188	44,053	---	44,053	7,188
Sugar Maple	229	102	32,638	---	77,850	26,976	110,489	26,976
Hickories	54	54	4,697	---	44,633	---	49,330	---
Black Birch	210	23	47,127	5,611	19,701	17,461	66,828	23,072
Misc. Species	132	56	---	---	8,513	---	8,513	---
Total	**732**	**299**	**104,780 (819)**	**12,799 (91)**	**444,360 (2,242)**	**63,513 (331)**	**549,140 (3,060)**	**76,311 (422)**

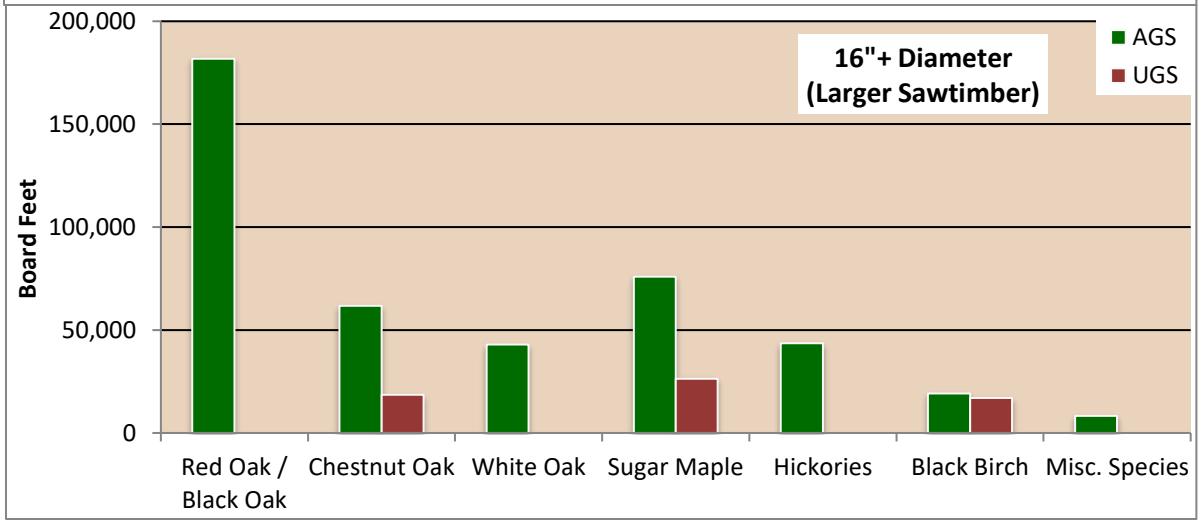
Average poletimber volume per acre ..... 8.4 cords
Average AGS poletimber volume per acre ..... 6.0 cords
Average UGS poletimber volume per acre ..... 2.4 cords

Average sawtimber volume per acre ..... 5,085 Bd.ft. (28.3 cords)
Average AGS sawtimber volume per acre ..... 4,465 Bd.ft (24.9 cords)
Average UGS sawtimber volume per acre ..... 620 Bd.ft (3.4 cords)

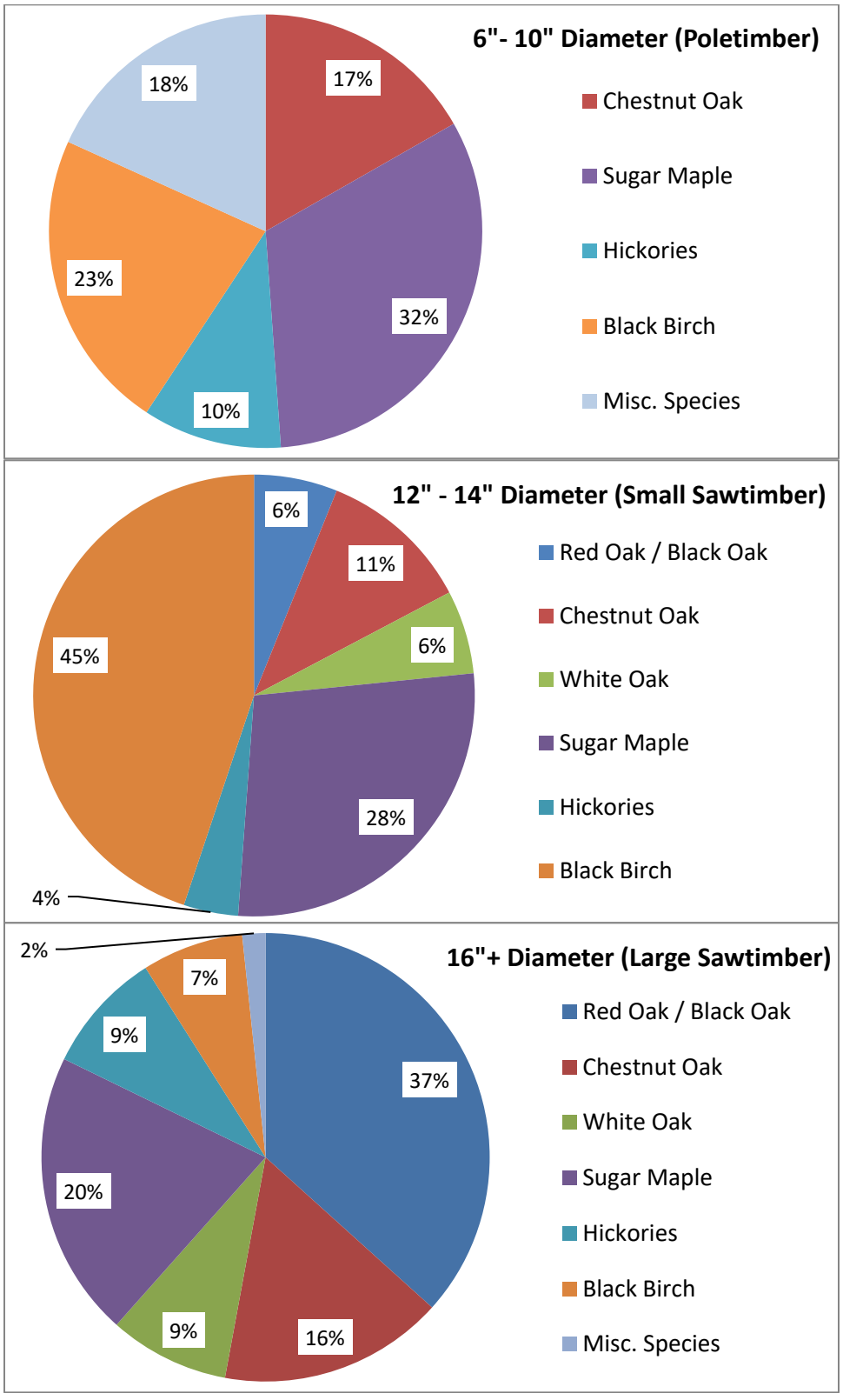
Graphic Representation of Timber Volume







Graphic Representation of Timber Volume – Percent Distribution



3. Timber Growth

The following is an estimate of the current annual growth of the trees within the wooded stand, by size class. Poletimber growth is reported in cords. Sawtimber growth is reported in cords, and in board feet (Bd. ft.).

Size Class	Current gross volume (cords)	Current gross volume (Bd.ft.)	Current annual growth rate (%)	Current annual growth (cords)	Current annual growth (Bd.ft.)
6 - 8"	599	---	2.0	12.0	---
10"	432	---	2.0	8.6	---
12"	431	53,367	2.1	9.0	1,121
14"	479	64,211	2.2	10.5	1,413
16"	343	66,371	2.0	6.9	1,327
18"	530	99,496	1.8	9.5	1,791
20"+	1,700	342,006	1.5	25.5	5,130
Total	**4,514**	**625,451**		**82.1**	**10,782**

Average current annual poletimber growth per acre ..... 0.17 cords
Average current annual AGS poletimber volume per acre ..... 0.12 cords
Average current annual UGS poletimber volume per acre ..... 0.05 cords

Average current annual sawtimber growth per acre..... 88 Bd.ft. (0.50 cords)
Average current annual AGS sawtimber vol./acre ..... 77 Bd.ft. (0.44 cords)
Average current annual UGS sawtimber vol./acre ..... 11 Bd.ft. (0.06 cords)

4. Graphical Representation of Average Timber Stocking

The graph below illustrates the current average level of timber stocking within the wooded stand. It is apparent that, on the average, the woodland is *fully stocked*. This means that, on the average, the inherent growth potential of the sites on which the stand is located is being fully utilized by the trees that are growing there. FSI, salvage work, timber harvesting, non-native shrub and vine control, restoration work, and/or tree planting can result in a further improvement of stand quality while maintaining *full stocking*.

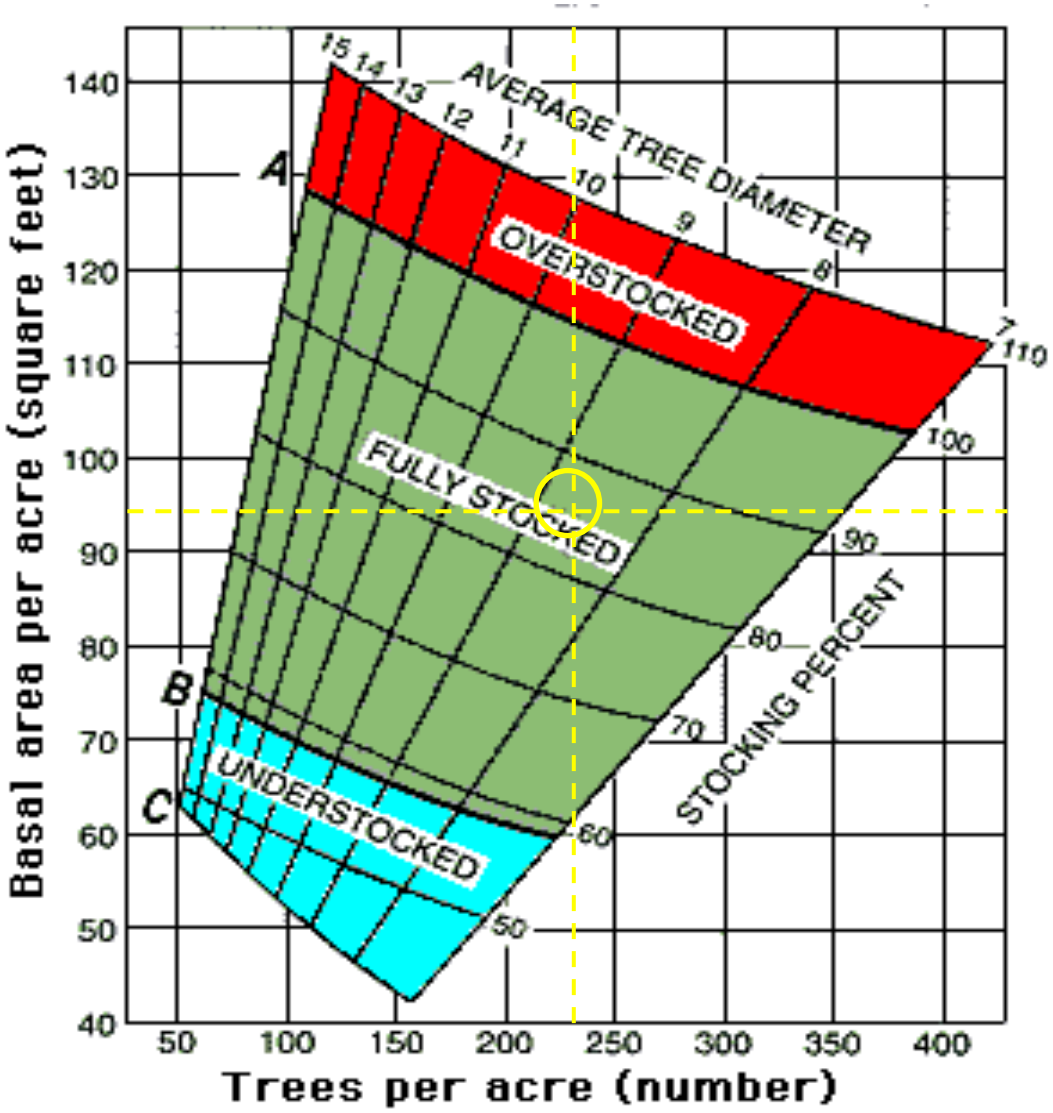


Figure – Relation of basal area, number of trees, and average tree diameter to stocking percentage for upland central hardwoods. The area between curves A and B on both charts indicates the range of stocking where trees can fully utilize the growing space. Curve C shows the lower limit of stocking necessary to reach the B level in the 10 years on average sites

From: Roach B.A., and S.F. Gingrich (1968). Even-aged silviculture for upland central hardwoods. USDA-FS Agric. Handbook 355

COMPREHENSIVE INVENTORY FOR STAND A-3 – 30.00 +/- acres

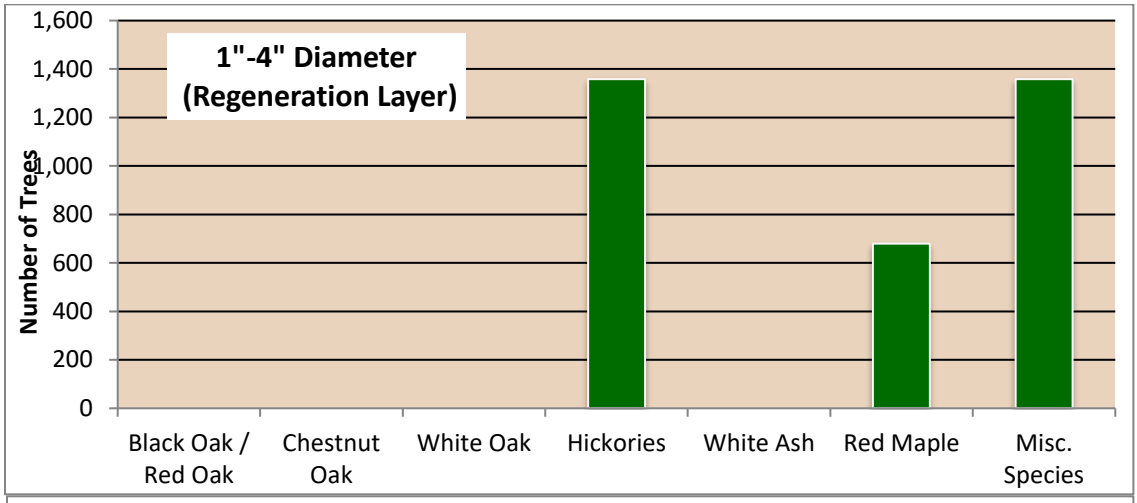
1. Number of Trees

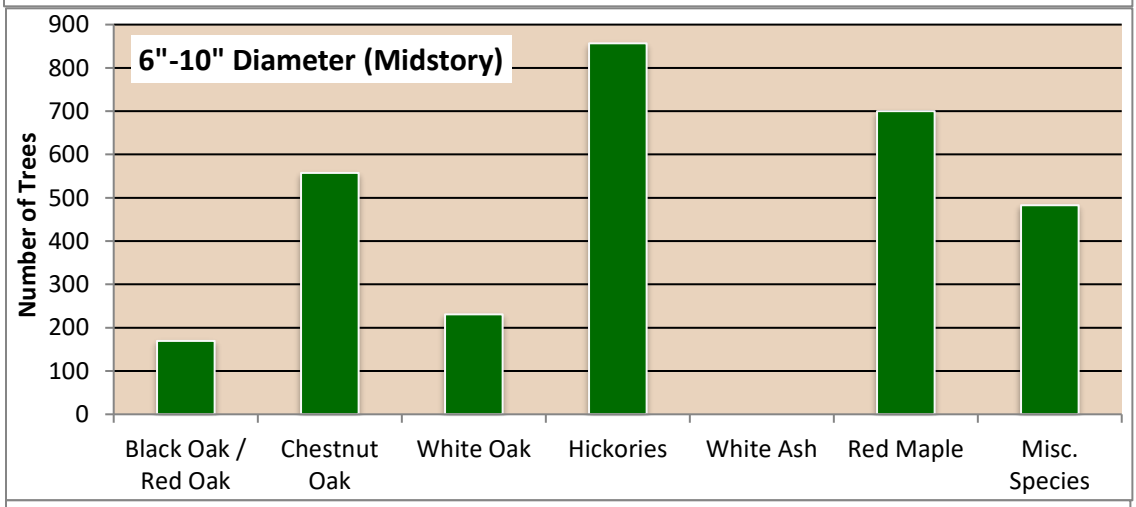
The following is an estimate of the number of 1" diameter and larger trees within the wooded stand, by species and size class. Sizes are reported in diameters at breast height (DBH).

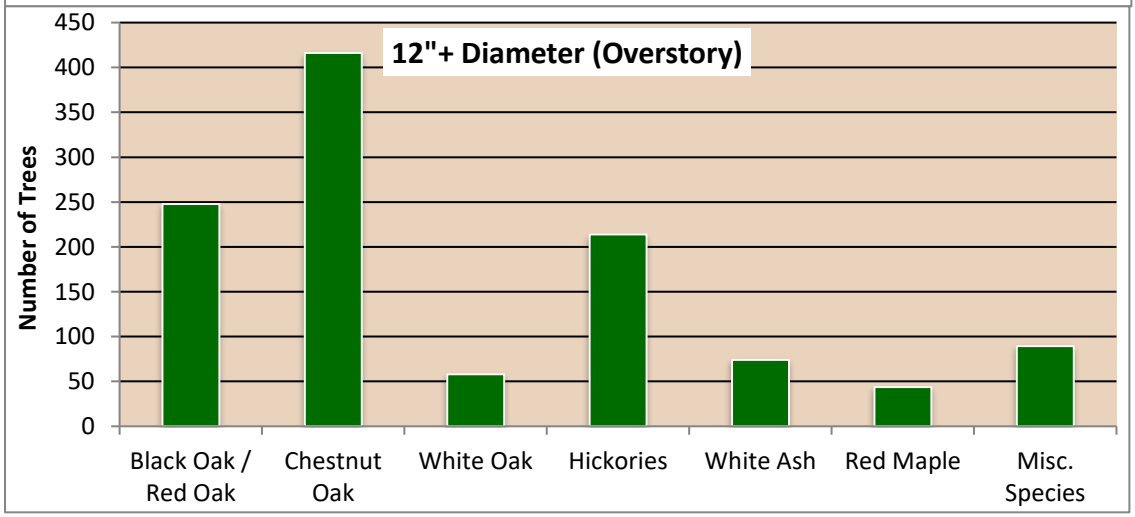
Species	Size Class 1-4"	6-10"	12-14"	16"+	Total
Red Oak / Black Oak	---	170	42	205	418
Chestnut Oak	---	557	210	206	973
White Oak	---	231	---	58	289
Hickories	1,358	857	147	67	2,429
White Ash	---	---	31	43	74
Red Maple	679	700	31	13	1,423
Misc. Species	1,358	483	42	47	1,931
Total	**3,395**	**2,998**	**504**	**639**	**7,536**

Average number of trees per acre	251
Average tree diameter (DBH)	8.2”
Average total basal area per acre	92 sq. ft.
Average stocking percent	85%

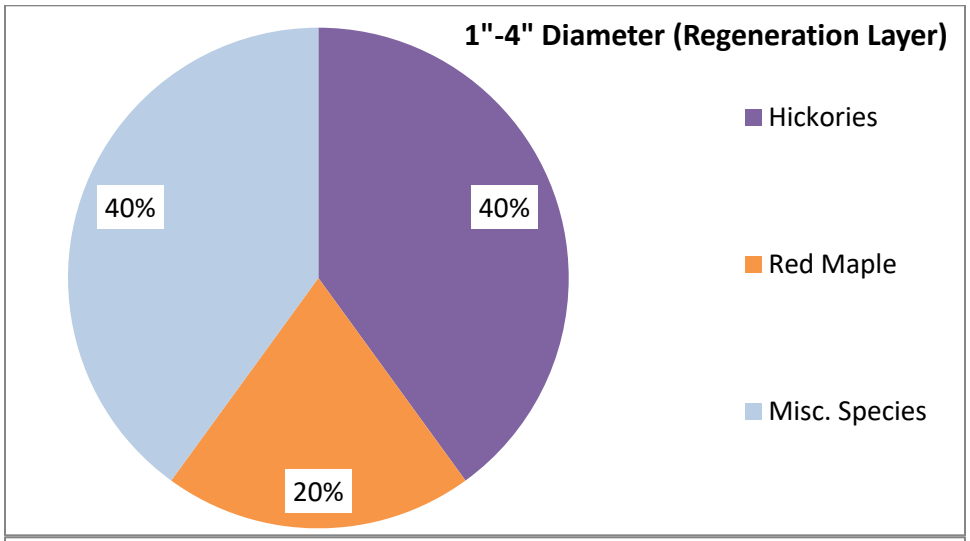
Graphic Representation of Number of Trees

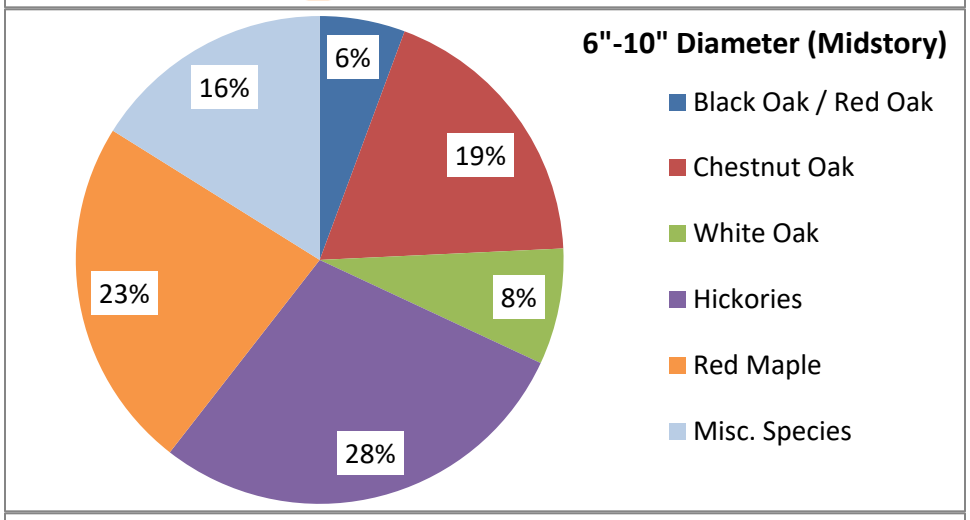


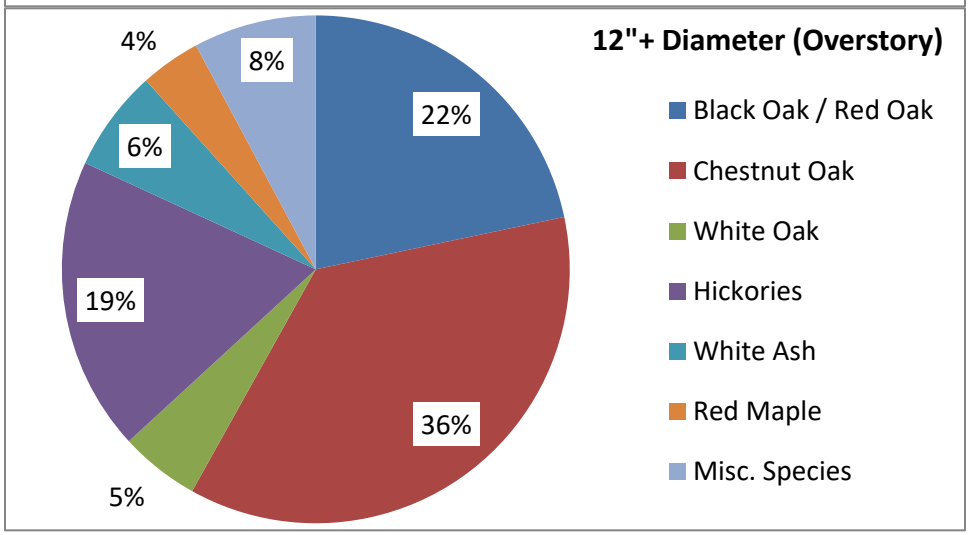




Graphic Representation of Number of Trees – Percent Distribution







2. Timber Volume

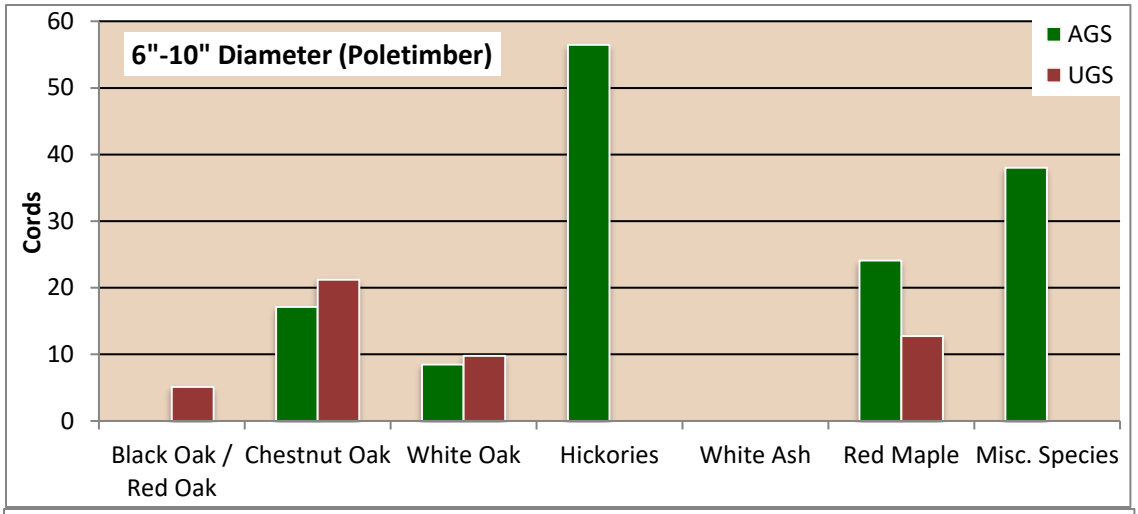
The following is an estimate of the total gross merchantable volume contained in trees on within the wooded stand, by species, size class, and quality. Volume is estimated by the Doyle Log Rule for trees of average form. Poletimber volume is reported in cords. Sawtimber volume is reported in board feet, and in cords (in parentheses).

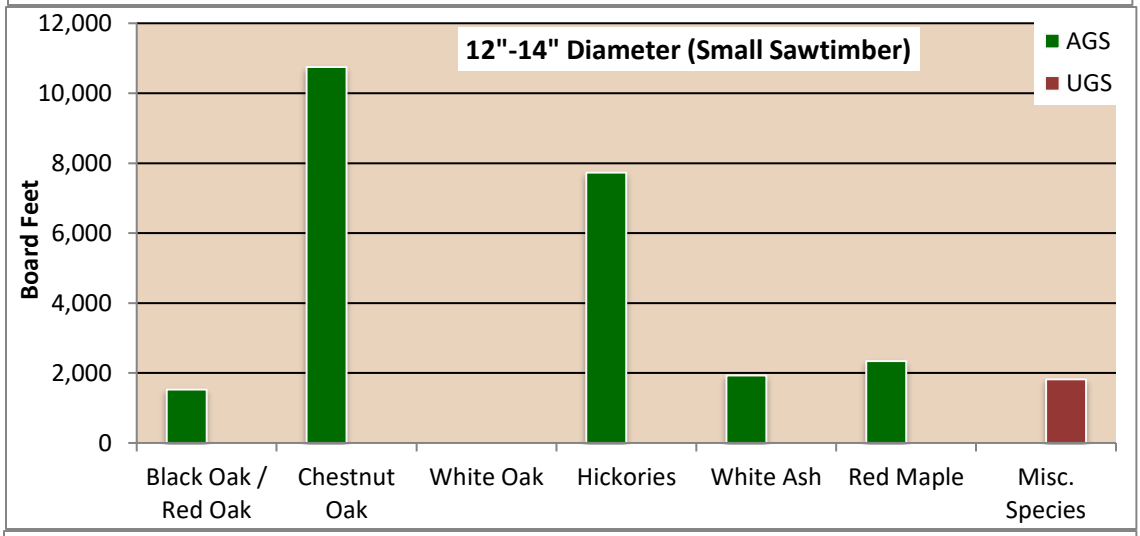
	Size Class							
	Poletimber		Sawtimber				Sawtimber Total	
	6-10"		12-14"		16"+			
Species	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**
Black Oak / Red Oak	---	5	1,528	---	38,580	6,217	40,108	6,217
Chestnut Oak	17	21	10,753	---	25,771	2,243	36,525	2,243
White Oak	8	10	---	---	9,298	---	9,298	---
Hickories	56	---	7,730	---	9,395	---	17,125	---
White Ash	---	---	1,932	---	2,243	2,490	4,176	2,490
Red Maple	24	13	2,338	---	---	2,956	2,338	2,956
Misc. Species	38	---	---	1,825	10,368	---	10,368	1,825
Total	**144**	**49**	**24,281 (195)**	**1,825 (14)**	**95,655 (513)**	**13,907 (81)**	**119,936 (708)**	**15,732 (95)**

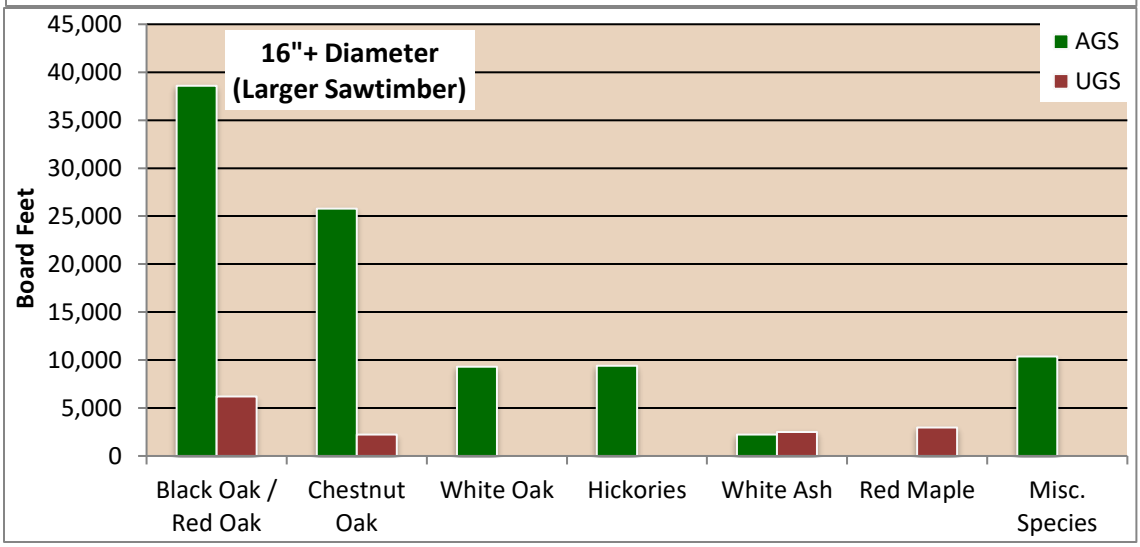
Average poletimber volume per acre ..... 6.4 cords
Average AGS poletimber volume per acre ..... 4.8 cords
Average UGS poletimber volume per acre ..... 1.6 cords

Average sawtimber volume per acre ..... 4,522 Bd.ft. (26.7 cords)
Average AGS sawtimber volume per acre ..... 3,998 Bd.ft (23.6 cords)
Average UGS sawtimber volume per acre ..... 524 Bd.ft (3.1 cords)

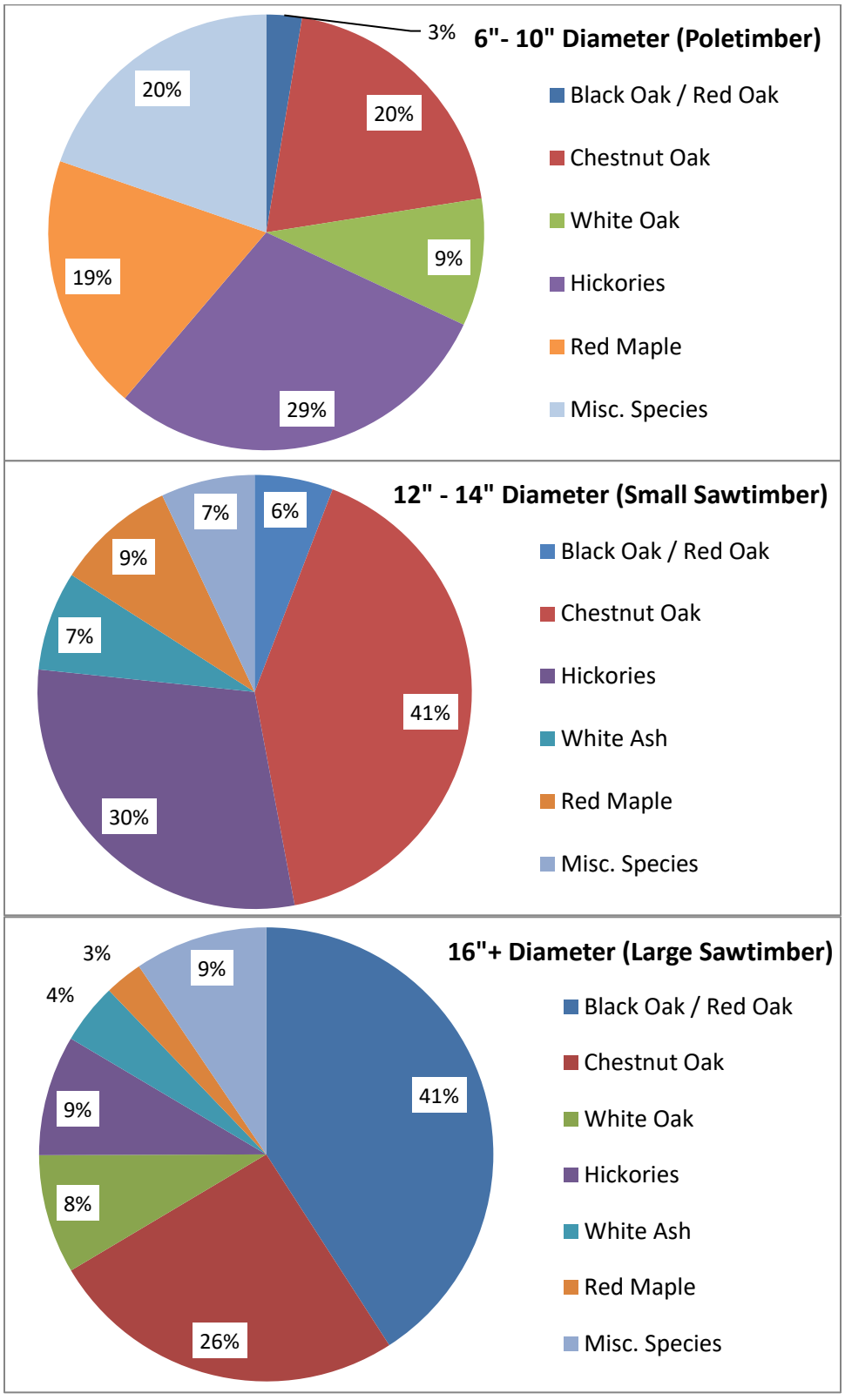
Graphic Representation of Timber Volume







Graphic Representation of Timber Volume – Percent Distribution



3. Timber Growth

The following is an estimate of the current annual growth of the trees within the wooded stand, by size class. Poletimber growth is reported in cords. Sawtimber growth is reported in cords, and in board feet (Bd. ft.).

Size Class	Current gross volume (cords)	Current gross volume (Bd.ft.)	Current annual growth rate (%)	Current annual growth (cords)	Current annual growth (Bd.ft.)
6 - 8"	139	---	2.0	2.8	---
10"	54	---	2.0	1.1	---
12"	84	9,463	2.1	1.8	199
14"	125	16,643	2.2	2.7	366
16"	111	21,337	2.0	2.2	427
18"	188	31,092	1.8	3.4	560
20"+	295	57,134	1.5	4.4	857
Total	**995**	**135,668**		**18.4**	**2,408**

Average current annual poletimber growth per acre ..... 0.13 cords
Average current annual AGS poletimber volume per acre ..... 0.10 cords
Average current annual UGS poletimber volume per acre ..... 0.03 cords

Average current annual sawtimber growth per acre..... 80 Bd.ft. (0.48 cords)
Average current annual AGS sawtimber vol./acre ..... 71 Bd.ft. (0.43 cords)
Average current annual UGS sawtimber vol./acre ..... 9 Bd.ft. (0.06 cords)

4. Graphical Representation of Average Timber Stocking

The graph below illustrates the current average level of timber stocking within the wooded stand. It is apparent that, on the average, the woodland is *fully stocked*. This means that, on the average, the inherent growth potential of the sites on which the stand is located is being fully utilized by the trees that are growing there. FSI, salvage work, timber harvesting, non-native shrub and vine control, restoration work, and/or tree planting can result in a further improvement of stand quality while maintaining *full stocking*.

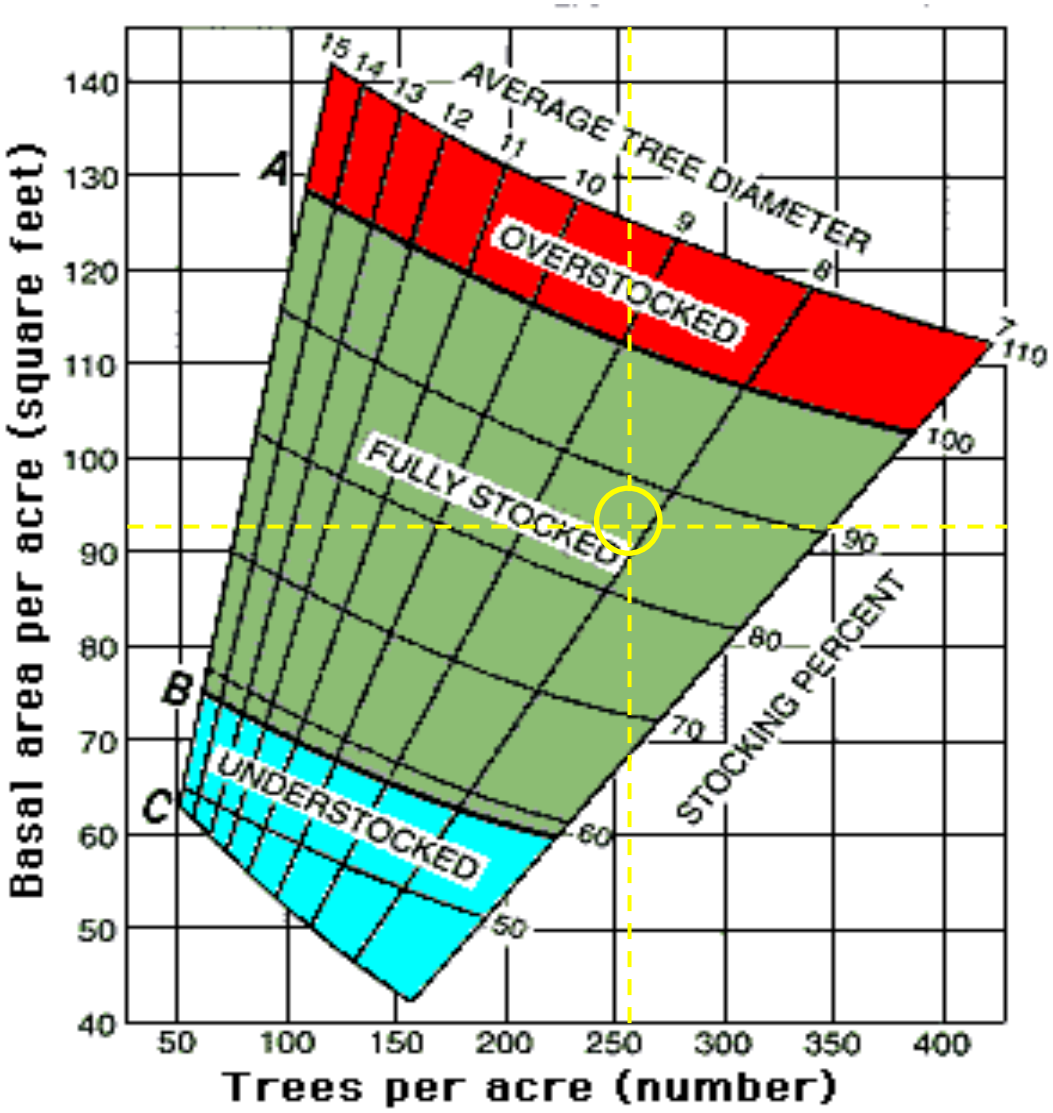


Figure – Relation of basal area, number of trees, and average tree diameter to stocking percentage for upland central hardwoods. The area between curves A and B on both charts indicates the range of stocking where trees can fully utilize the growing space. Curve C shows the lower limit of stocking necessary to reach the B level in the 10 years on average sites

From: Roach B.A., and S.F. Gingrich (1968). Even-aged silviculture for upland central hardwoods. USDA-FS Agric. Handbook 355

COMPREHENSIVE INVENTORY FOR
STAND B-1 – 39.00 +/- acres

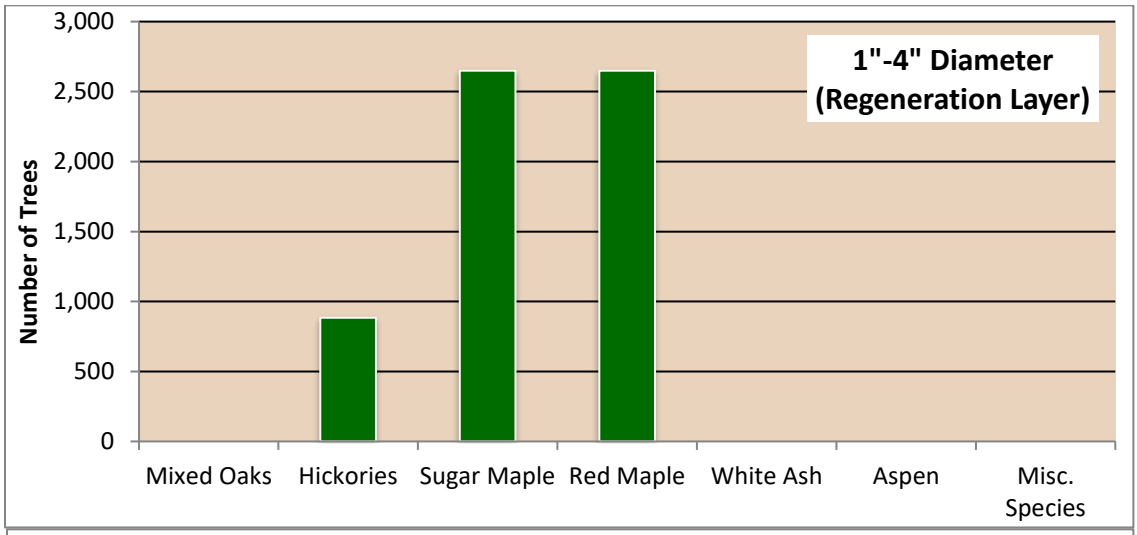
1. Number of Trees

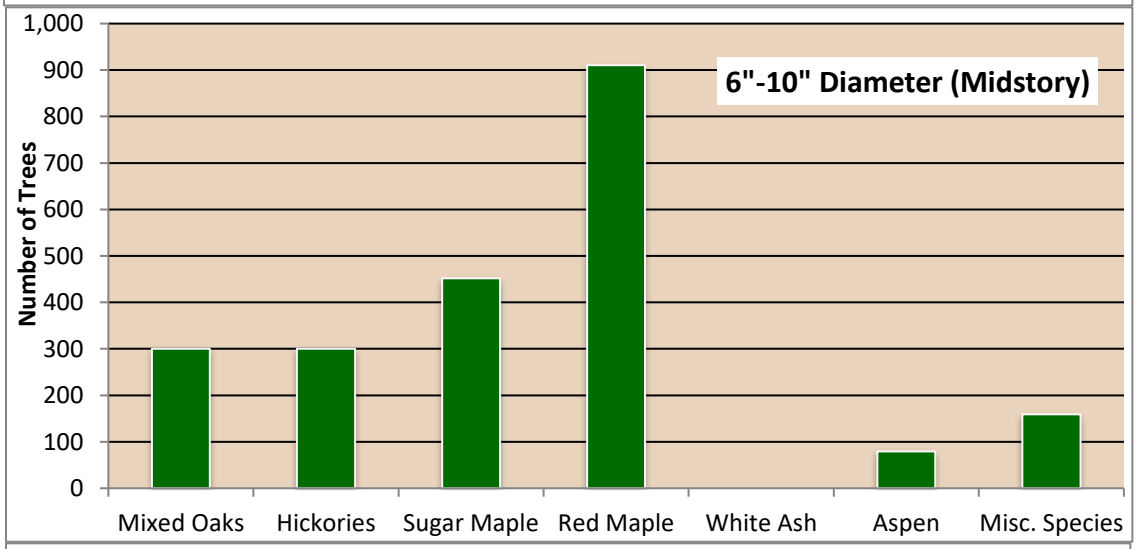
The following is an estimate of the number of 1" diameter and larger trees within the wooded stand, by species and size class. Sizes are reported in diameters at breast height (DBH).

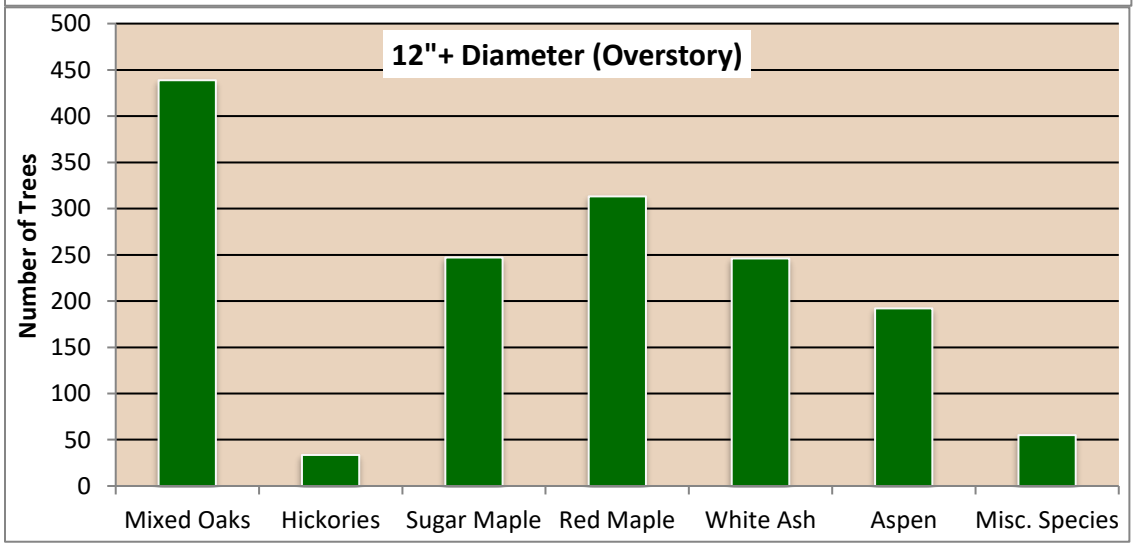
	Size Class				
Species	**1-4"**	**6-10"**	**12-14"**	**16"+**	**Total**
Mixed Oaks	---	300	151	288	739
Hickories	883	300	---	33	1,216
Sugar Maple	2,648	452	81	166	3,347
Red Maple	2,648	910	203	111	3,872
White Ash	---	---	151	95	246
Aspen	---	79	81	111	272
Misc. Species	---	159	55	---	214
Total	**6,180**	**2,201**	**722**	**804**	**9,906**

Average number of trees per acre	254
Average tree diameter (DBH)	7.9”
Average total basal area per acre	86 sq. ft.
Average stocking percent	80%

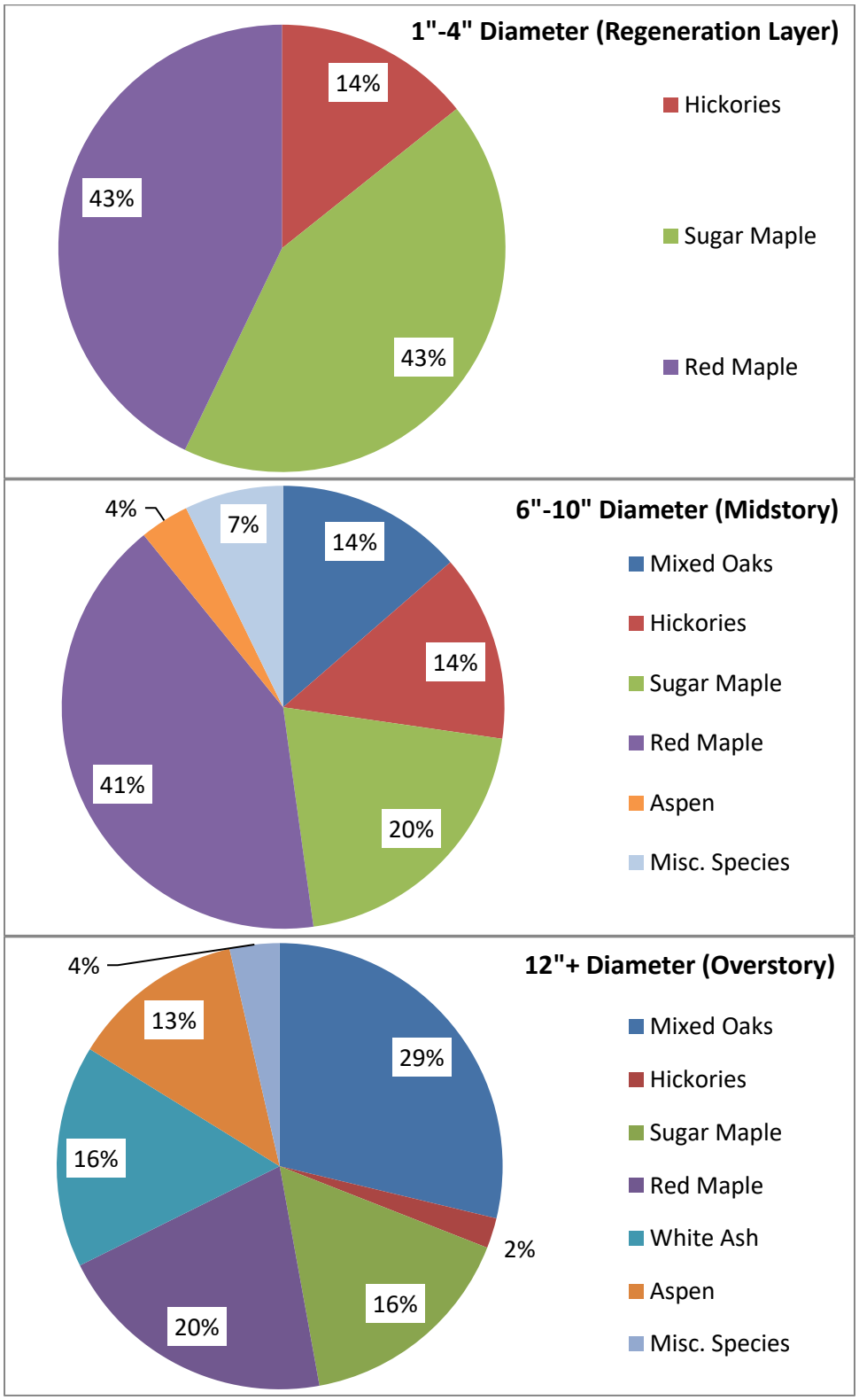
Graphic Representation of Number of Trees







Graphic Representation of Number of Trees – Percent Distribution



2. Timber Volume

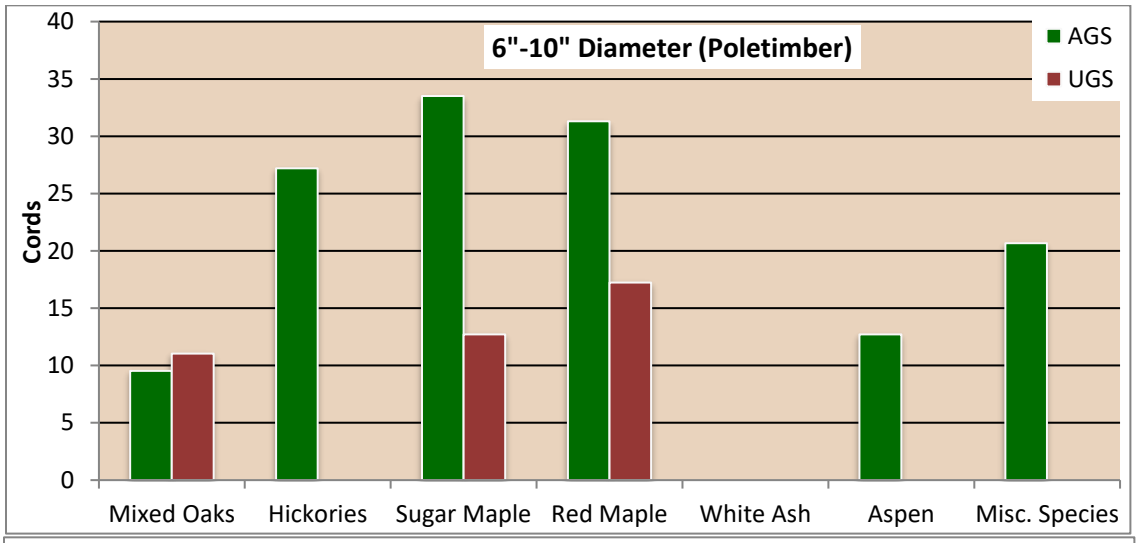
The following is an estimate of the total gross merchantable volume contained in trees on within the wooded stand, by species, size class, and quality. Volume is estimated by the Doyle Log Rule for trees of average form. Poletimber volume is reported in cords. Sawtimber volume is reported in board feet, and in cords (in parentheses).

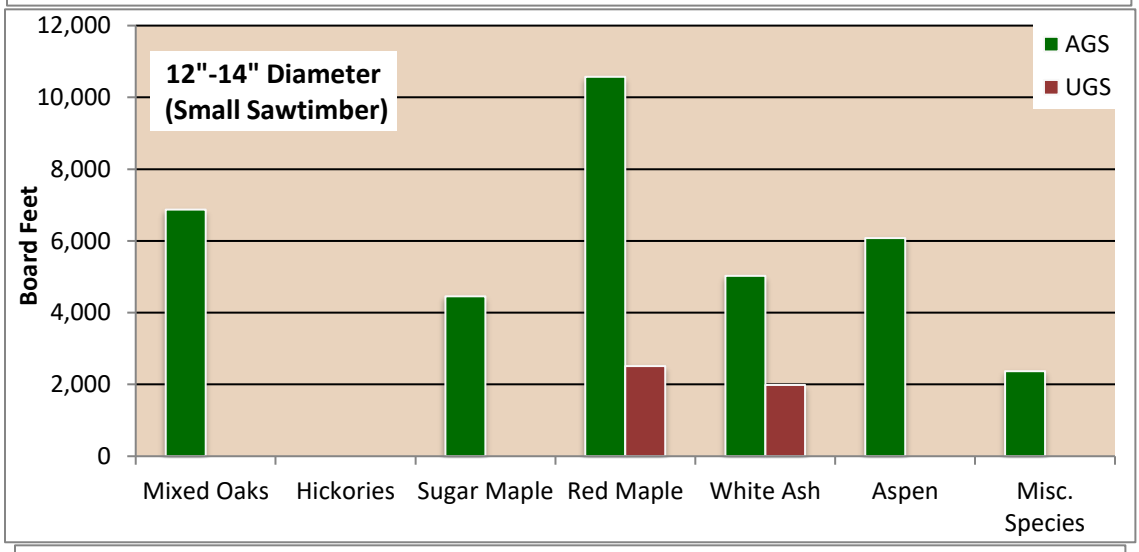
	Size Class							
	Poletimber		Sawtimber				Sawtimber Total	
	6-10"		12-14"		16"+			
Species	AGS	UGS	AGS	UGS	AGS	UGS	AGS	UGS
Mixed Oaks	10	11	6,870	---	73,638	4,845	80,508	4,845
Hickories	27	---	---	---	4,466	3,987	4,466	3,987
Sugar Maple	34	13	4,457	---	16,687	8,038	21,144	8,038
Red Maple	31	17	10,575	2,512	7,665	3,987	18,240	6,499
White Ash	---	---	5,025	1,986	6,052	10,838	11,076	12,824
Aspen	13	---	6,078	---	7,621	8,259	13,699	8,259
Misc. Species	21	---	2,372	---	---	---	2,372	---
Total	**135**	**41**	**35,376 (275)**	**4,498 (38)**	**116,129 (608)**	**39,954 (192)**	**151,505 (884)**	**44,452 (230)**

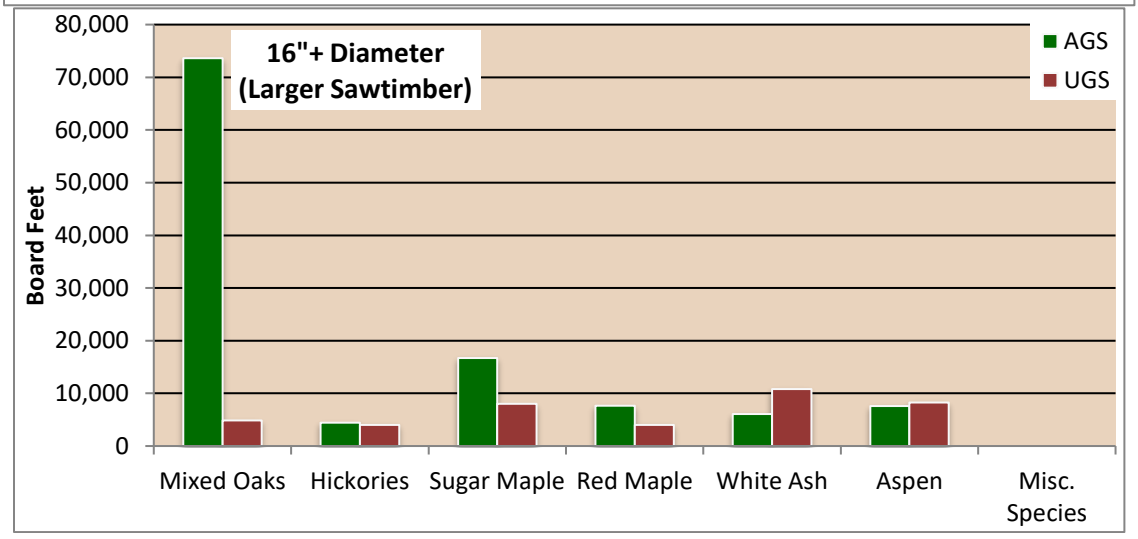
Average poletimber volume per acre ..... 4.5 cords
Average AGS poletimber volume per acre ..... 3.5 cords
Average UGS poletimber volume per acre ..... 1.0 cords

Average sawtimber volume per acre ..... 5,025 Bd.ft. (28.6 cords)
Average AGS sawtimber volume per acre ..... 3,885 Bd.ft (22.7 cords)
Average UGS sawtimber volume per acre ..... 1,140 Bd.ft (5.9 cords)

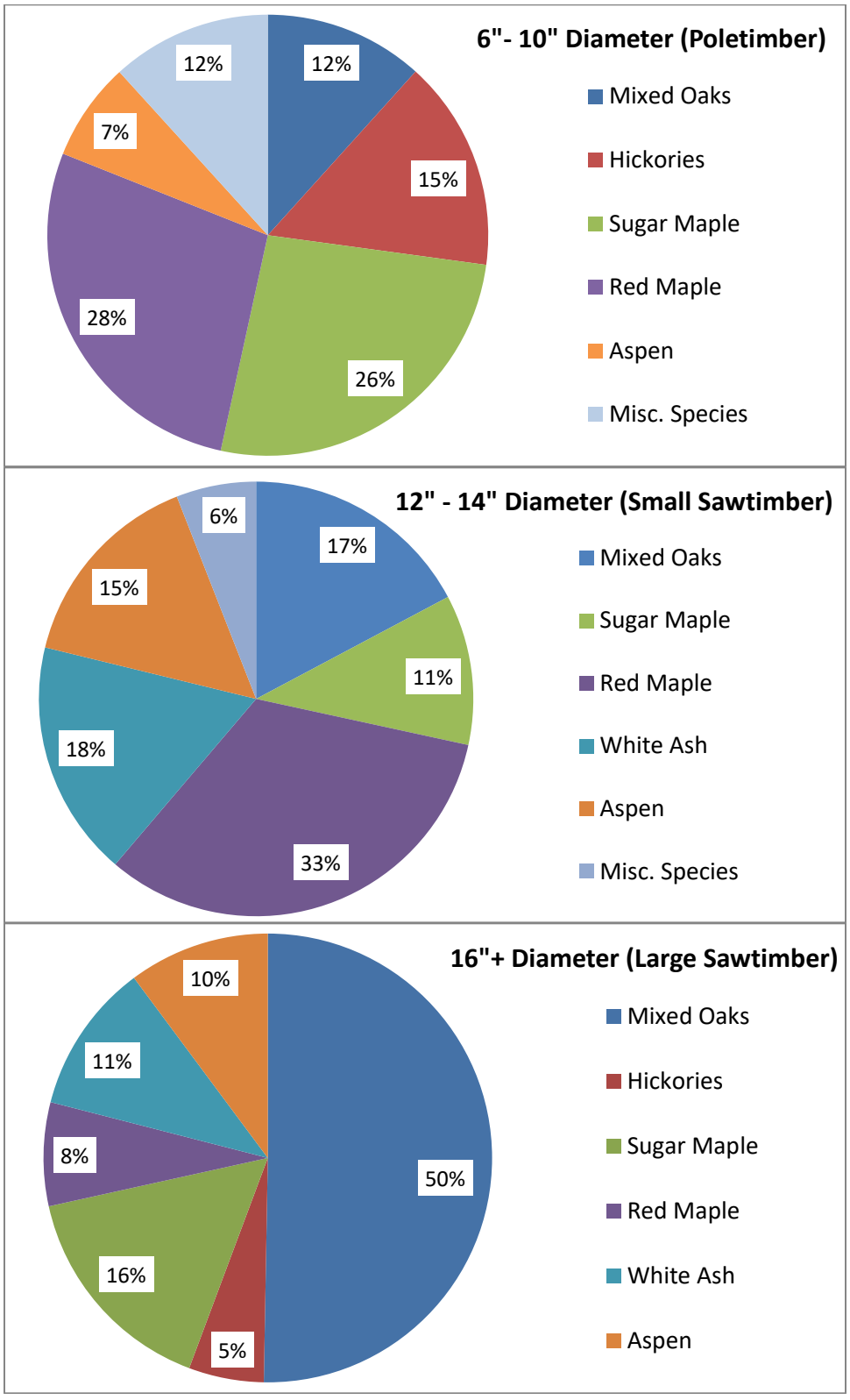
Graphic Representation of Timber Volume







Graphic Representation of Timber Volume – Percent Distribution



3. Timber Growth

The following is an estimate of the current annual growth of the trees within the wooded stand, by size class. Poletimber growth is reported in cords. Sawtimber growth is reported in cords, and in board feet (Bd. ft.).

Size Class	Current gross volume (cords)	Current gross volume (Bd.ft.)	Current annual growth rate (%)	Current annual growth (cords)	Current annual growth (Bd.ft.)
6 - 8"	111	---	2.0	2.2	---
10"	65	---	2.0	1.3	---
12"	91	10,702	2.1	1.9	225
14"	223	29,172	2.2	4.9	642
16"	200	36,272	2.0	4.0	725
18"	122	21,633	1.8	2.2	389
20"+	478	98,178	1.5	7.2	1,473
Total	**1,290**	**195,956**		**23.7**	**3,454**

Average current annual poletimber growth per acre ..... 0.09 cords
Average current annual AGS poletimber volume per acre ..... 0.07 cords
Average current annual UGS poletimber volume per acre ..... 0.02 cords

Average current annual sawtimber growth per acre..... 89 Bd.ft. (0.52 cords)
Average current annual AGS sawtimber vol./acre ..... 70 Bd.ft. (0.41 cords)
Average current annual UGS sawtimber vol./acre ..... 19 Bd.ft. (0.11 cords)

4. Graphical Representation of Average Timber Stocking

The graph below illustrates the current average level of timber stocking within the wooded stand. It is apparent that, on the average, the woodland is *fully stocked*. This means that, on the average, the inherent growth potential of the sites on which the stand is located is being fully utilized by the trees that are growing there. FSI, salvage work, timber harvesting, non-native shrub and vine control, restoration work, and/or tree planting can result in a further improvement of stand quality while maintaining *full stocking*.

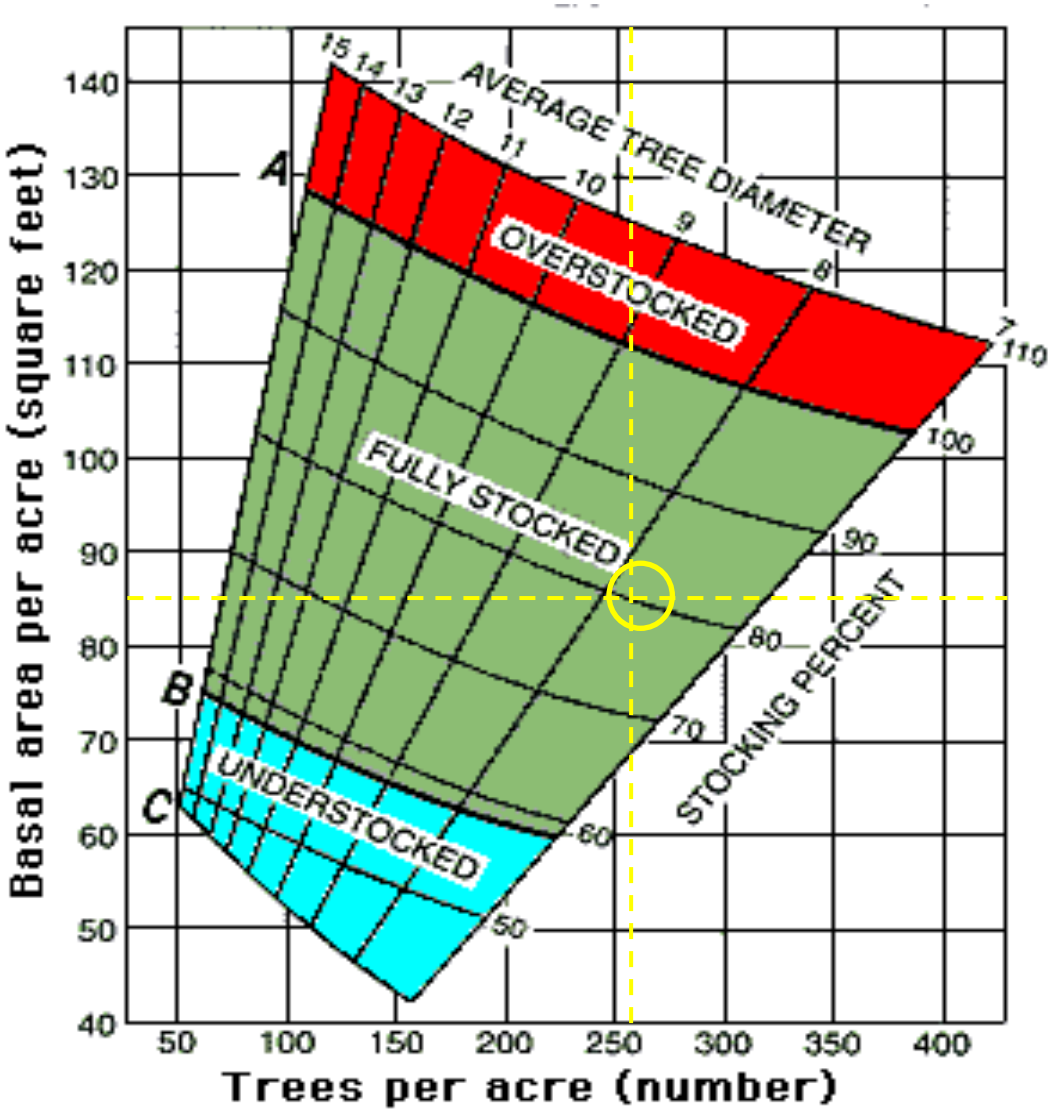


Figure – Relation of basal area, number of trees, and average tree diameter to stocking percentage for upland central hardwoods. The area between curves A and B on both charts indicates the range of stocking where trees can fully utilize the growing space. Curve C shows the lower limit of stocking necessary to reach the B level in the 10 years on average sites

From: Roach B.A., and S.F. Gingrich (1968). Even-aged silviculture for upland central hardwoods. USDA-FS Agric. Handbook 355

COMPREHENSIVE INVENTORY FOR STAND B-2 – 13.00 +/- acres

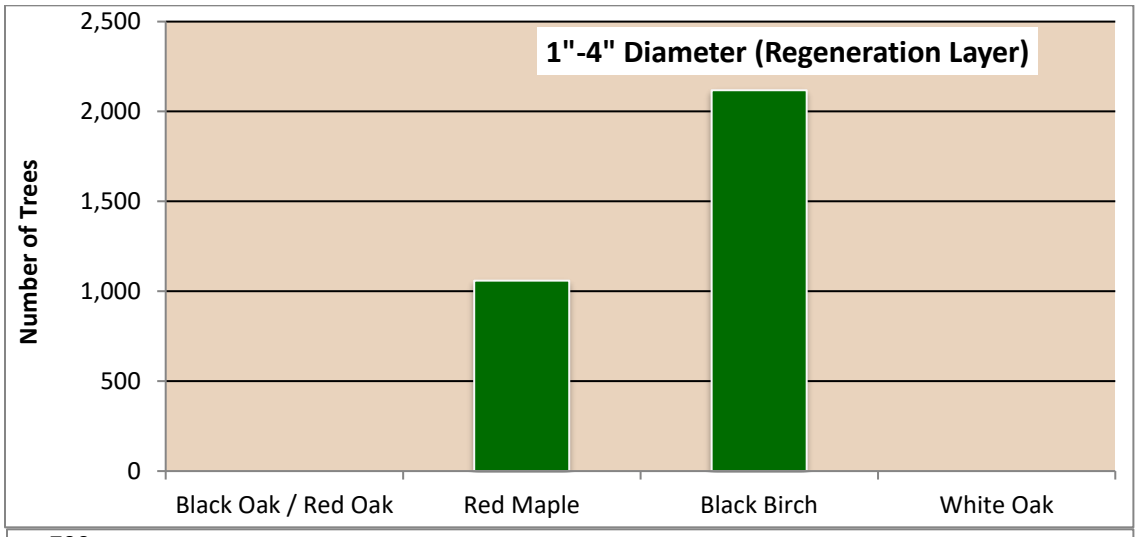
1. Number of Trees

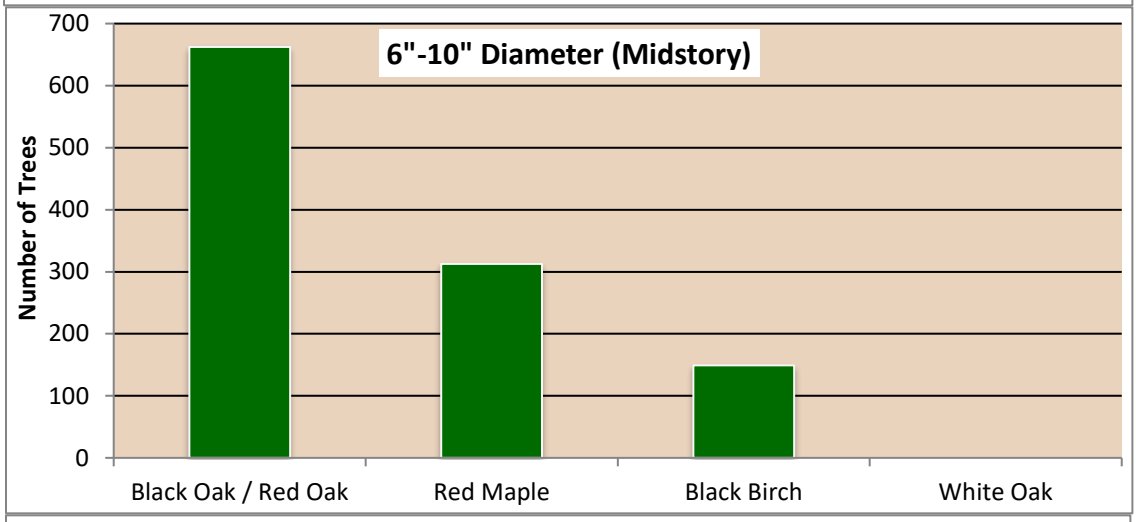
The following is an estimate of the number of 1" diameter and larger trees within the wooded stand, by species and size class. Sizes are reported in diameters at breast height (DBH).

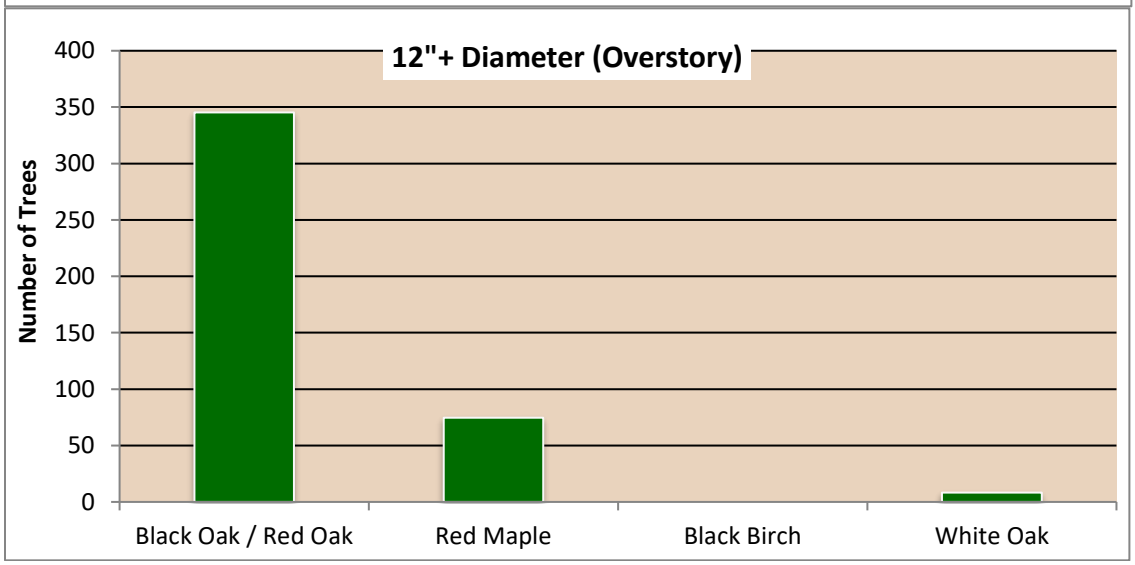
	Size Class				
Species	**1-4"**	**6-10"**	**12-14"**	**16"+**	**Total**
Black Oak / Red Oak	---	662	163	182	1,008
Red Maple	1,059	313	33	41	1,446
Black Birch	2,119	149	---	---	2,268
White Oak	---	---	---	8	8
Total	**3,178**	**1,124**	**197**	**232**	**4,730**

Average number of trees per acre	364
Average tree diameter (DBH)	6.6”
Average total basal area per acre	86 sq. ft.
Average stocking percent	85%

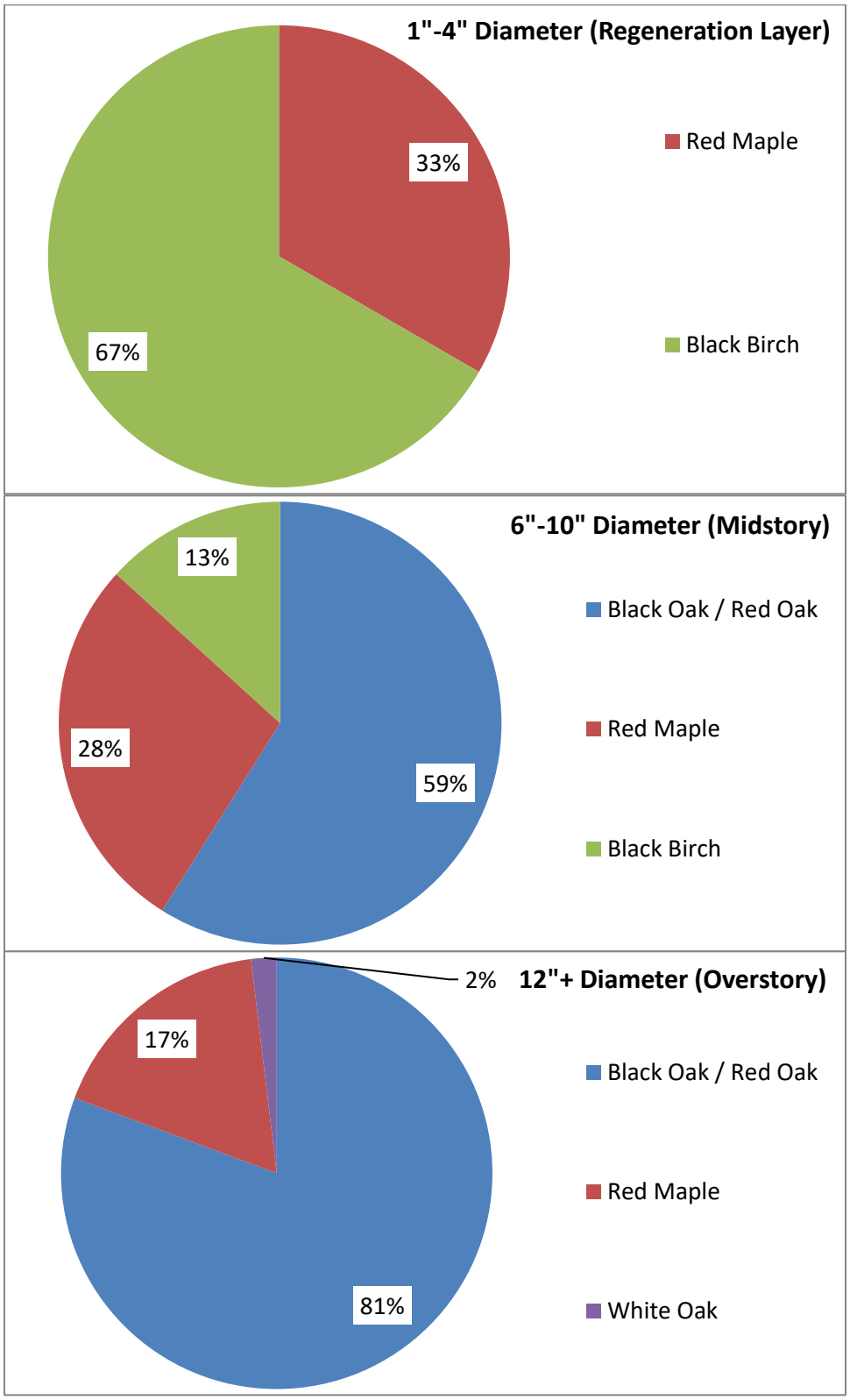
Graphic Representation of Number of Trees







Graphic Representation of Number of Trees – Percent Distribution



2. Timber Volume

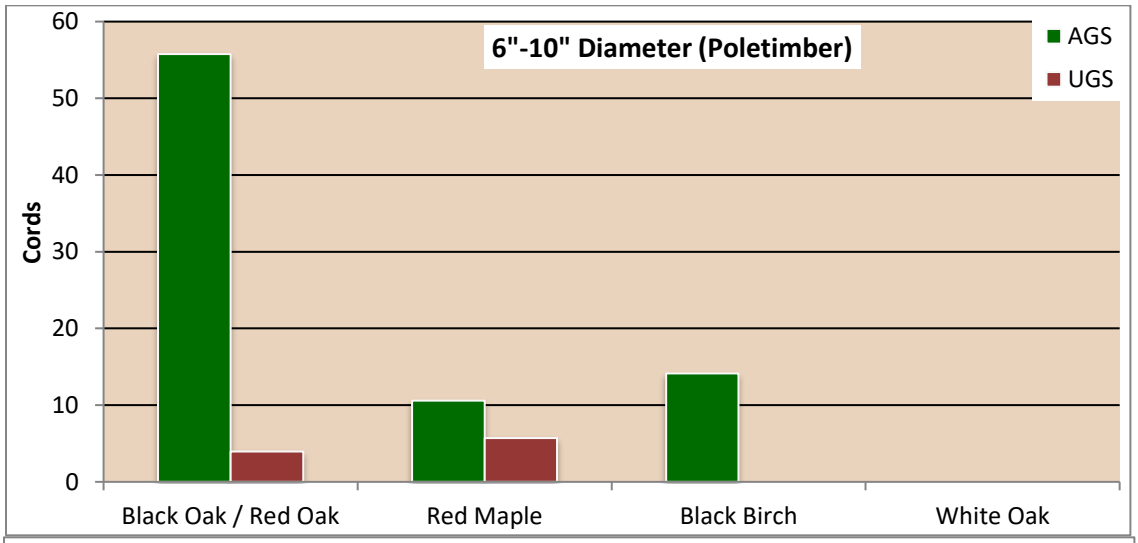
The following is an estimate of the total gross merchantable volume contained in trees on within the wooded stand, by species, size class, and quality. Volume is estimated by the Doyle Log Rule for trees of average form. Poletimber volume is reported in cords. Sawtimber volume is reported in board feet, and in cords (in parentheses).

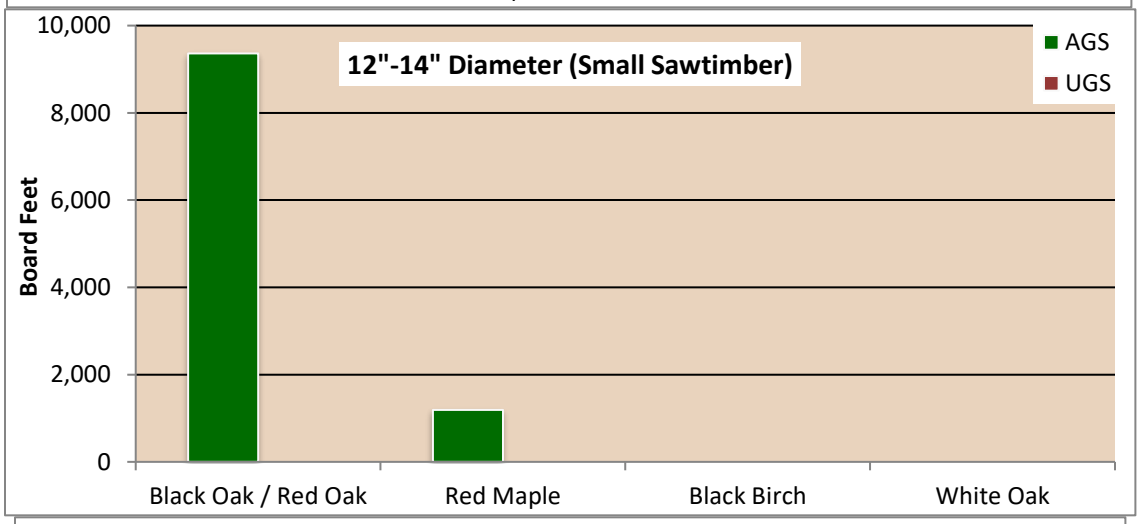
	Size Class							
	Poletimber		Sawtimber				Sawtimber Total	
	6-10"		12-14"		16"+			
Species	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**
Black Oak / Red Oak	56	4	9,360	---	25,459	---	34,819	---
Red Maple	11	6	1,192	---	4,771	1,943	5,962	1,943
Black Birch	14	---	---	---	---	---	---	---
White Oak	---	---	---	---	---	3,021	---	3,021
Total	**81**	**10**	**10,552 (81)**	**--- (---)**	**30,230 (187)**	**4,963 (26)**	**40,781 (268)**	**4,963 (26)**

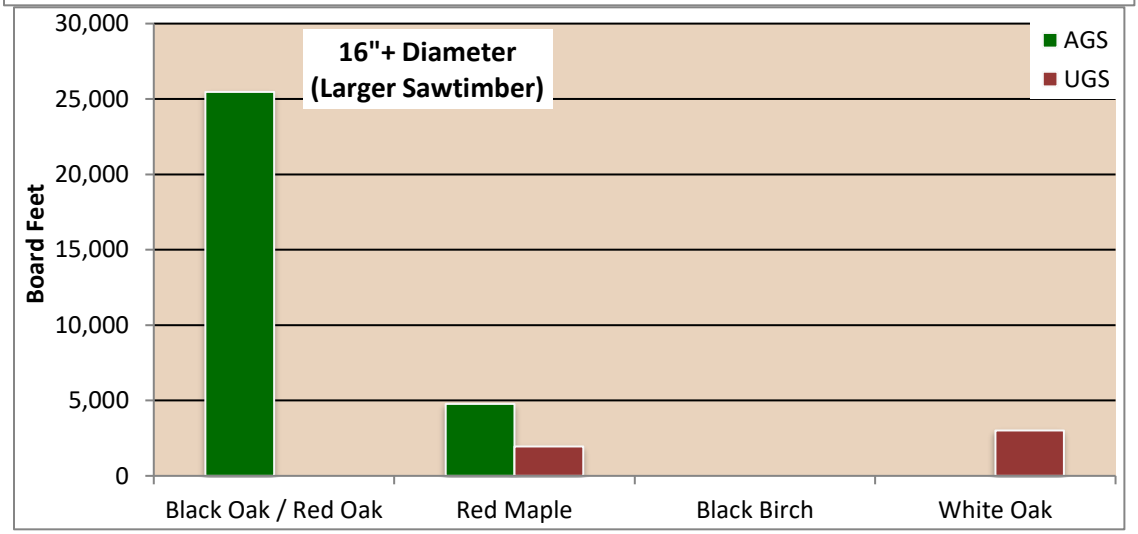
Average poletimber volume per acre ..... 6.9 cords
Average AGS poletimber volume per acre ..... 6.2 cords
Average UGS poletimber volume per acre ..... 0.7 cords

Average sawtimber volume per acre ..... 3,519 Bd.ft. (22.7 cords)
Average AGS sawtimber volume per acre ..... 3,137 Bd.ft (20.7 cords)
Average UGS sawtimber volume per acre ..... 382 Bd.ft (2.0 cords)

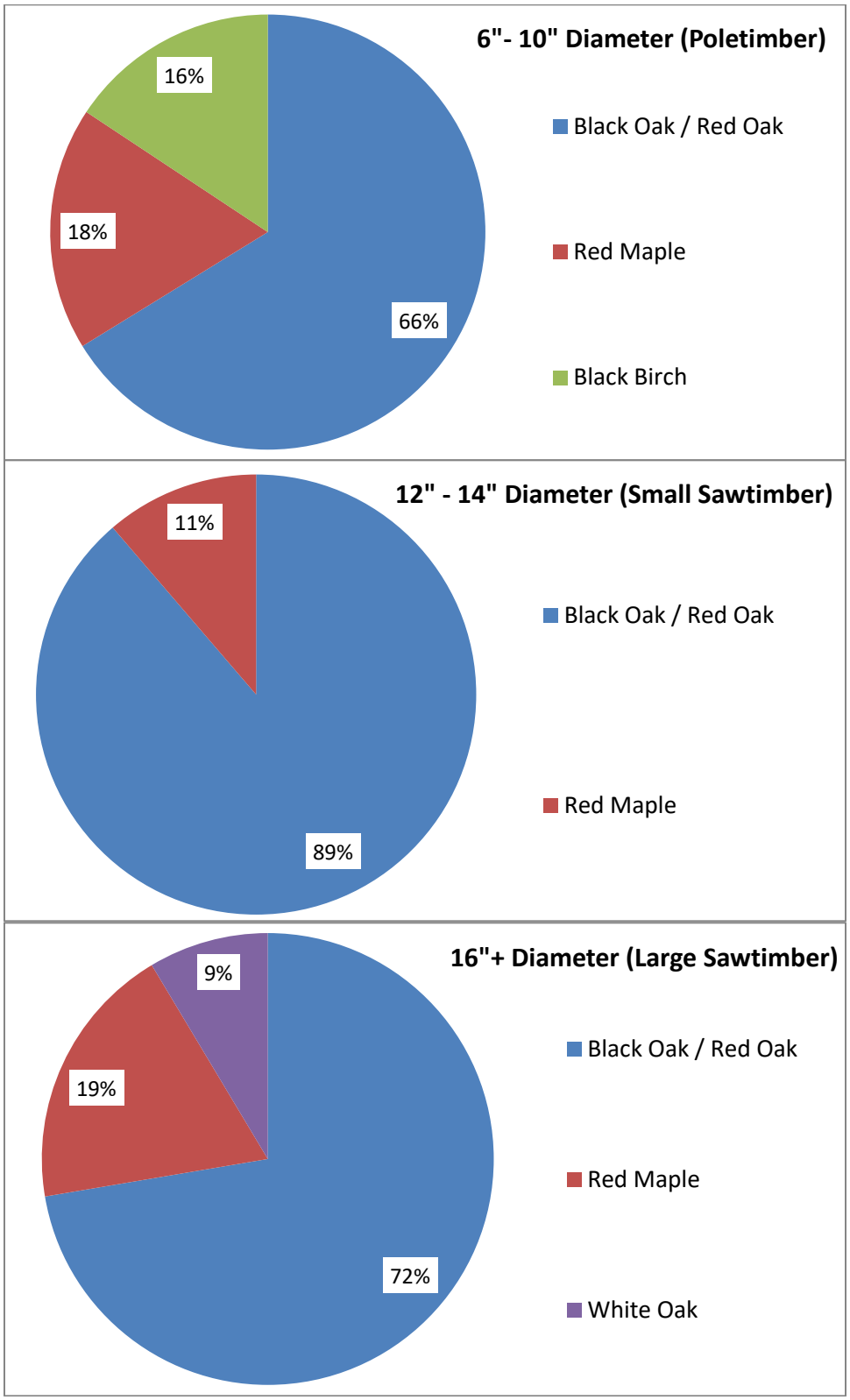
Graphic Representation of Timber Volume







Graphic Representation of Timber Volume – Percent Distribution



3. Timber Growth

The following is an estimate of the current annual growth of the trees within the wooded stand, by size class. Poletimber growth is reported in cords. Sawtimber growth is reported in cords, and in board feet (Bd. ft.).

Size Class	Current gross volume (cords)	Current gross volume (Bd.ft.)	Current annual growth rate (%)	Current annual growth (cords)	Current annual growth (Bd.ft.)
6 - 8"	56	---	2.0	1.1	---
10"	34	---	2.0	0.7	---
12"	33	3,575	2.1	0.7	75
14"	49	6,977	2.2	1.1	153
16"	44	7,084	2.0	0.9	142
18"	73	12,126	1.8	1.3	218
20"+	96	15,983	1.5	1.4	240
Total	**385**	**45,744**		**7.2**	**828**

Average current annual poletimber growth per acre ..... 0.14 cords
Average current annual AGS poletimber volume per acre ..... 0.12 cords
Average current annual UGS poletimber volume per acre ..... 0.02 cords

Average current annual sawtimber growth per acre..... 64 Bd.ft. (0.41 cords)
Average current annual AGS sawtimber vol./acre ..... 58 Bd.ft. (0.38 cords)
Average current annual UGS sawtimber vol./acre ..... 6 Bd.ft. (0.03 cords)

4. Graphical Representation of Average Timber Stocking

The graph below illustrates the current average level of timber stocking within the wooded stand. It is apparent that, on the average, the woodland is *fully stocked*. This means that, on the average, the inherent growth potential of the sites on which the stand is located is being fully utilized by the trees that are growing there. FSI, salvage work, timber harvesting, non-native shrub and vine control, restoration work, and/or tree planting can result in a further improvement of stand quality while maintaining *full stocking*.

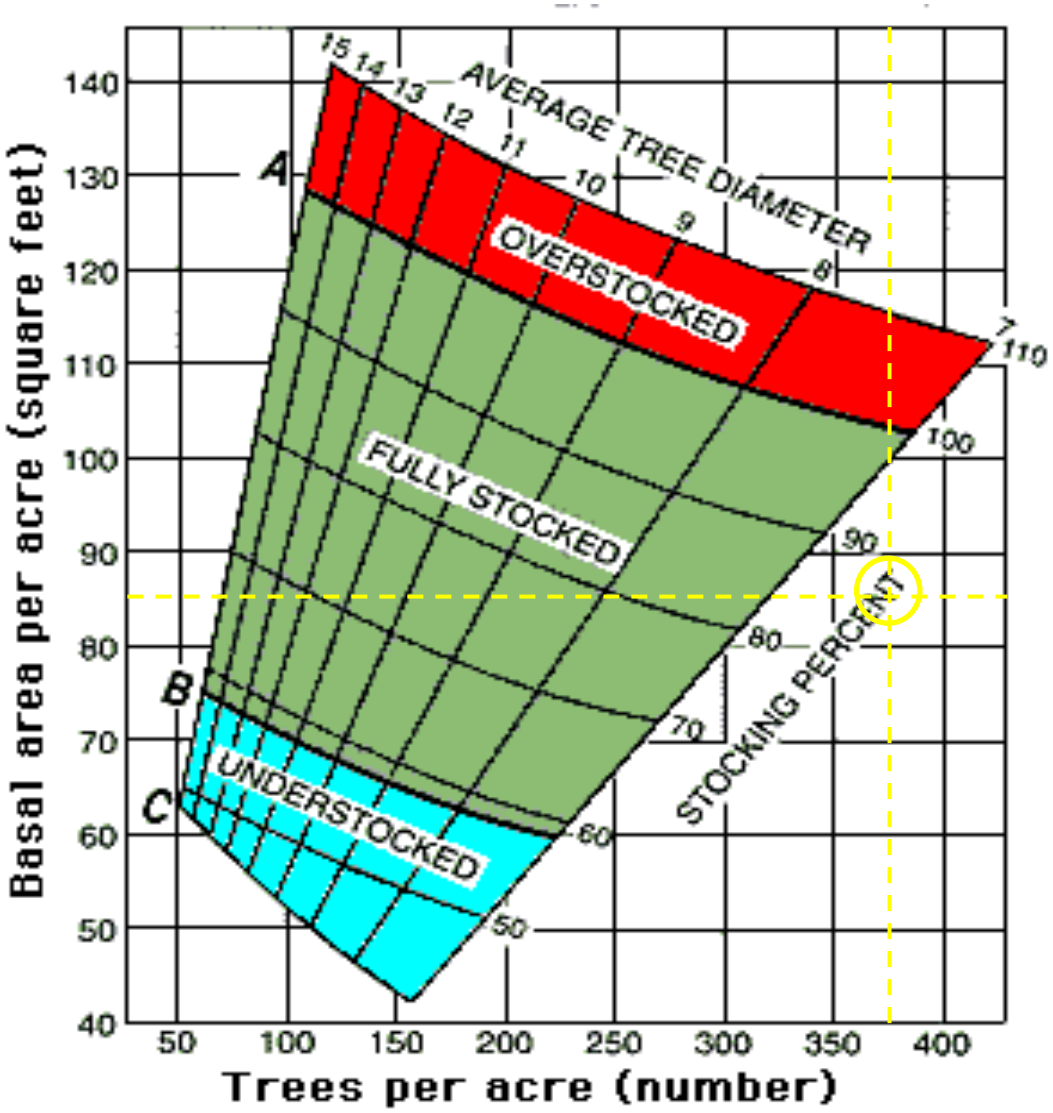


Figure – Relation of basal area, number of trees, and average tree diameter to stocking percentage for upland central hardwoods. The area between curves A and B on both charts indicates the range of stocking where trees can fully utilize the growing space. Curve C shows the lower limit of stocking necessary to reach the B level in the 10 years on average sites

From: Roach B.A., and S.F. Gingrich (1968). Even-aged silviculture for upland central hardwoods. USDA-FS Agric. Handbook 355

COMPREHENSIVE INVENTORY FOR
STAND C-2 – 64.00 +/- acres

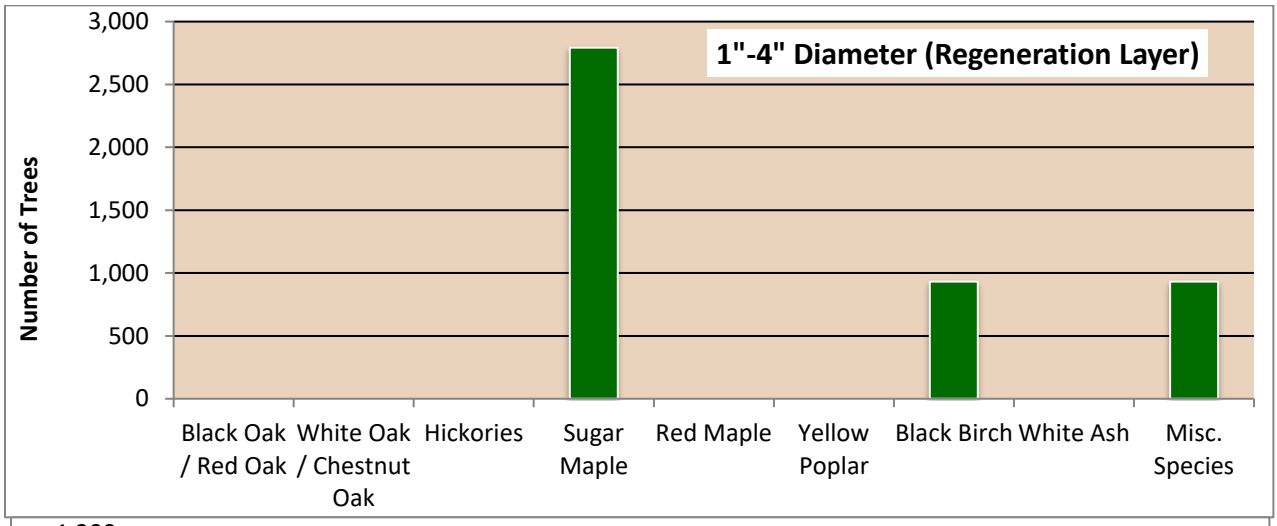
1. Number of Trees

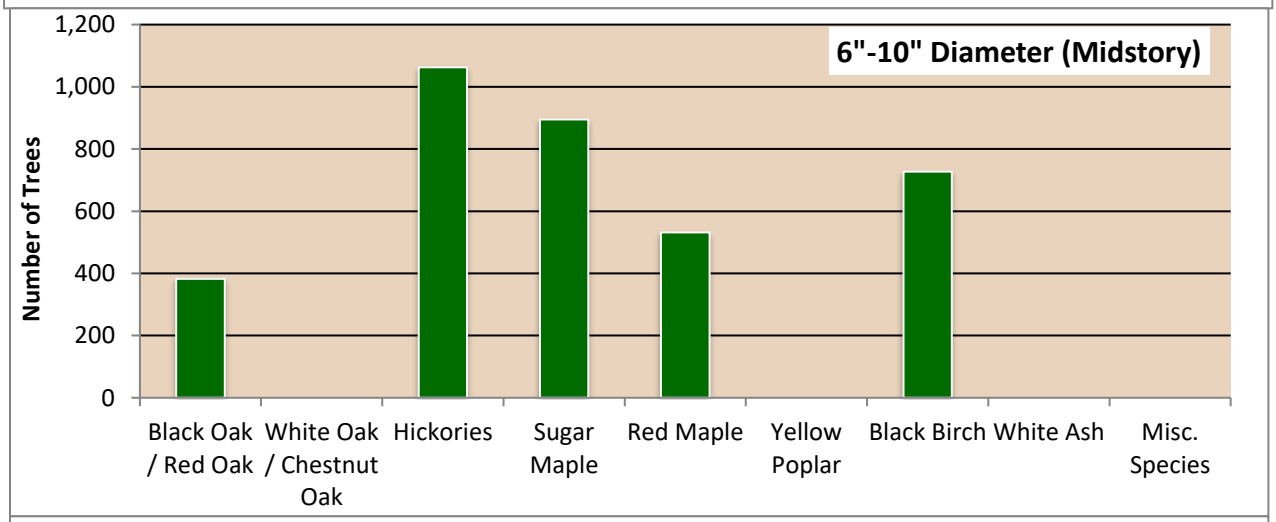
The following is an estimate of the number of 1" diameter and larger trees within the wooded stand, by species and size class. Sizes are reported in diameters at breast height (DBH).

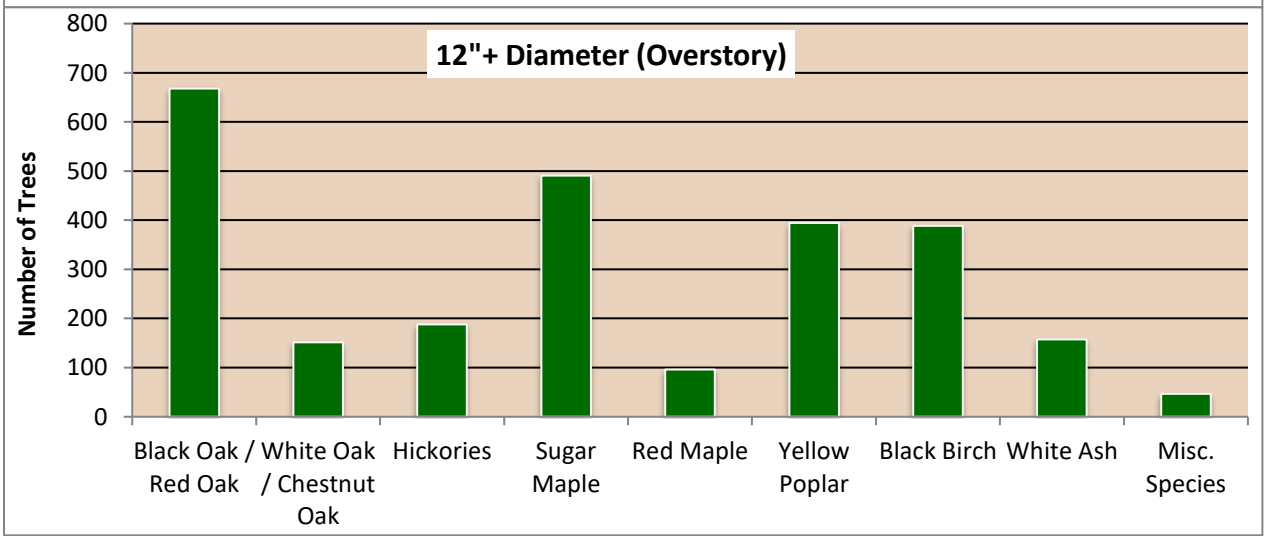
	Size Class				
Species	**1-4"**	**6-10"**	**12-14"**	**16"+**	**Total**
Red Oak / Black Oak /	---	382	202	466	1,050
White Oak / Chestnut Oak	---	---	---	151	---
Hickories	---	1,063	58	130	1,251
Sugar Maple	2,794	895	202	289	4,180
Red Maple	---	531	43	54	628
Yellow Poplar	---	---	43	352	394
Black Birch	931	728	202	187	2,047
White Ash	---	---	58	99	157
Misc. Species	931	---	---	47	978
Total	**4,656**	**3,600**	**807**	**1,774**	**10,837**

Average number of trees per acre	169
Average tree diameter (DBH)	9.9”
Average total basal area per acre	90 sq. ft.
Average stocking percent	79%

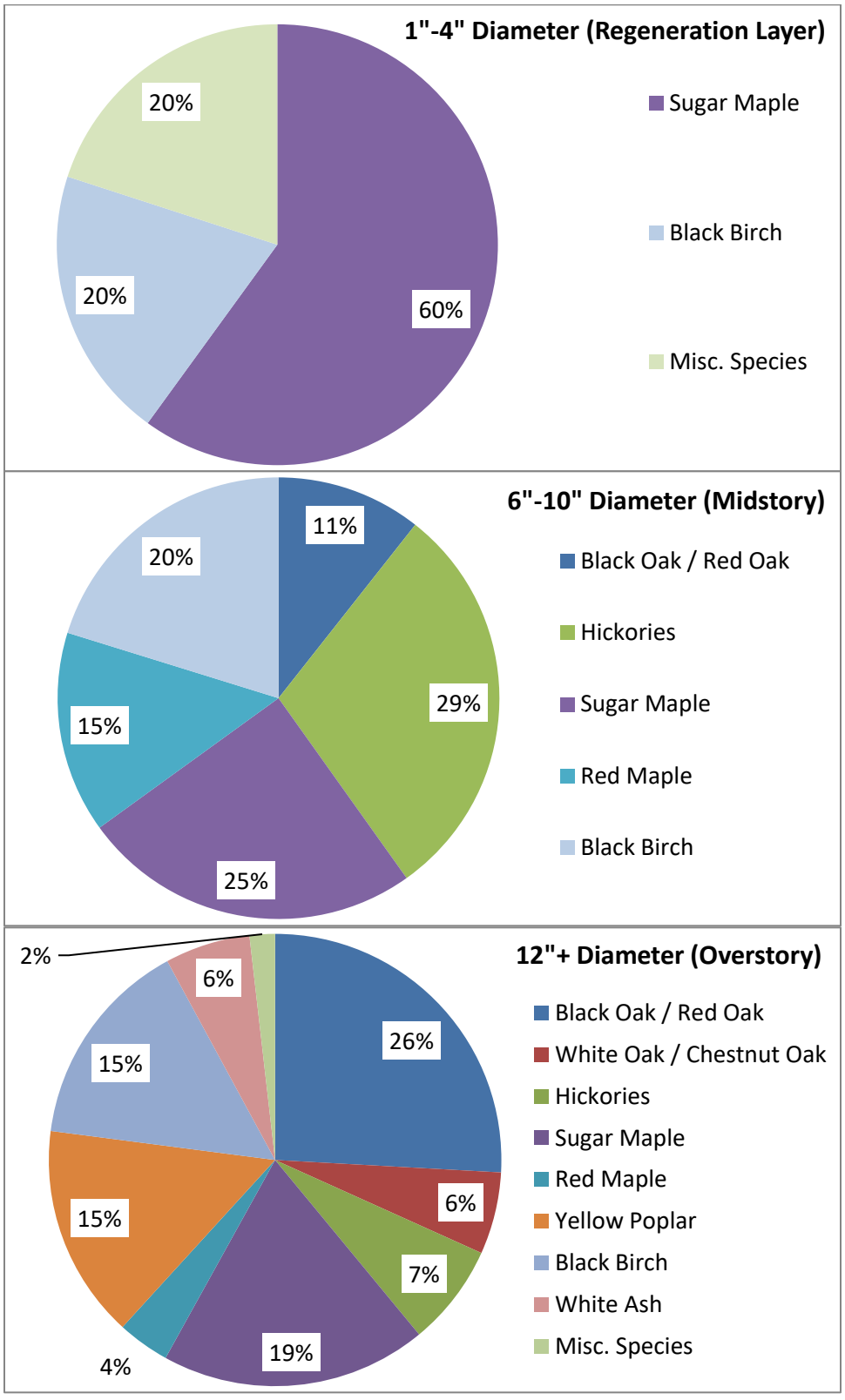
Graphic Representation of Number of Trees







Graphic Representation of Number of Trees – Percent Distribution



2. Timber Volume

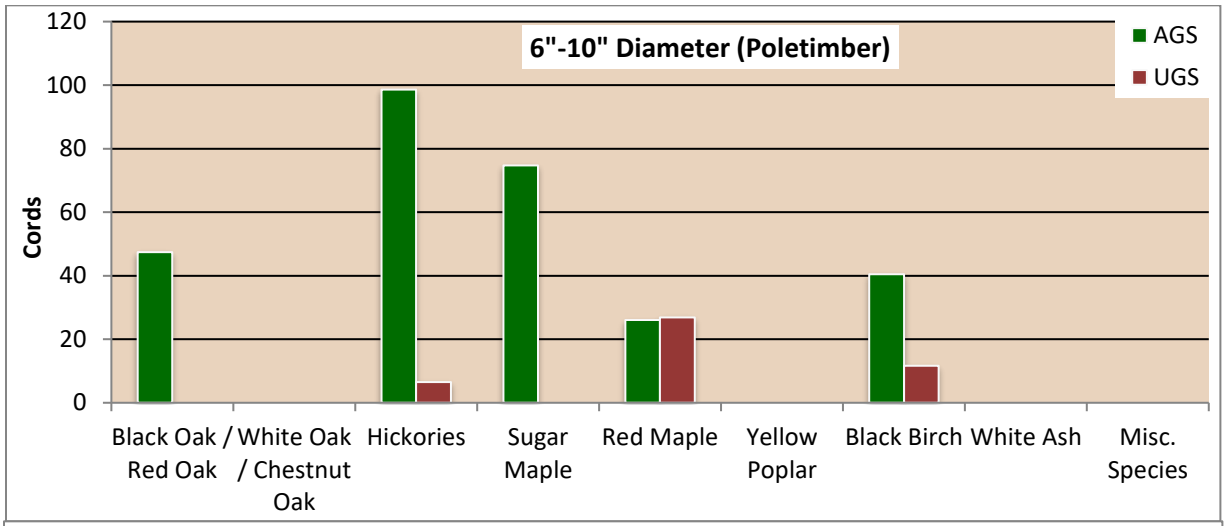
The following is an estimate of the total gross merchantable volume contained in trees on within the wooded stand, by species, size class, and quality. Volume is estimated by the Doyle Log Rule for trees of average form. Poletimber volume is reported in cords. Sawtimber volume is reported in board feet, and in cords (in parentheses).

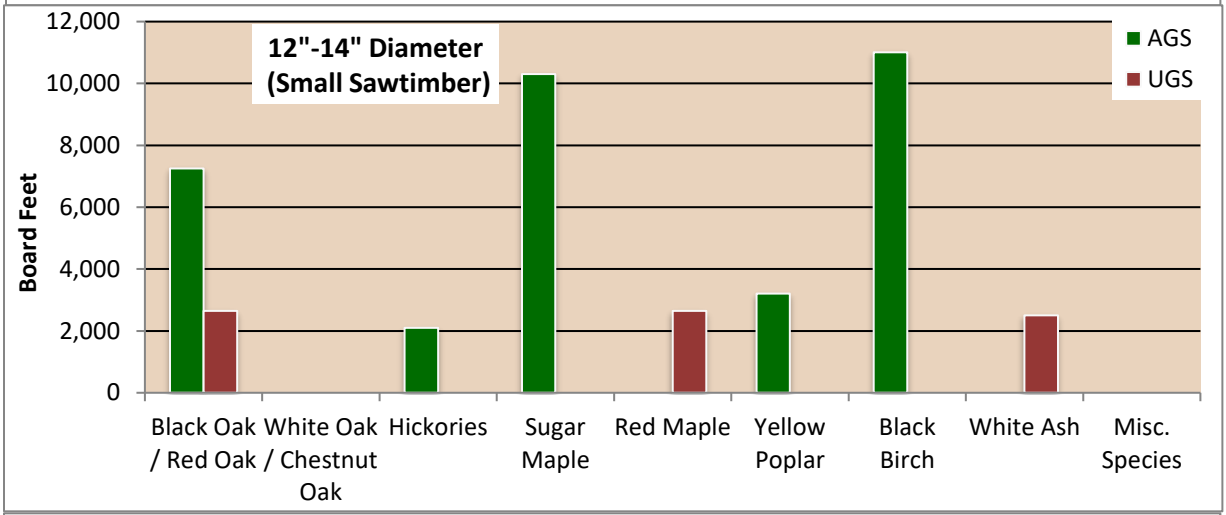
	---------- Size Class ----------							
	Poletimber		---------- Sawtimber ----------				Sawtimber Total	
	6-10"		12-14"		16"+			
Species	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**
Red Oak / Black Oak	47	---	7,247	2,650	76,955	---	84,202	2,650
White Oak / Chestnut Oak	---	---	---	---	28,433	3,769	28,433	3,769
Hickories	99	7	2,095	---	18,386	3,077	20,481	3,077
Sugar Maple	75	---	10,305	---	35,323	7,184	45,628	7,184
Red Maple	26	27	---	2,650	7,566	---	7,566	2,650
Yellow Poplar	---	---	3,206	---	106,425	4,727	109,631	4,727
Black Birch	40	12	11,009	---	17,703	7,131	28,712	7,131
White Ash	---	---	---	2,502	---	16,570	---	19,072
Misc. Species	---	---	---	---	2,587	3,769	2,587	3,769
Total	**287**	**45**	**33,862 (263)**	**7,802 (62)**	**293,378 (1,464)**	**46,226 (266)**	**327,239 (1,727)**	**54,029 (327)**

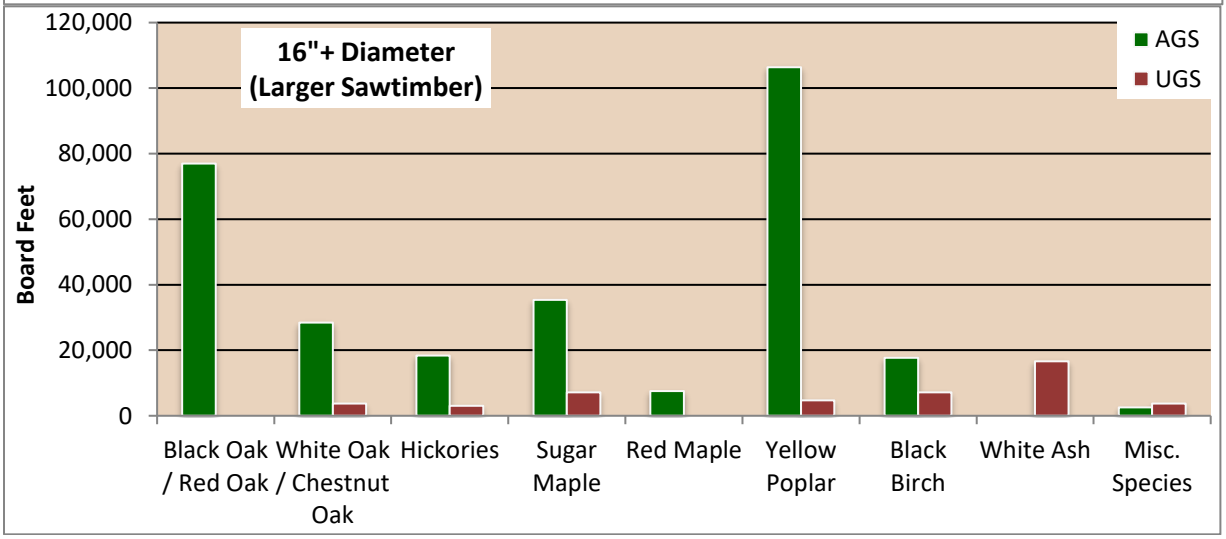
Average poletimber volume per acre ..... 5.2 cords
Average AGS poletimber volume per acre ..... 4.5 cords
Average UGS poletimber volume per acre ..... 0.7 cords

Average sawtimber volume per acre ..... 5,957 Bd.ft. (32.1 cords)
Average AGS sawtimber volume per acre ..... 5,113 Bd.ft (27.0 cords)
Average UGS sawtimber volume per acre ..... 844 Bd.ft (5.1 cords)

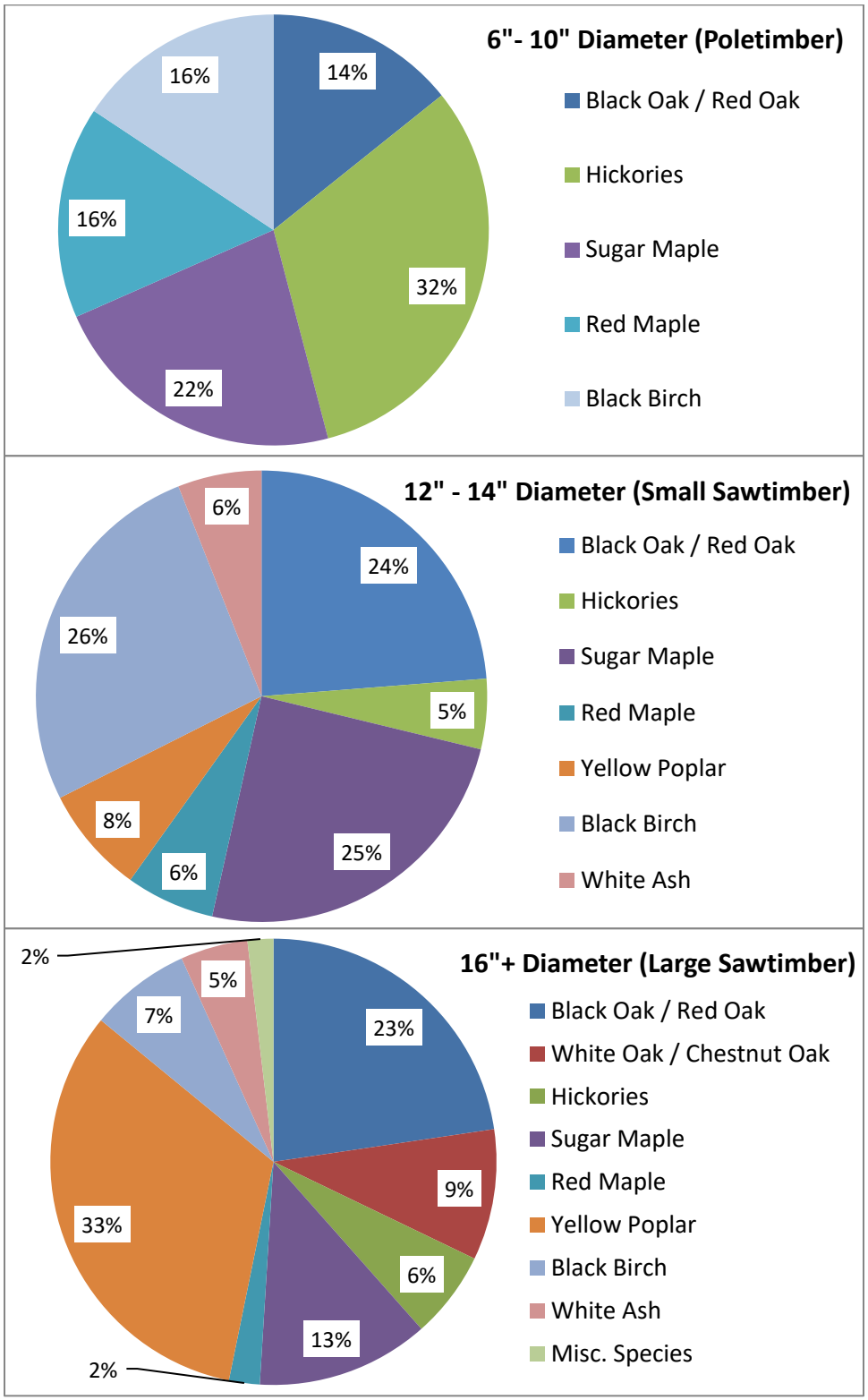
Graphic Representation of Timber Volume







Graphic Representation of Timber Volume – Percent Distribution



3. Timber Growth

The following is an estimate of the current annual growth of the trees within the wooded stand, by size class. Poletimber growth is reported in cords. Sawtimber growth is reported in cords, and in board feet (Bd. ft.).

Size Class	Current gross volume (cords)	Current gross volume (Bd.ft.)	Current annual growth rate (%)	Current annual growth (cords)	Current annual growth (Bd.ft.)
6 - 8"	198	---	2.0	4.0	---
10"	134	---	2.0	2.7	---
12"	154	18,797	2.1	3.2	395
14"	171	22,867	2.2	3.8	503
16"	325	59,933	2.0	6.5	1,199
18"	430	78,089	1.8	7.7	1,406
20"+	975	201,582	1.5	14.6	3,024
Total	**2,386**	**381,268**		**42.5**	**6,526**

Average current annual poletimber growth per acre ..... 0.10 cords
Average current annual AGS poletimber volume per acre ..... 0.09 cords
Average current annual UGS poletimber volume per acre ..... 0.01 cords

Average current annual sawtimber growth per acre..... 102 Bd.ft. (0.56 cords)
Average current annual AGS sawtimber vol./acre ..... 86 Bd.ft. (0.47 cords)
Average current annual UGS sawtimber vol./acre ..... 16 Bd.ft. (0.09 cords)

4. Graphical Representation of Average Timber Stocking

The graph below illustrates the current average level of timber stocking within the wooded stand. It is apparent that, on the average, the woodland is *fully stocked*. This means that, on the average, the inherent growth potential of the sites on which the stand is located is being fully utilized by the trees that are growing there. FSI, salvage work, timber harvesting, non-native shrub and vine control, restoration work, and/or tree planting can result in a further improvement of stand quality while maintaining *full stocking*.

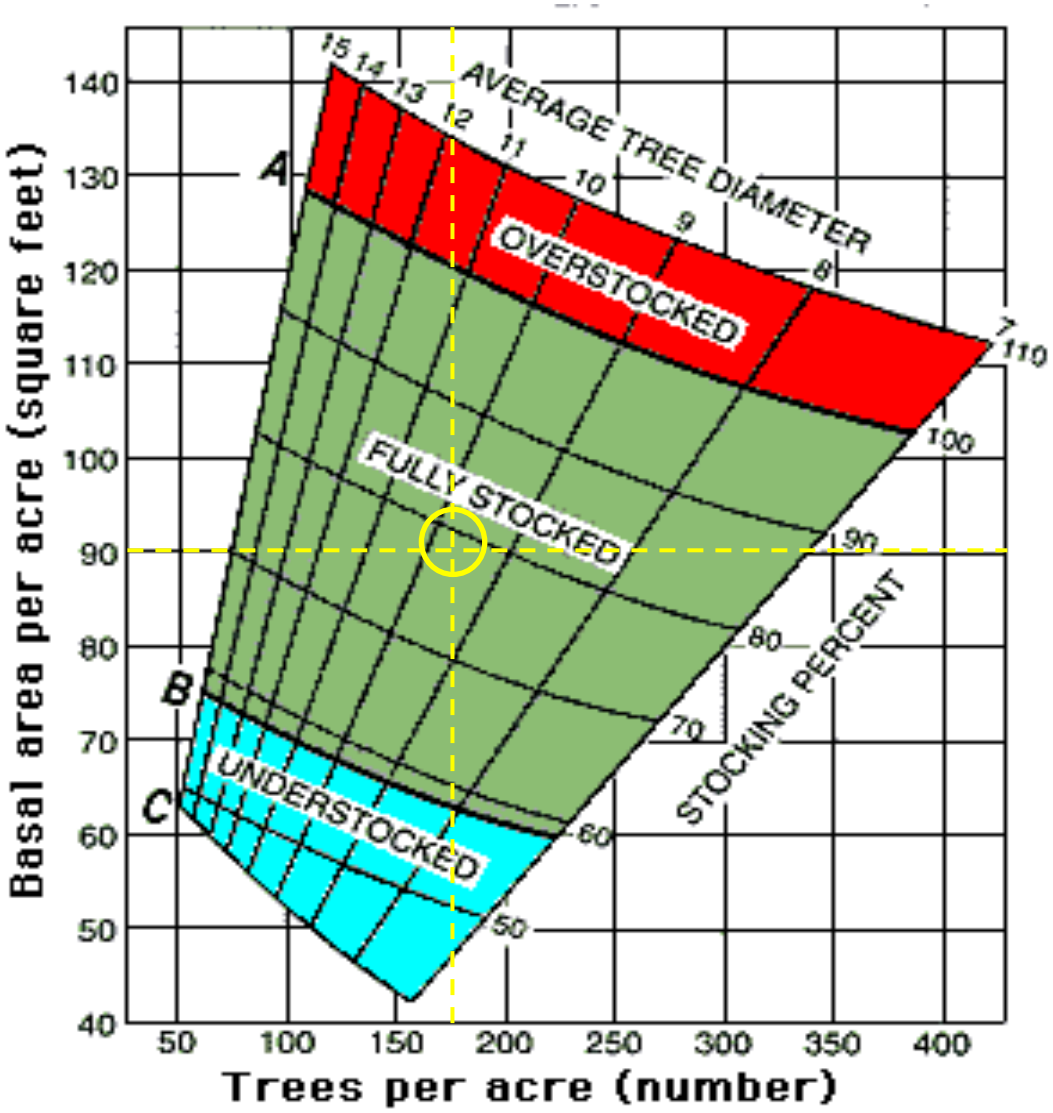


Figure – Relation of basal area, number of trees, and average tree diameter to stocking percentage for upland central hardwoods. The area between curves A and B on both charts indicates the range of stocking where trees can fully utilize the growing space. Curve C shows the lower limit of stocking necessary to reach the B level in the 10 years on average sites

From: Roach B.A., and S.F. Gingrich (1968). Even-aged silviculture for upland central hardwoods. USDA-FS Agric. Handbook 355

COMPREHENSIVE INVENTORY FOR STAND C-3 – 46.00 +/- acres

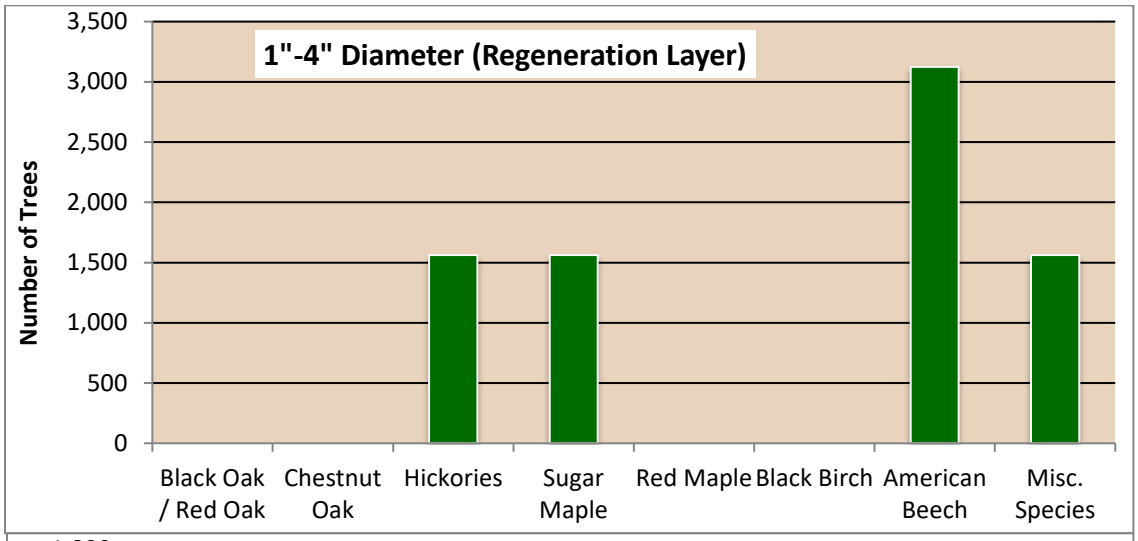
1. Number of Trees

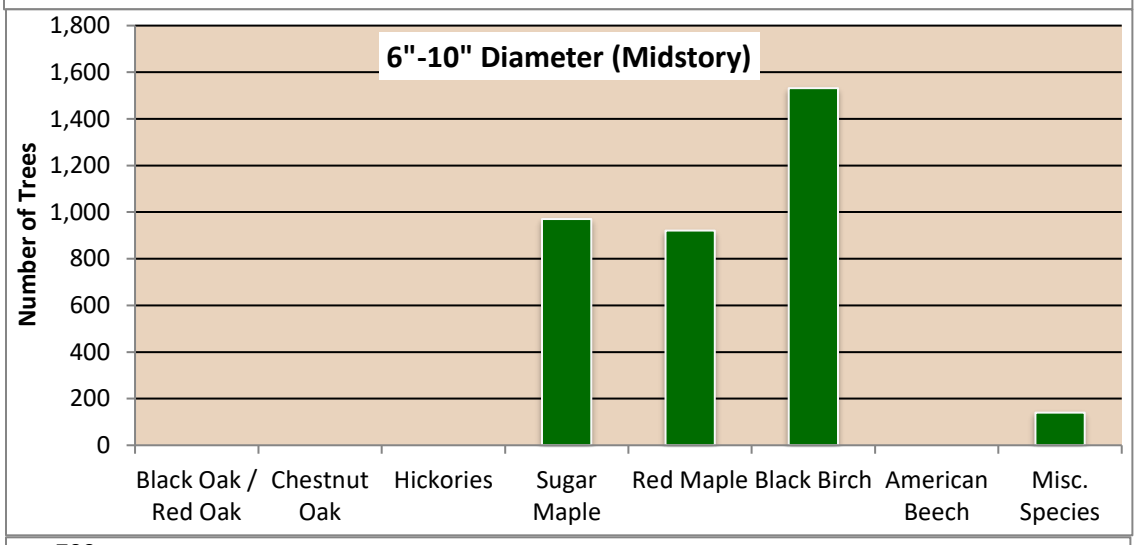
The following is an estimate of the number of 1" diameter and larger trees within the wooded stand, by species and size class. Sizes are reported in diameters at breast height (DBH).

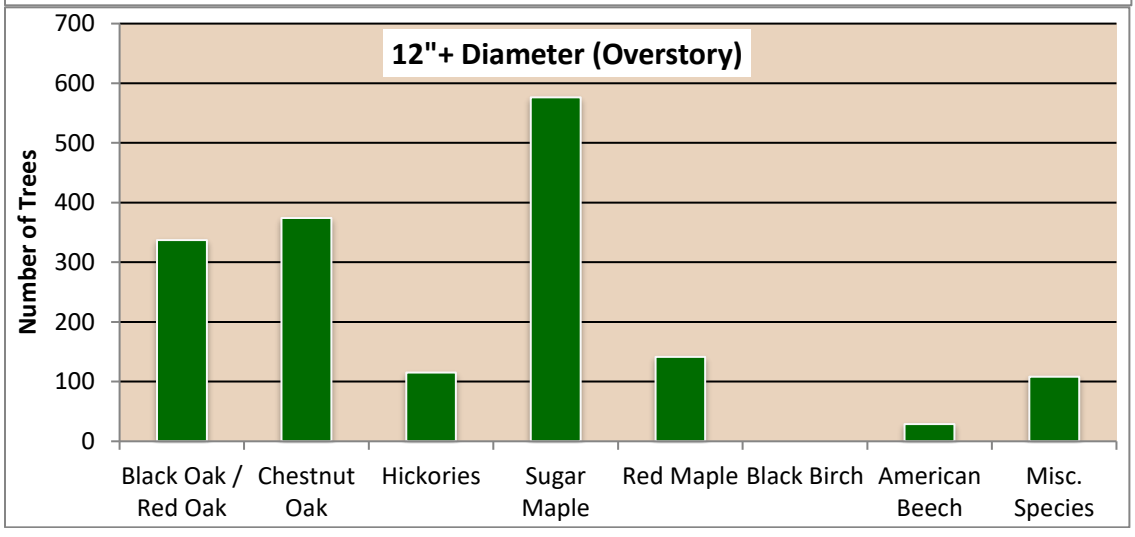
	Size Class				
Species	**1-4"**	**6-10"**	**12-14"**	**16"+**	**Total**
Black Oak / Red Oak	---	---	72	266	337
Chestnut Oak	---	---	98	277	374
Hickories	1,562	---	72	43	1,677
Sugar Maple	1,562	970	313	264	3,108
Red Maple	---	922	---	142	1,063
Black Birch	---	1,532	---	---	1,532
American Beech	3,124	---	---	29	3,153
Misc. Species	1,562	141	---	108	1,810
Total	**7,809**	**3,564**	**554**	**1,128**	**13,055**

Average number of trees per acre	284
Average tree diameter (DBH)	7.7”
Average total basal area per acre	92 sq. ft.
Average stocking percent	89%

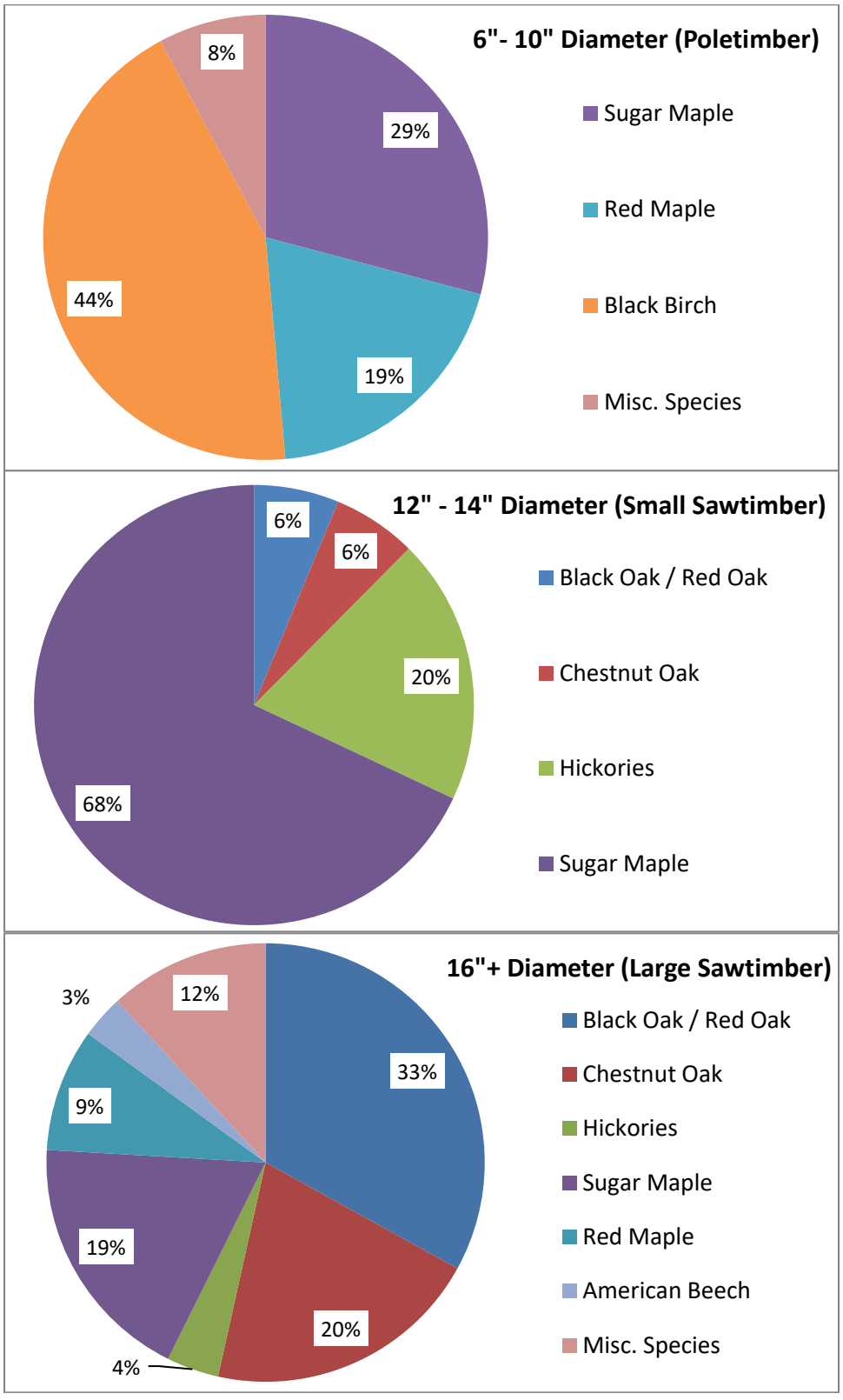
Graphic Representation of Number of Trees







Graphic Representation of Number of Trees – Percent Distribution



2. Timber Volume

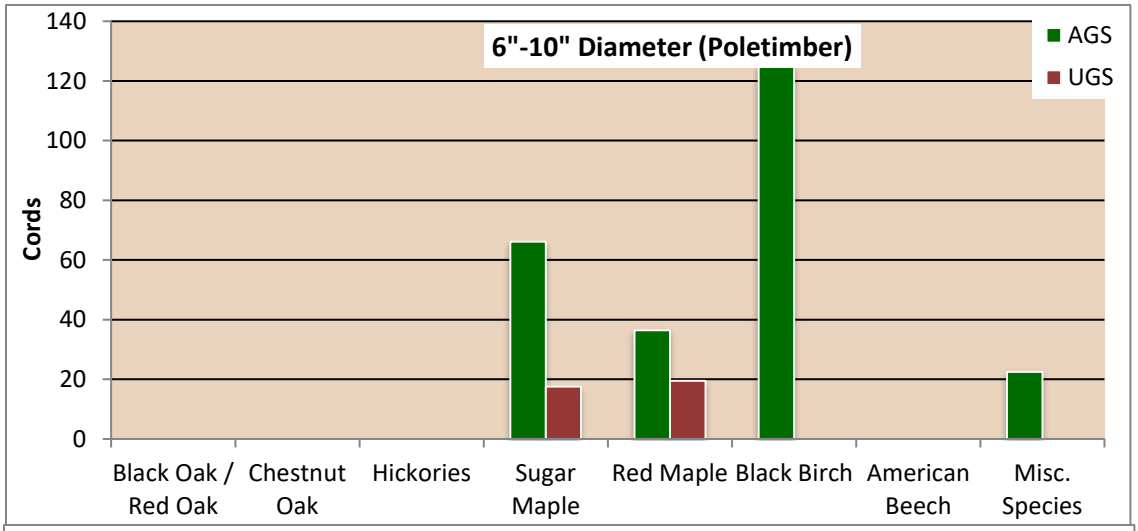
The following is an estimate of the total gross merchantable volume contained in trees on within the wooded stand, by species, size class, and quality. Volume is estimated by the Doyle Log Rule for trees of average form. Poletimber volume is reported in cords. Sawtimber volume is reported in board feet, and in cords (in parentheses).

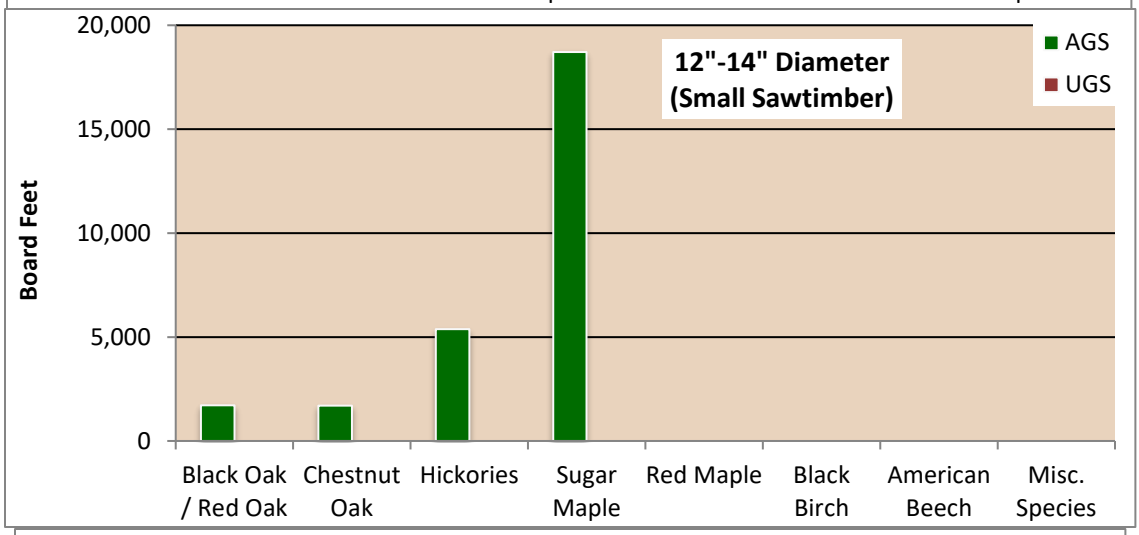
	Size Class							
	Poletimber		Sawtimber				Sawtimber Total	
	6-10"		12-14"		16"+			
Species	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**
Black Oak / Red Oak	---	---	1,720	---	65,423	5,160	67,144	5,160
Chestnut Oak	---	---	1,698	---	43,713	---	45,411	---
Hickories	---	---	5,376	---	8,245	---	13,621	---
Sugar Maple	66	18	18,710	---	31,796	7,901	50,506	7,901
Red Maple	36	20	---	---	19,393	---	19,393	---
Black Birch	125	---	---	---	---	---	---	---
American Beech	---	---	---	---	---	6,799	---	6,799
Misc. Species	22	---	---	---	9,995	15,275	9,995	15,275
Total	**250**	**37**	**27,505 (244)**	**--- (---)**	**178,566 (936)**	**35,134 (184)**	**206,071 (1,179)**	**35,134 (184)**

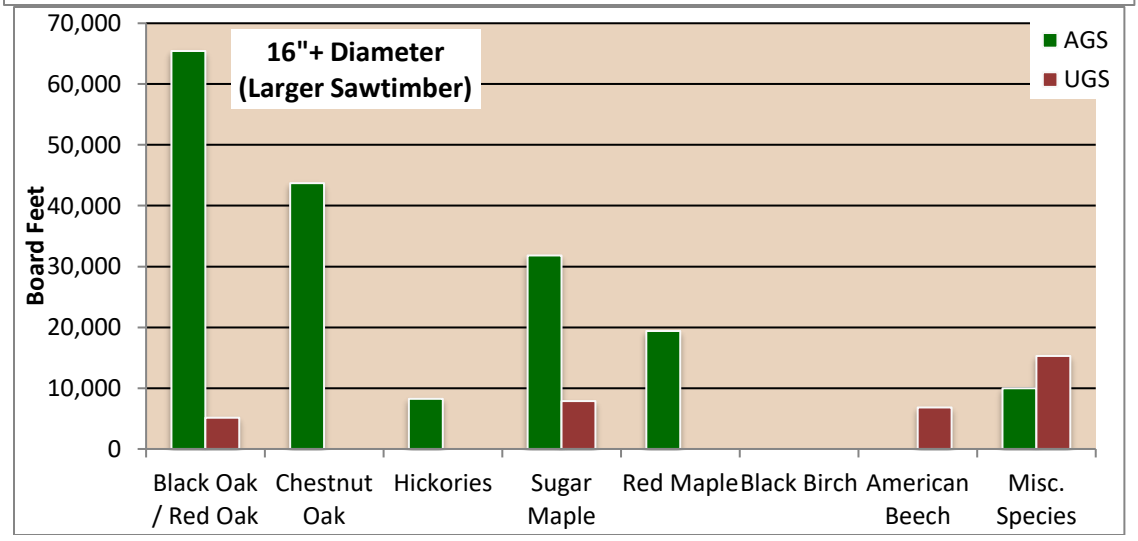
Average poletimber volume per acre ..... 6.3 cords
Average AGS poletimber volume per acre ..... 5.4 cords
Average UGS poletimber volume per acre ..... 0.9 cords

Average sawtimber volume per acre ..... 5,244 Bd.ft. (29.6 cords)
Average AGS sawtimber volume per acre ..... 4,480 Bd.ft (25.6 cords)
Average UGS sawtimber volume per acre ..... 764 Bd.ft (4.0 cords)

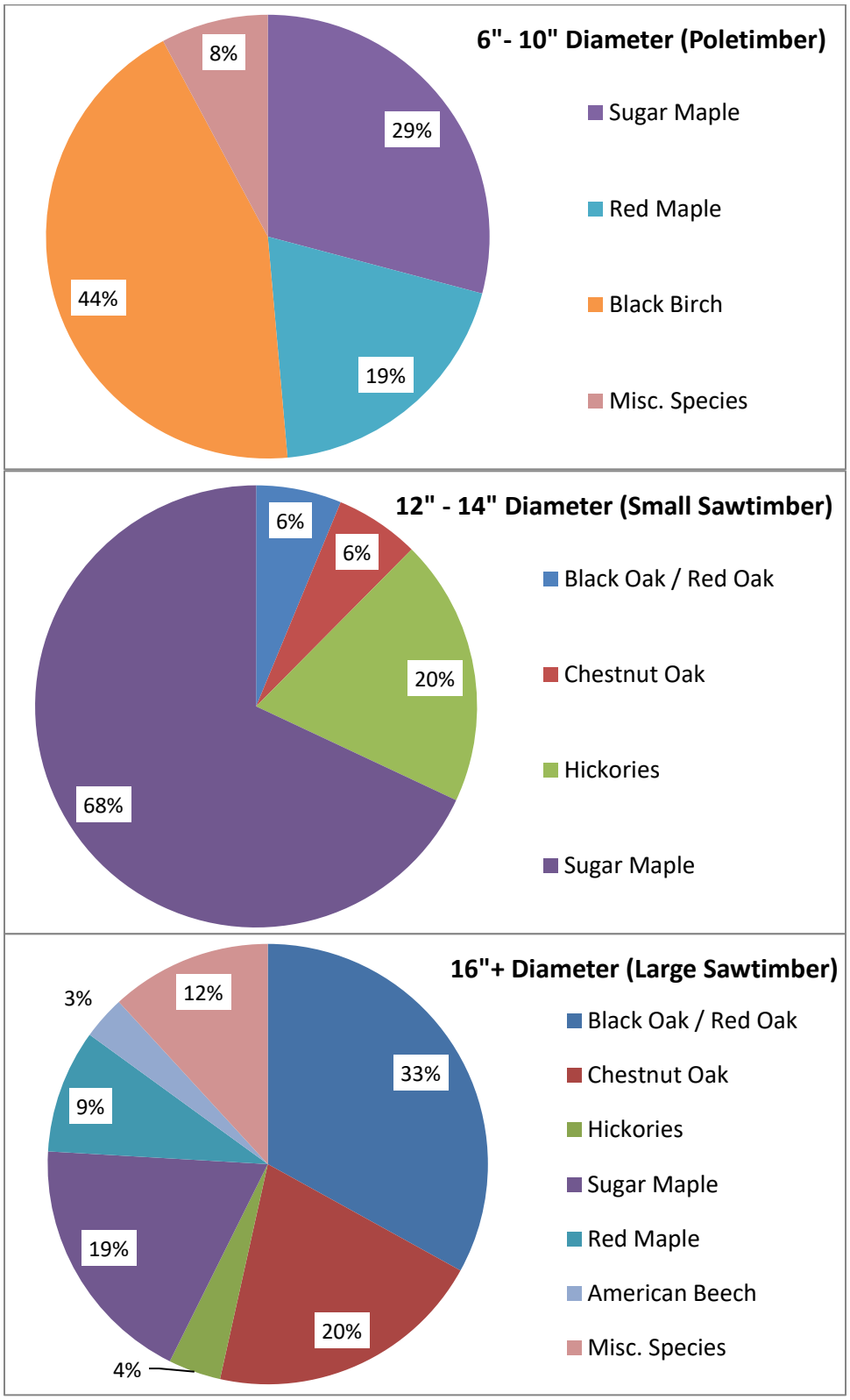
Graphic Representation of Timber Volume







Graphic Representation of Timber Volume – Percent Distribution



3. Timber Growth

The following is an estimate of the current annual growth of the trees within the wooded stand, by size class. Poletimber growth is reported in cords. Sawtimber growth is reported in cords, and in board feet (Bd. ft.).

Size Class	Current gross volume (cords)	Current gross volume (Bd.ft.)	Current annual growth rate (%)	Current annual growth (cords)	Current annual growth (Bd.ft.)
6 - 8"	212	---	2.0	4.2	---
10"	76	---	2.0	1.5	---
12"	64	5,212	2.1	1.4	109
14"	179	22,294	2.2	3.9	490
16"	191	35,790	2.0	3.8	716
18"	288	55,023	1.8	5.2	990
20"+	641	122,887	1.5	9.6	1,843
Total	**1,651**	**241,205**		**29.7**	**4,149**

Average current annual poletimber growth per acre ..... 0.13 cords
Average current annual AGS poletimber volume per acre ..... 0.11 cords
Average current annual UGS poletimber volume per acre ..... 0.02 cords

Average current annual sawtimber growth per acre..... 98 Bd.ft. (0.52 cords)
Average current annual AGS sawtimber vol./acre ..... 78 Bd.ft. (0.45 cords)
Average current annual UGS sawtimber vol./acre ..... 12 Bd.ft. (0.07 cords)

4. Graphical Representation of Average Timber Stocking

The graph below illustrates the current average level of timber stocking within the wooded stand. It is apparent that, on the average, the woodland is *fully stocked*. This means that, on the average, the inherent growth potential of the sites on which the stand is located is being fully utilized by the trees that are growing there. FSI, salvage work, timber harvesting, non-native shrub and vine control, restoration work, and/or tree planting can result in a further improvement of stand quality while maintaining *full stocking*.

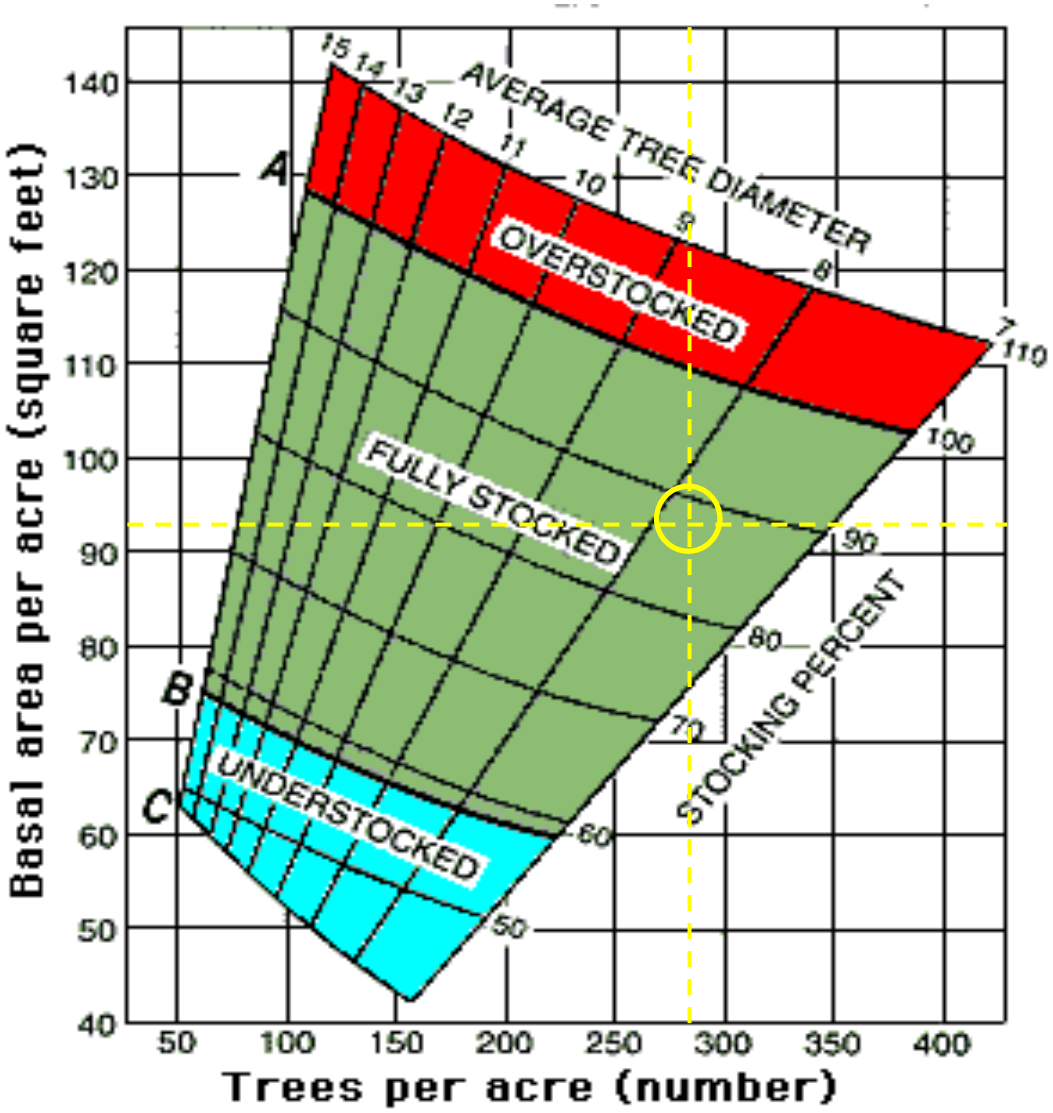


Figure – Relation of basal area, number of trees, and average tree diameter to stocking percentage for upland central hardwoods. The area between curves A and B on both charts indicates the range of stocking where trees can fully utilize the growing space. Curve C shows the lower limit of stocking necessary to reach the B level in the 10 years on average sites

From: Roach B.A., and S.F. Gingrich (1968). Even-aged silviculture for upland central hardwoods. USDA-FS Agric. Handbook 355

COMPREHENSIVE INVENTORY FOR STAND D-1 – 133.00 +/- acres

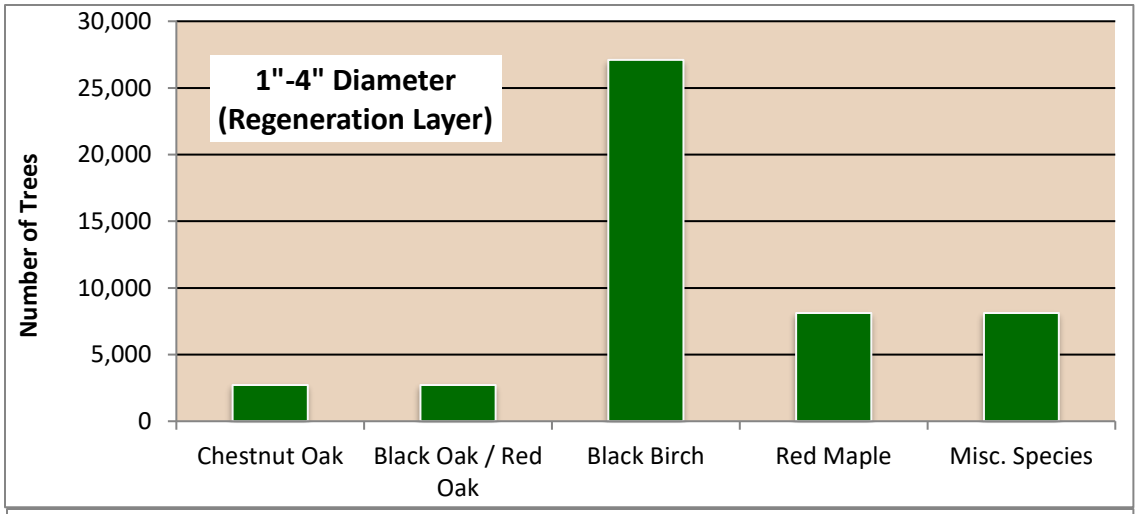
1. Number of Trees

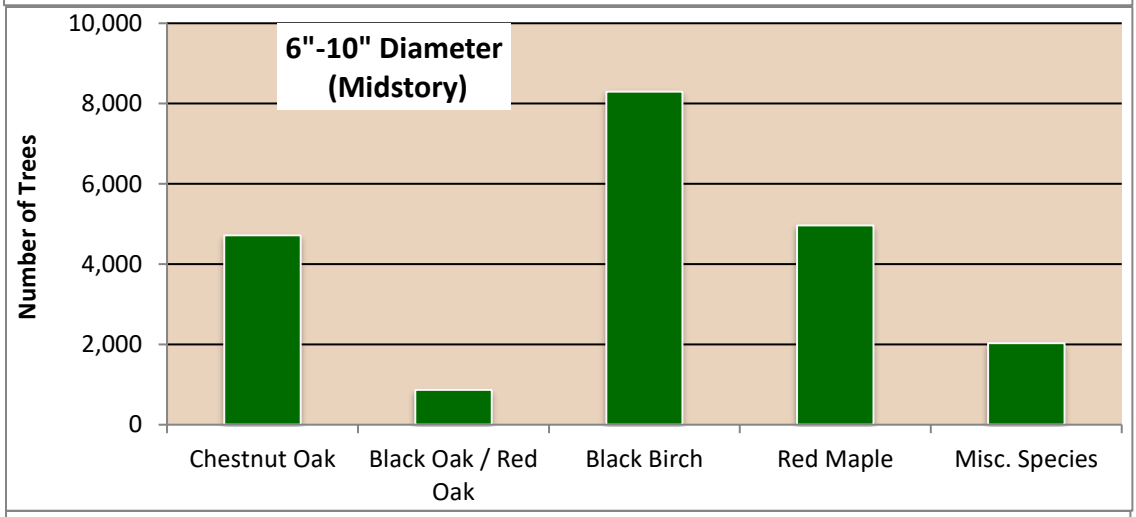
The following is an estimate of the number of 1" diameter and larger trees within the wooded stand, by species and size class. Sizes are reported in diameters at breast height (DBH).

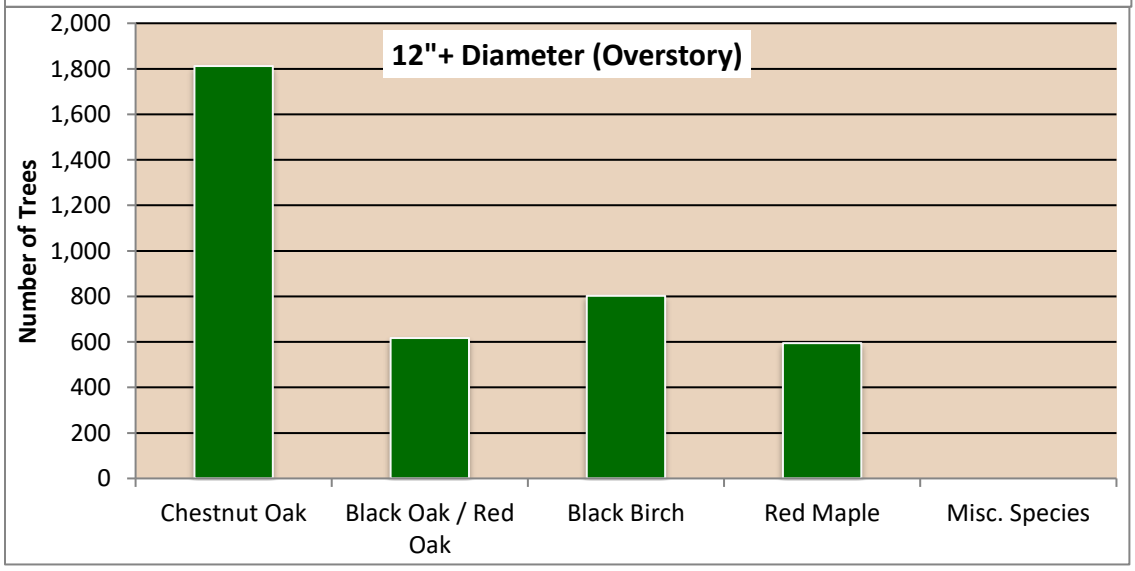
	Size Class				
Species	**1-4"**	**6-10"**	**12-14"**	**16"+**	**Total**
Chestnut Oak	2,709	4,722	791	1,021	9,243
Black Oak / Red Oak	2,709	869	373	244	4,195
Black Birch	27,095	8,300	632	171	36,197
Red Maple	8,128	4,965	418	176	13,688
Misc. Species	8,128	2,032	---	---	10,161
Total	**48,771**	**20,888**	**2,214**	**1,612**	**73,485**

Average number of trees per acre	552
Average tree diameter (DBH)	5.7”
Average total basal area per acre	98 sq. ft.
Average stocking percent	95%

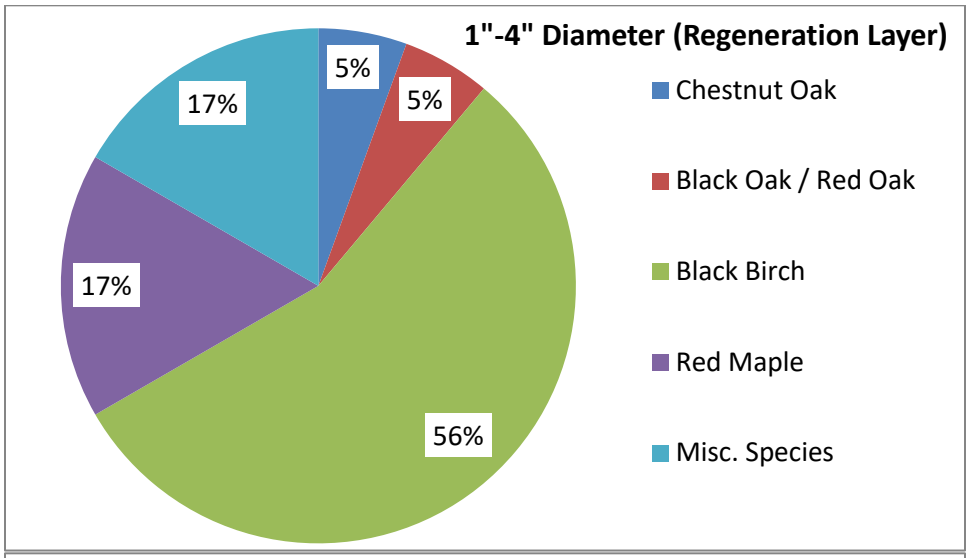
Graphic Representation of Number of Trees

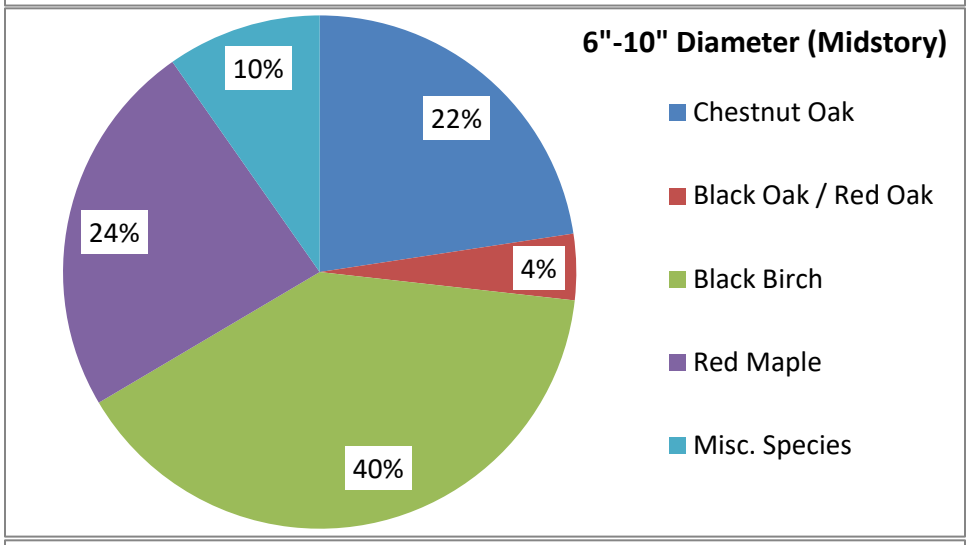


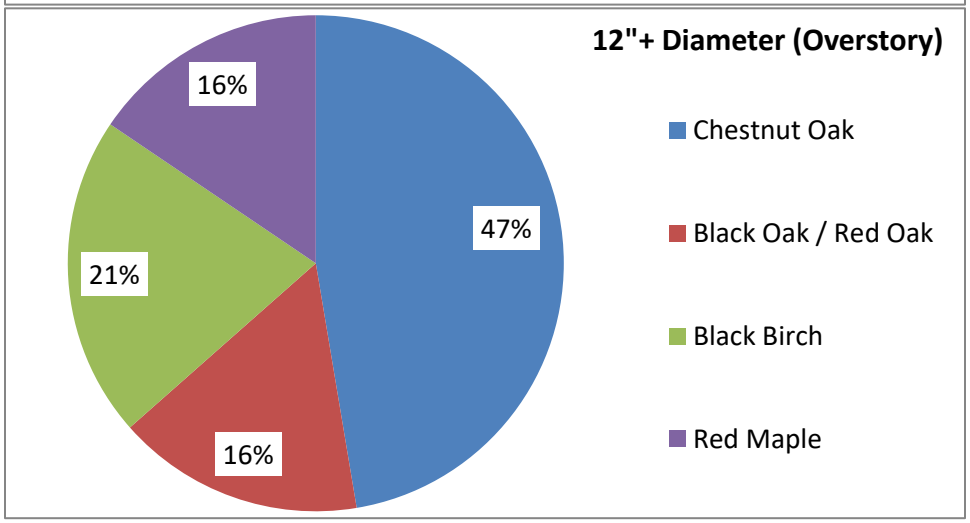




Graphic Representation of Number of Trees – Percent Distribution







2. Timber Volume

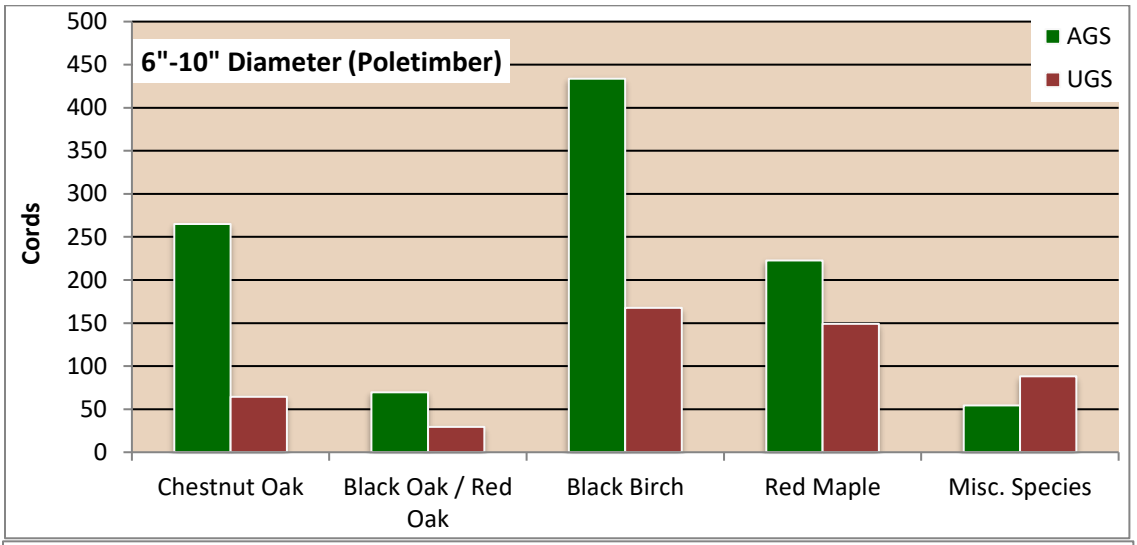
The following is an estimate of the total gross merchantable volume contained in trees on within the wooded stand, by species, size class, and quality. Volume is estimated by the Doyle Log Rule for trees of average form. Poletimber volume is reported in cords. Sawtimber volume is reported in board feet, and in cords (in parentheses).

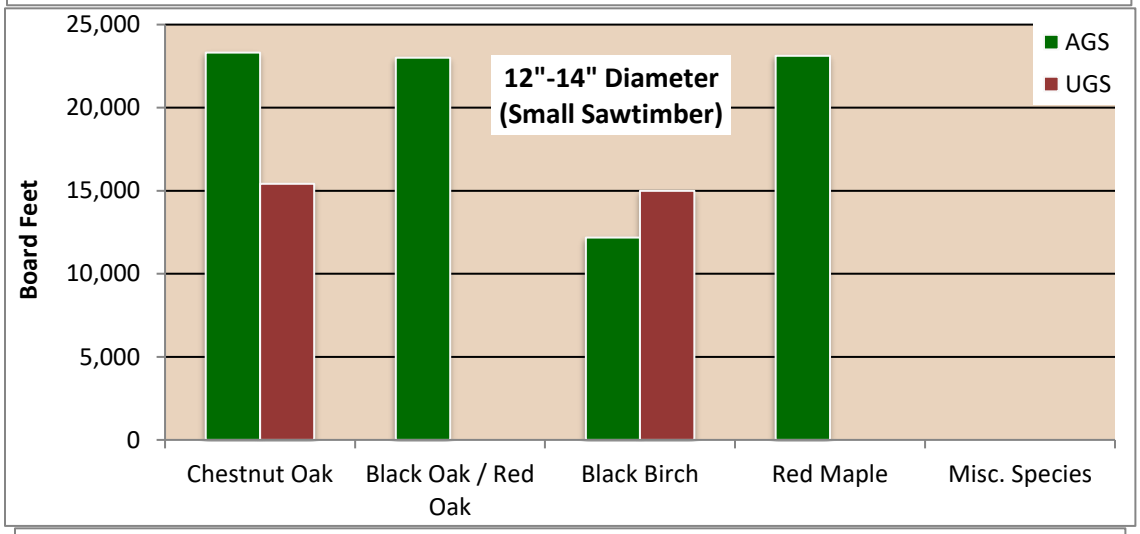
	Size Class							
	Poletimber		Sawtimber				Sawtimber Total	
	6-10"		12-14"		16"+			
Species	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**	**AGS**	**UGS**
Chestnut Oak	265	64	23,315	15,420	116,632	37,338	139,946	52,758
Black Oak / Red Oak	70	29	23,006	---	38,265	---	61,270	---
Black Birch	434	168	12,190	14,990	23,392	---	35,582	14,990
Red Maple	222	149	23,132	---	14,815	---	37,947	---
Misc. Species	54	88	---	---	---	---	---	---
Total	**1,045**	**498**	**81,642 (721)**	**30,410 (242)**	**193,104 (1,233)**	**37,338 (250)**	**274,746 (1,953)**	**67,748 (492)**

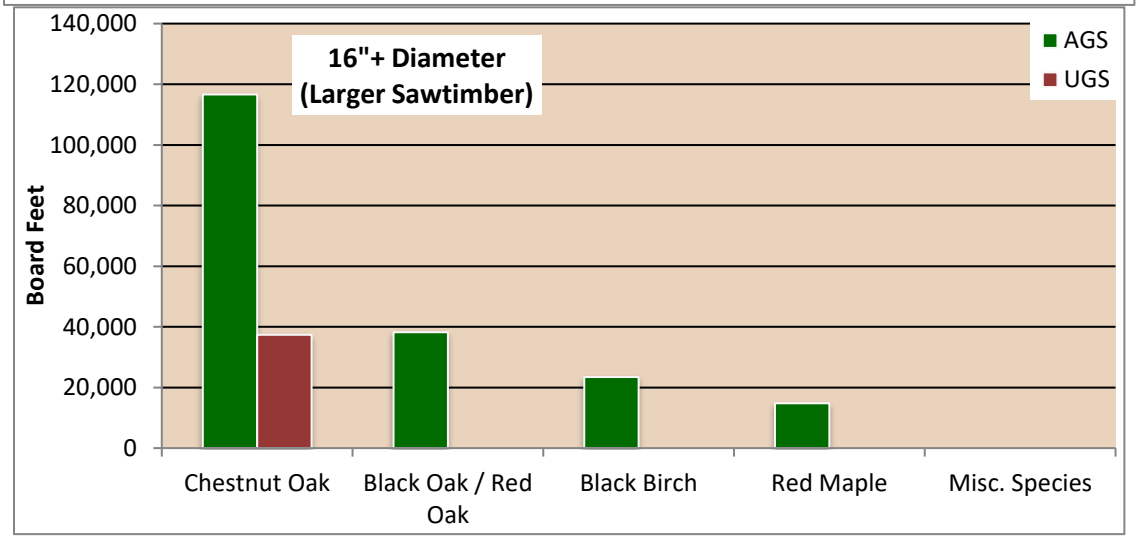
Average poletimber volume per acre ..... 11.6 cords
Average AGS poletimber volume per acre ..... 7.9 cords
Average UGS poletimber volume per acre ..... 3.7 cords

Average sawtimber volume per acre ..... 2,575 Bd.ft. (18.4 cords)
Average AGS sawtimber volume per acre ..... 2,066 Bd.ft (14.7 cords)
Average UGS sawtimber volume per acre ..... 509 Bd.ft (3.7 cords

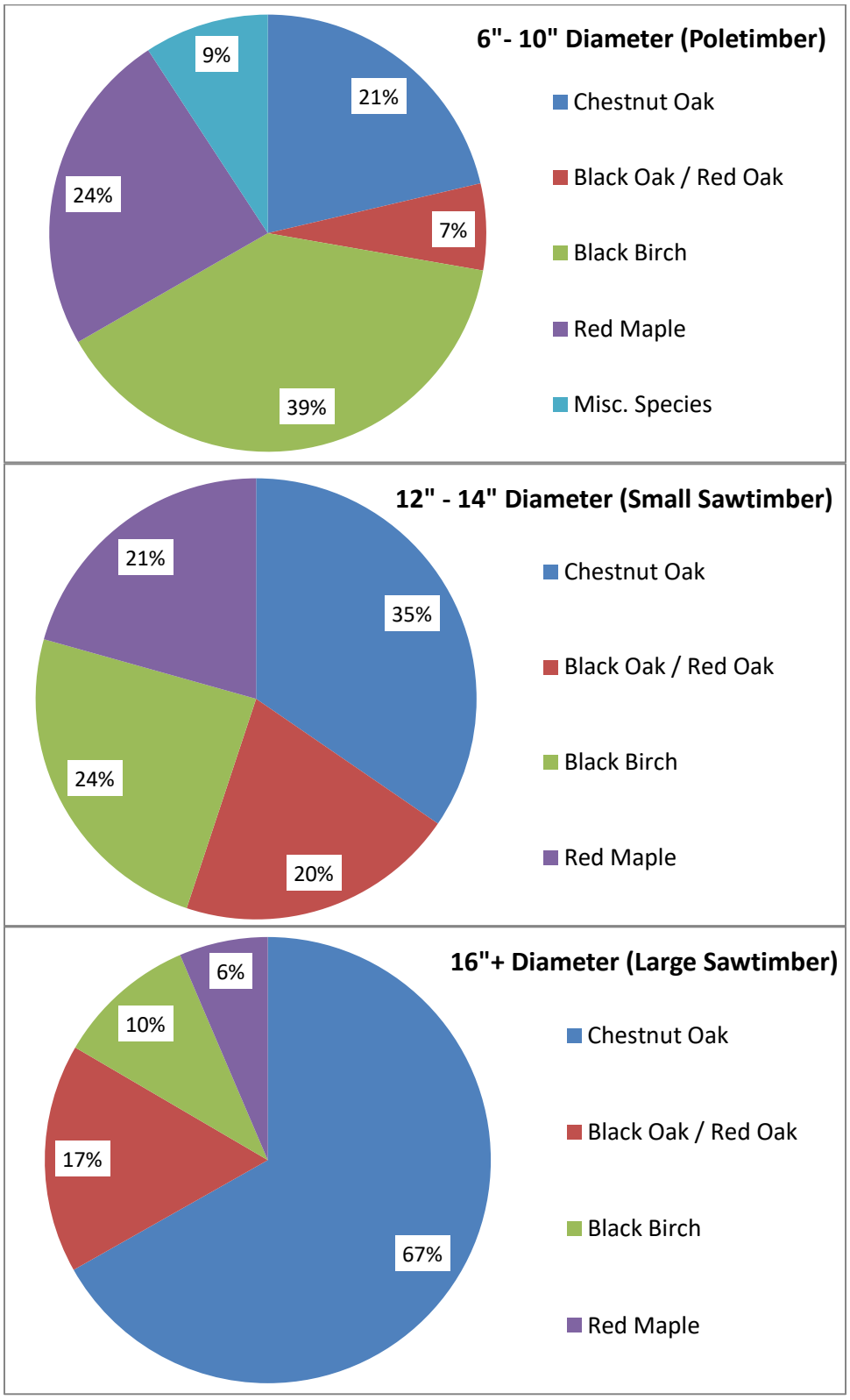
Graphic Representation of Timber Volume







Graphic Representation of Timber Volume – Percent Distribution



3. Timber Growth

The following is an estimate of the current annual growth of the trees within the wooded stand, by size class. Poletimber growth is reported in cords. Sawtimber growth is reported in cords, and in board feet (Bd. ft.).

Size Class	Current gross volume (cords)	Current gross volume (Bd.ft.)	Current annual growth rate (%)	Current annual growth (cords)	Current annual growth (Bd.ft.)
6 - 8"	1,168	---	2.0	23.4	---
10"	376	---	2.0	7.5	---
12"	279	30,476	2.1	5.9	640
14"	684	81,577	2.2	15.0	1,795
16"	349	47,483	2.0	7.0	950
18"	437	67,148	1.8	7.9	1,209
20"+	696	115,810	1.5	10.4	1,737
Total	**3,989**	**342,494**		**77.1**	**6,330**

Average current annual poletimber growth per acre ..... 0.23 cords
Average current annual AGS poletimber volume per acre ..... 0.16 cords
Average current annual UGS poletimber volume per acre ..... 0.07 cords

Average current annual sawtimber growth per acre..... 48 Bd.ft. (0.35 cords)
Average current annual AGS sawtimber vol./acre ..... 38 Bd.ft. (0.28 cords)
Average current annual UGS sawtimber vol./acre ..... 10 Bd.ft. (0.07 cords)

4. Graphical Representation of Average Timber Stocking

The graph below illustrates the current average level of timber stocking within the wooded stand. It is apparent that, on the average, the woodland is *fully stocked*. This means that, on the average, the inherent growth potential of the sites on which the stand is located is being fully utilized by the trees that are growing there. FSI, salvage work, timber harvesting, non-native shrub and vine control, restoration work, and/or tree planting can result in a further improvement of stand quality while maintaining *full stocking*.

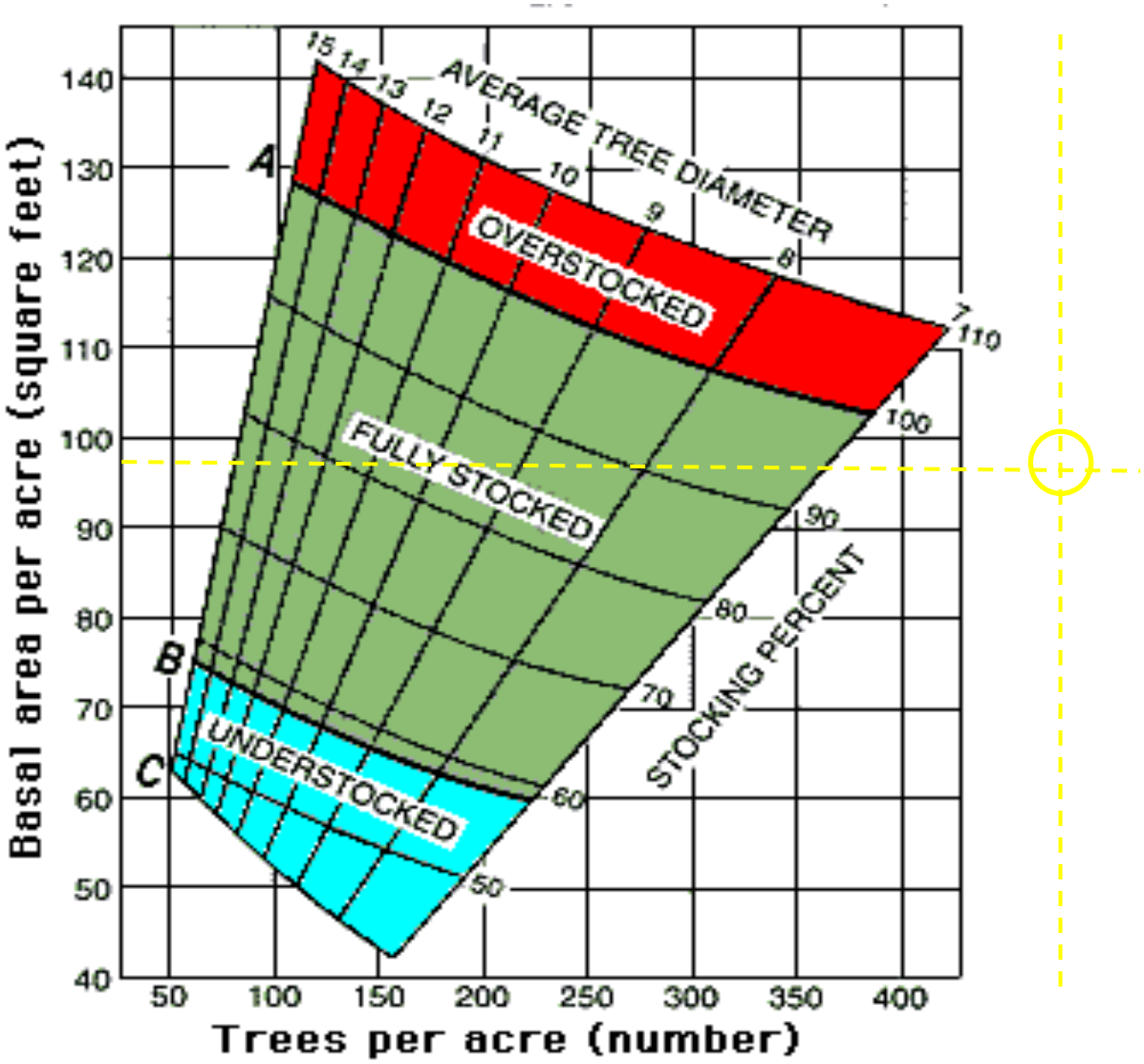


Figure – Relation of basal area, number of trees, and average tree diameter to stocking percentage for upland central hardwoods. The area between curves A and B on both charts indicates the range of stocking where trees can fully utilize the growing space. Curve C shows the lower limit of stocking necessary to reach the B level in the 10 years on average sites

From: Roach B.A., and S.F. Gingrich (1968). Even-aged silviculture for upland central hardwoods. USDA-FS Agric. Handbook 355

COMPREHENSIVE INVENTORY FOR STAND D-3 – 8.50 +/- acres

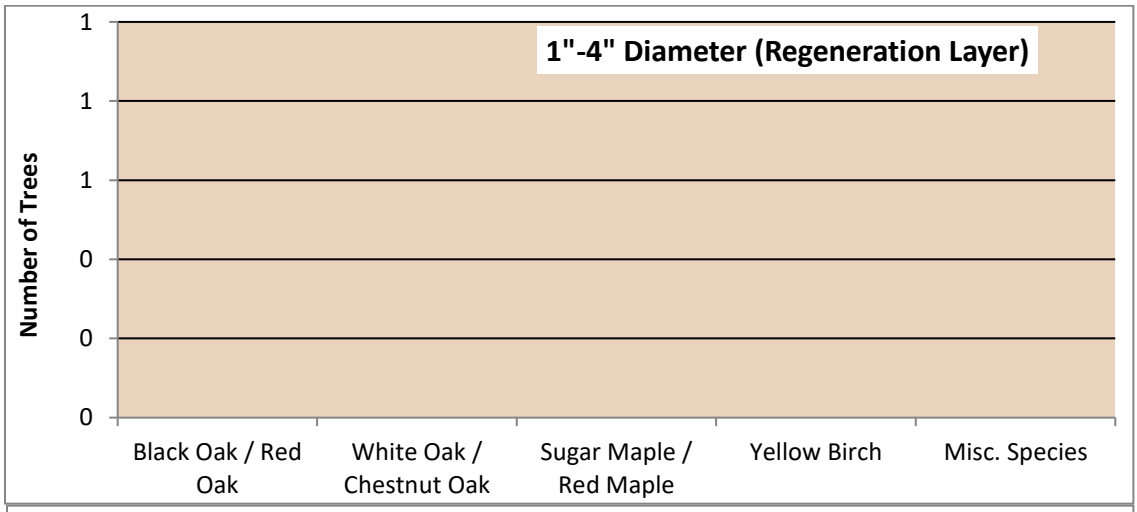
1. Number of Trees

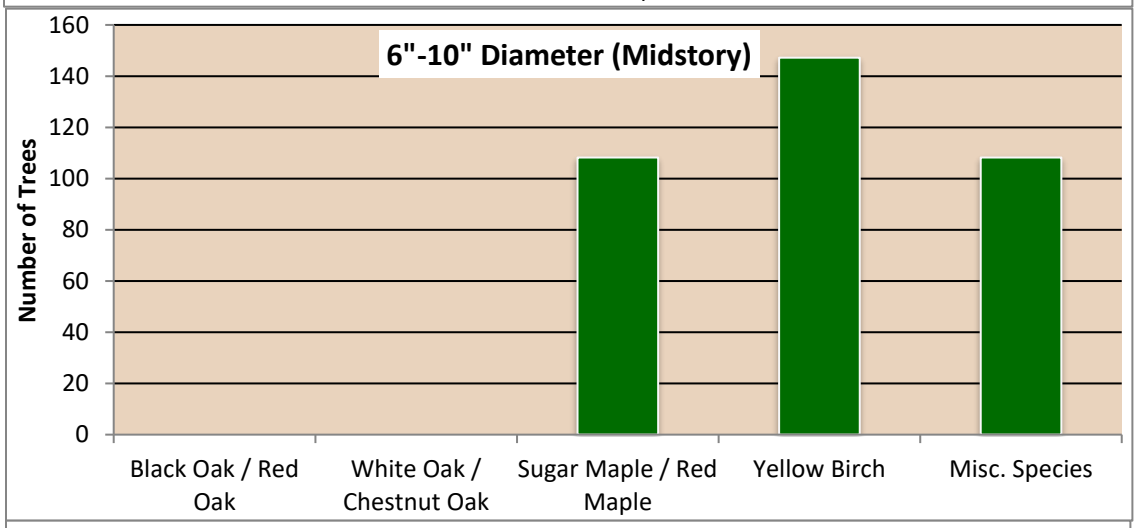
The following is an estimate of the number of 1" diameter and larger trees within the wooded stand, by species and size class. Sizes are reported in diameters at breast height (DBH).

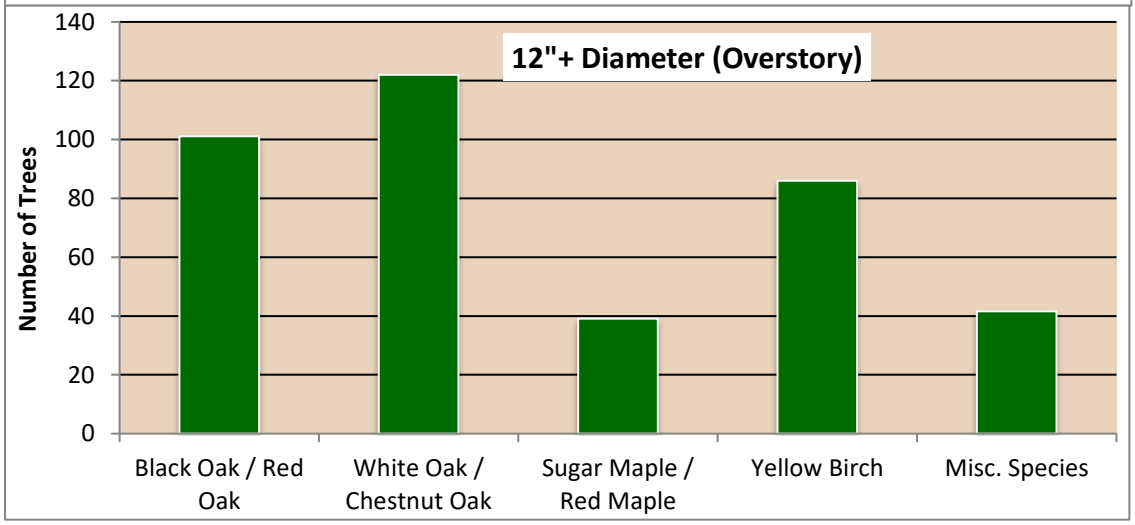
	Size Class				
Species	**1-4"**	**6-10"**	**12-14"**	**16"+**	**Total**
Black Oak / Red Oak	---	---	20	81	101
White Oak	---	---	27	95	122
Sugar Maple / Red Maple	---	108	27	12	147
Yellow Birch	---	147	74	12	233
Misc. Species	---	108	20	22	150
Total	**---**	**364**	**168**	**222**	**754**

Average number of trees per acre	89
Average tree diameter (DBH)	13.8”
Average total basal area per acre	93 sq. ft.
Average stocking percent	73%

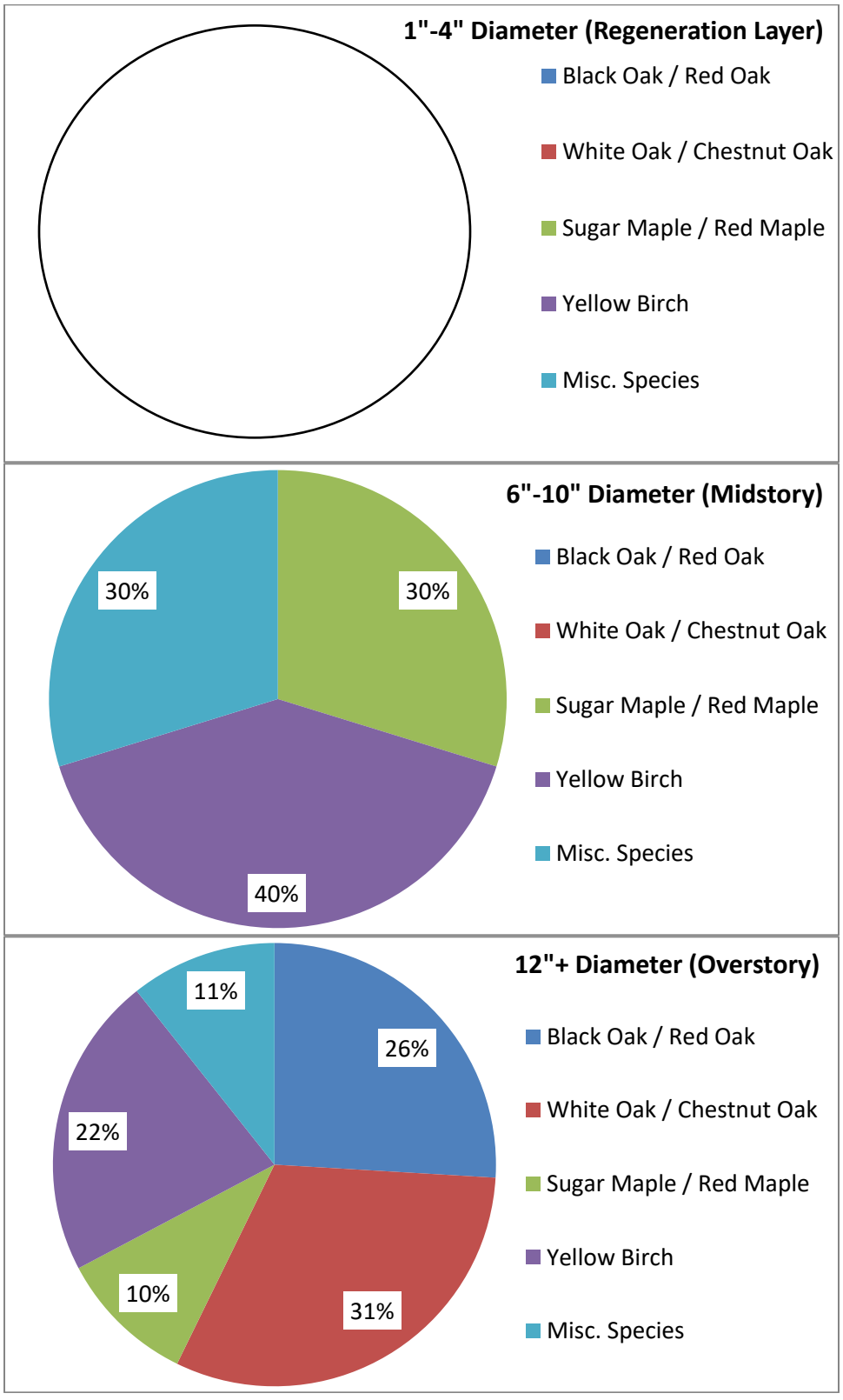
Graphic Representation of Number of Trees







Graphic Representation of Number of Trees – Percent Distribution



2. Timber Volume

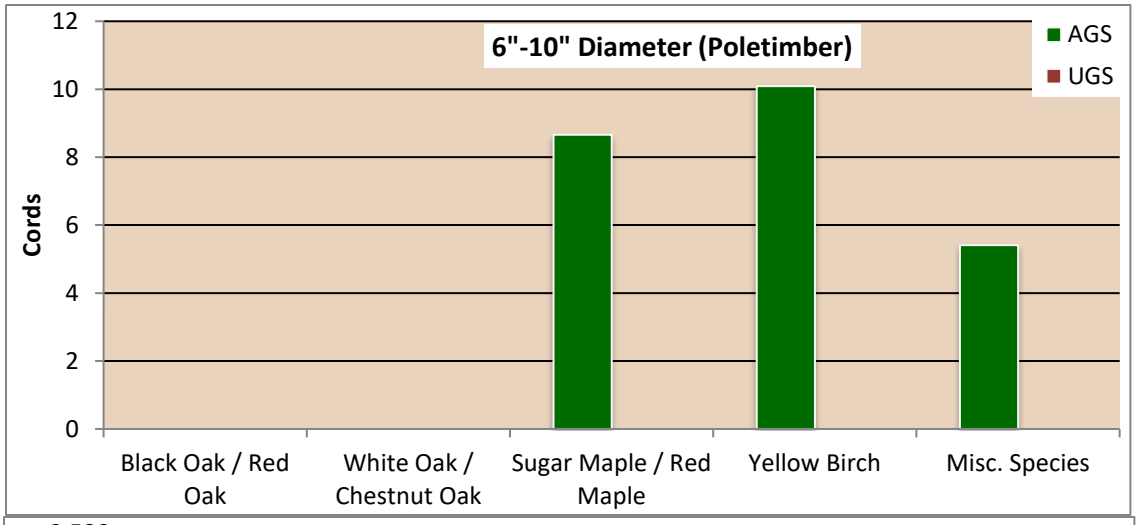
The following is an estimate of the total gross merchantable volume contained in trees on within the wooded stand, by species, size class, and quality. Volume is estimated by the Doyle Log Rule for trees of average form. Poletimber volume is reported in cords. Sawtimber volume is reported in board feet, and in cords (in parentheses).

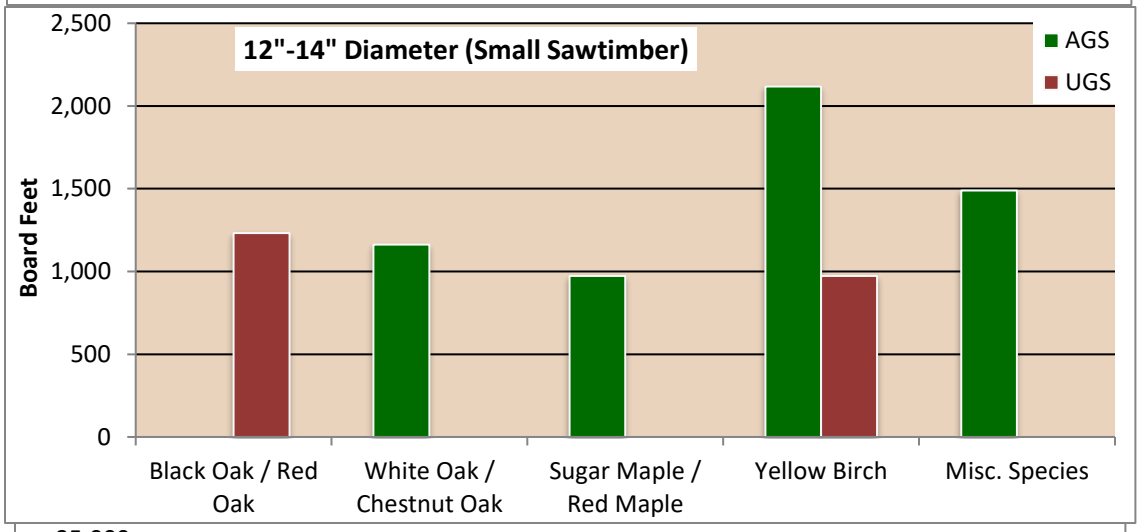
	Size Class							
	Poletimber		Sawtimber				Sawtimber Total	
	6-10"		12-14"		16"+			
Species	AGS	UGS	AGS	UGS	AGS	UGS	AGS	UGS
Black Oak / Red Oak	---	---	---	1,232	33,047	2,376	33,047	3,608
White Oak	---	---	1,163	---	16,321	---	17,484	---
Sugar Maple / Red Maple	9	---	974	---	1,203	---	2,177	---
Yellow Birch	10	---	2,117	974	1,203	---	3,320	974
Misc. Species	5	---	1,490	---	4,513	---	6,003	---
Total	**24**	**---**	**5,744 (47)**	**2,206 (19)**	**56,286 (252)**	**2,376 (11)**	**62,031 (299)**	**4,582 (30)**

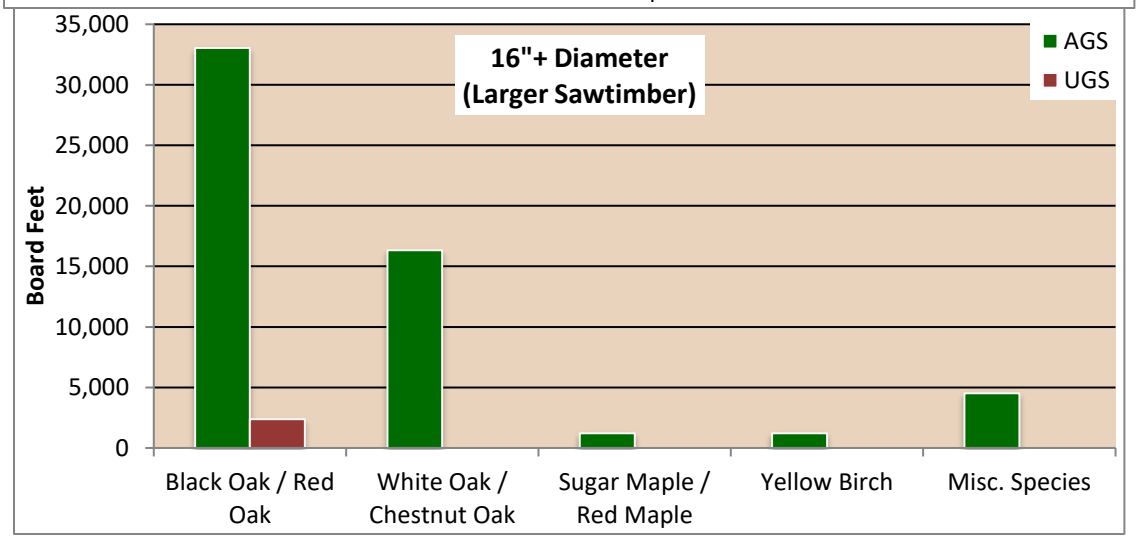
Average poletimber volume per acre ..... 2.8 cords
Average AGS poletimber volume per acre ..... 2.8 cords
Average UGS poletimber volume per acre ..... --- cords

Average sawtimber volume per acre ..... 7,837 Bd.ft. (38.7 cords)
Average AGS sawtimber volume per acre ..... 7,298 Bd.ft (35.2 cords)
Average UGS sawtimber volume per acre ..... 539 Bd.ft (3.5 cords)

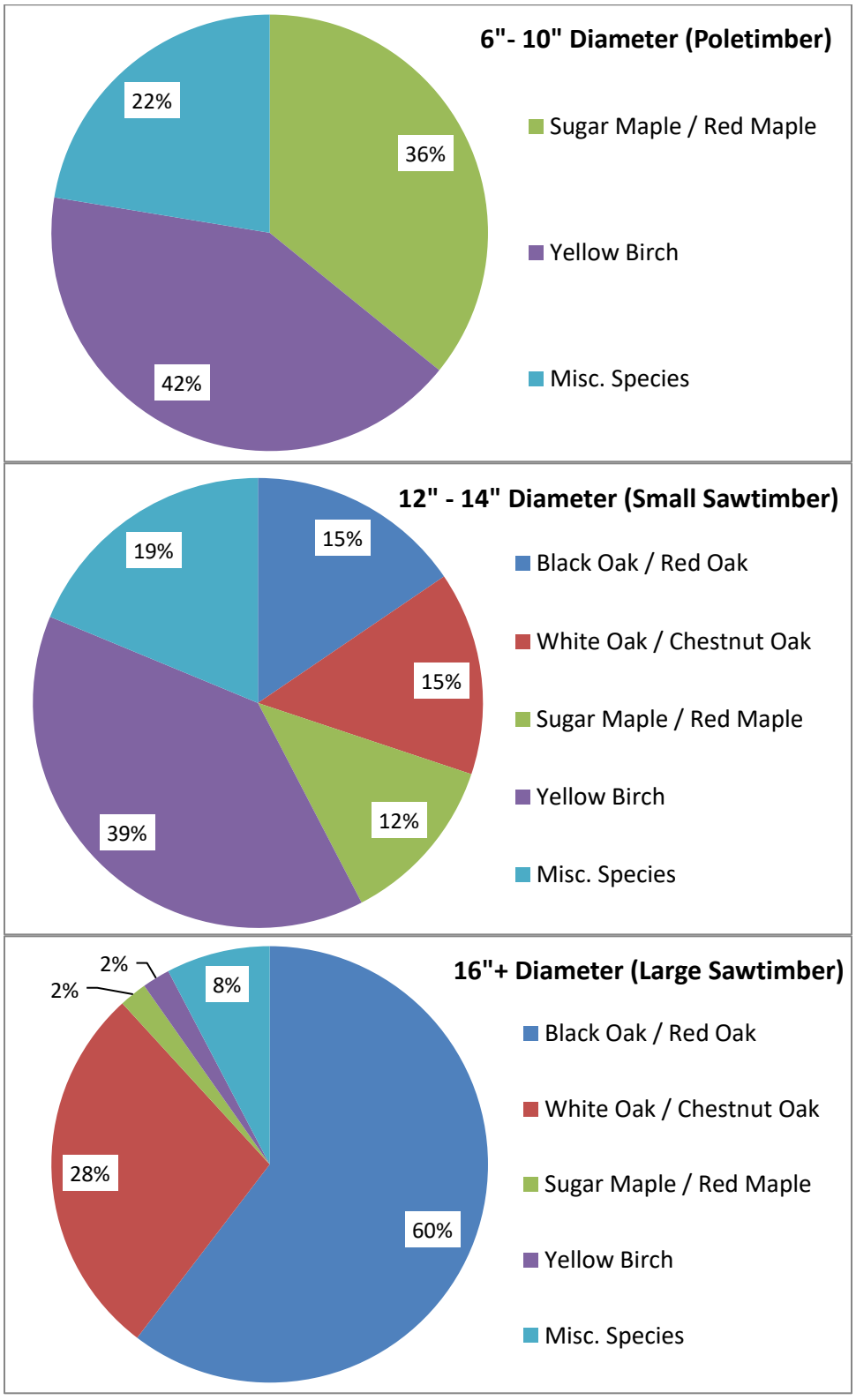
Graphic Representation of Timber Volume







Graphic Representation of Timber Volume – Percent Distribution



3. Timber Growth

The following is an estimate of the current annual growth of the trees within the wooded stand, by size class. Poletimber growth is reported in cords. Sawtimber growth is reported in cords, and in board feet (Bd. ft.).

Size Class	Current gross volume (cords)	Current gross volume (Bd.ft.)	Current annual growth rate (%)	Current annual growth (cords)	Current annual growth (Bd.ft.)
6 - 8"	19	---	2.0	0.4	---
10"	5	---	2.0	0.1	---
12"	36	4,274	2.1	0.7	90
14"	30	3,676	2.2	0.7	81
16"	18	4,418	2.0	0.4	88
18"	60	9,526	1.8	1.1	171
20"+	186	44,719	1.5	2.8	671
Total	**353**	**66,612**		**6.1**	**1,101**

Average current annual poletimber growth per acre ..... 0.06 cords
Average current annual AGS poletimber volume per acre ..... 0.06 cords
Average current annual UGS poletimber volume per acre ..... --- cords

Average current annual sawtimber growth per acre..... 130 Bd.ft. (0.66 cords)
Average current annual AGS sawtimber vol./acre ..... 118 Bd.ft. (0.60 cords)
Average current annual UGS sawtimber vol./acre ..... 12 Bd.ft. (0.06 cords)

4. Graphical Representation of Average Timber Stocking

The graph below illustrates the current average level of timber stocking within the wooded stand. It is apparent that, on the average, the woodland is *fully stocked*. This means that, on the average, the inherent growth potential of the sites on which the stand is located is being fully utilized by the trees that are growing there. FSI, salvage work, timber harvesting, non-native shrub and vine control, restoration work, and/or tree planting can result in a further improvement of stand quality while maintaining *full stocking*.

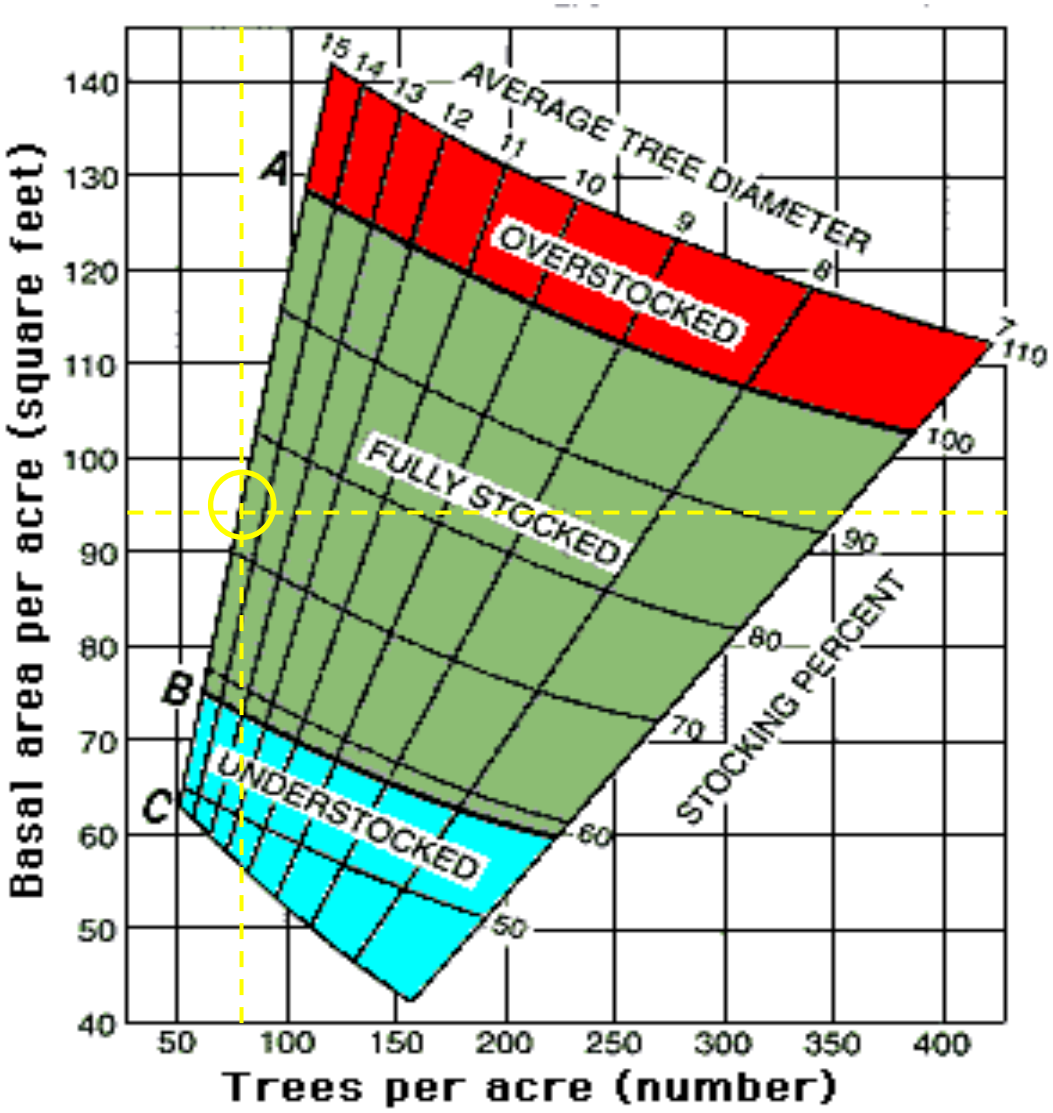


Figure – Relation of basal area, number of trees, and average tree diameter to stocking percentage for upland central hardwoods. The area between curves A and B on both charts indicates the range of stocking where trees can fully utilize the growing space. Curve C shows the lower limit of stocking necessary to reach the B level in the 10 years on average sites

From: Roach B.A., and S.F. Gingrich (1968). Even-aged silviculture for upland central hardwoods. USDA-FS Agric. Handbook 355