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Timber Inventory and Valuation Report

for

Charles Williams Tract

Containing 212 acres (more or less)

Located on Chestnut Flat

Brantville, Greenbrier County, West Virginia



John M. Holstine, WVRPF#709

December 31, 2024

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 “C” Hardwood Market Report, Vol. CII, #52, Appalachian Section – Dec. 27, 2024

Introduction

The information contained in this report is based on a timber cruise that was performed on the C. Williams tract on December 17th and December 18th of 2024. The C. Williams tract contains 212 acres, more or less, of which 185 acres is considered commercial timberland. The goal of this report is to provide an estimate of the volume of the standing timber and establish a value of the standing timber on the C. Williams tract based on current market conditions. Additionally, this report will present certain timber harvest methodologies designed to advance the overall health of the forest while generating a revenue stream for the owner, and will highlight the challenge of a timber harvest in the future and problems caused by invasive species.

Procedure

Timber Cruise

The timber cruise data was collected from a systematic sample cruise consisting of 84 circular 0.2 (1/5) acre plots which were spaced on a grid system at 330' x 330' (5 chains x 5 chains) intervals. Each point is referenced on a map titled "Exhibit A" which is attached hereto. There were 9 plots that were omitted, as they fell within non-timber areas. Altogether, there were 75 plots located within forested areas where data was collected. All merchantable sawtimber, low grade trees, peeler material within each plot was measured, recorded, and organized within the respective species and product class category. Field measurements include all trees measuring 12 inches diameter at breast height (DBH, as measured 4 ½ feet from the ground on the uphill side of the tree), and larger, and tree heights measured in 16-foot log intervals to a 10-inch tip. Since no trees smaller than 12 inches at DBH were measured, this report does not include pulpwood volumes for growing stock. This data was compiled to produce board foot volume estimates in Doyle Log Scale for each species categorized into two-inch diameter classes from 12 inches DBH, up to 40 inches DBH. Any fire damage, insect and disease problems, invasive species, potential environmental concerns, encroachments, rock outcrops, survey monuments and boundary discrepancies, if any, were noted, mapped, and referenced.

Results

The data collected from each sample plot was collected and stored on an Oukitel WP7 with an Android (version 10) platform and compiled using Cruise Control brand software. A detailed report for the C. Williams tract, which includes Cruise Details, a Cruise Summary for Sawtimber, Stand and Stock Tables for Sawtimber, Cruise Statistics, (which are arranged by species and diameter class) and a Species Code List, is attached hereto and referenced as "Exhibit B". A summary of the timber cruise results for Volume (stock table), shown in board feet using the Doyle Log Rule, and Number of Trees (stand table) for sawtimber-sized trees measuring twelve inches at DBH and larger, are shown in Table 1 and Table 2, respectively.

Table 1. Board foot volume by species and diameter class for C. Williams tract

Volume (Doyle Log Rule)

SPECIES	Diameter at Breast Height									Total
	12	14	16	18	20	22	24	26	28	
American Beech	358	1,184	3,552	3,699		2,886				11,679
Black Birch	1,074									1,074
Black Cherry	358	1,184								1,542
Black Gum	358	1,357	2,590							4,305
Black Locust	2,134	765								2,899
Black Oak	1,432	2,960	2,318	2,023	2,220	2,886	6,117			19,956
Basswood	1,246	2,714	6,265	7,697		2,886				20,808
Black Walnut	358	1,776	1,159		2,220					5,513
Chestnut Oak	5,456	13,148	25,798	33,458	30,956	14,441	8,942	2,245	5,353	139,797
Cucumber	358		1,159		3,219					4,736
Hickory	1,790	5,255	13,220	24,767	14,652	25,777				85,461
Hard Maple	2,234	4,909	21,828	15,490	19,869	10,914	5,340	10,126	8,017	98,727
Yellow Poplar	7,118	12,779	17,020	24,321	9,102	19,845	17,574			107,759
Red Oak					8,769	7,881			6,796	23,446
Soft Maple	1,074	2,541	888	1,233	7,770					13,506
Scarlet Oak	716	5,847	8,189	11,001	7,770	26,096	6,278	3,281		69,178
White Oak	4,110	4,441	10,508	22,927	18,870	5,032				65,888
White Pine	2,750	4,033	6,315	2,343	6,882	7,881	10,680			40,884
TOTAL	32,924	64,893	120,809	148,959	132,299	126,525	54,931	15,652	20,166	717,158

Table 2. Number of stems by species and diameter class for C. Williams tract

Number of Stems

SPECIES	Diameter at Breast Height									Total
	12	14	16	18	20	22	24	26	28	
American Beech	12	24	48	36		12				132
Black Birch	36									36
Black Cherry	12	24								36
Black Gum	12	24	24							60
Black Locust	60	12								72
Black Oak	48	60	24	12	12	12	12			180
Basswood	36	48	60	48		12				204
Black Walnut	12	36	12		12					72
Chestnut Oak	180	264	312	264	204	60	36	12	12	1,344
Cucumber	12		12		12					36
Hickory	60	96	132	168	60	84				600
Hard Maple	72	96	252	120	96	36	12	24	12	720
Yellow Poplar	204	192	156	132	36	60	36			816
Red Oak					36	24			12	72
Soft Maple	36	48	12	12	36					144
Scarlet Oak	24	108	96	84	48	96	24	12		492
White Oak	132	84	120	180	108	24				648
White Pine	72	48	48	12	24	24	24			252
TOTAL	1,020	1,164	1,308	1,068	684	444	144	48	36	5,916

The C. Williams tract is estimated to contain a total of 717,158 board feet of timber (Doyle Log Rule) and 5,916 stems, for all sawtimber measuring 12 inches at DBH and larger. The average volume per acre is 3,876 board feet and the average number of stems per acre is 32. The average volume per stem is 121 board feet.

Statistics

The coefficient of variation (CV), which is the ratio of the standard deviation of the mean, for all sawtimber is 61%. At a confidence level of 99%, the total volume estimate (mean) is within plus or minus 18%.

Inventory Analysis

Large Sawtimber

- *Stems measuring 16 inches at DBH and larger*

The mature trees that fell within the 16-inch DBH and larger category, which would be considered merchantable sawtimber, totaled 619,341 board feet, which is 86% of the total volume. The dominant species found in the 16" DBH and larger category is Chestnut Oak, of which there is 121,193 board feet, or 20% of the total volume for this category. Hard (Sugar) Maple totaled 91,584 board feet or 15% of the total volume; Yellow Poplar totaled 87,862 board feet, or 14% of the total volume; and Hickory totaled 78,416 board feet, or 13% of the total volume. The average volume per acre for mature timber measuring 16 inches DBH and larger is 3,348 board feet, which will be considered commercially viable in approximately ten to fifteen years in throughout most of the tract.

Growing Stock

- *Stems measuring 12 inches to 14 inches at DBH*

Trees falling within the 12 inches to 14 inches at DBH category totaled 97,817 board feet, or 14% of the total volume. The dominant species in this group are Yellow Poplar, which totaled 19,897 board feet, or 20% of the total volume; and Chestnut Oak, which totaled 18,604 board feet or 19% of the total volume. The dominance of Yellow Poplar within the growing stock category is due to this species vigor within the drains and North and East-facing slopes where the soil is moist.

Marketable Timber

The C. Williams tract contains 3,348 board feet per acre for stems measuring 16 inches at DBH and larger. The diameter class containing the most volume was the 18-inch class, which has an estimated volume of 148,959 board feet. Second, was the 20-inch class, which contained an estimated 132,299 board feet. The 18 and 20-inch categories, combined, equal 281,258 board feet, or 45% of the volume for stems measuring 16 inches at DBH and larger. The 16 and 18-inch classes exhibited the highest number of stems, with 1,308 stems within the 16-inch diameter class and 1,068 stems within the 18-inch diameter class. Combined, the 16 and 18-inch classes account for 64% of the total number of stems.

At present, most of the forested acreage is considered to be immature and will be harvestable within the next ten to fifteen years.

Growth

Based on growth data on similar properties, the C. Williams tract will add approximately 16,734 board feet annually in growth over a twelve-year period, or about 3% per year for all tree species measuring 12-inches at DBH and larger. Species such as Yellow Poplar and Northern Red Oak found in forests situated in coves or hollows and on North and East-facing slopes where soil moisture is prevalent, will grow at a higher rate than species found on dryer sites, such as ridges and South and West-facing slopes. Growth can become stagnant in over-mature timber stands and forests that have been damaged by fire. The proper timber-harvest regimen can increase the health and vigor in residual timber stands by removing over-mature trees, damaged/cull trees, and undesirable species.

Harvest Prescriptions

- *Selection method*

The forest found on the C. Williams tract, as with most other hardwood forests in central Appalachia, are classified as uneven-aged forest stands, which are stands possessing three or more distinctly different age classes with a variety of species. Uneven-aged stands are managed on a sustained-yield basis by removing enough older trees to allow smaller trees to grow. This is accomplished through a select-tree harvest where trees are designated for harvest by size, usually by DBH, or selected individually by a forester by marking or tagging trees to be harvested. This method promotes bias by encouraging certain species to flourish, while discouraging other species from propagating. Preferences toward species like Northern Red Oak, Sugar Maple, Yellow Poplar, and White Oak, for example, are purely market-driven. Removal of commercially undesirable species, such as Beech, Black Gum, Sycamore and Buckeye, just to name a few, and damaged/cull trees, regardless of size, is paramount to achieving a healthy, commercially viable timber stand. Pulpwood and low-grade log markets provide an outlet for most undesirable species, but the availability of these markets can fluctuate depending on weather and economic factors. Select-tree harvesting could likely be the prevailing harvesting method utilized on the C. Williams tract, as it has been in the past, as most local logging companies are using conventional equipment, including cable-skidders and/or dozers to skid logs and are felling trees by hand.

- *Seed-tree Method*

Seed-tree harvesting is the removal of the old stand in one cutting, except for a small number of trees left singly or in small groups as a source of seeding by natural regeneration. This harvest method is ideal in stands where many of the trees have been damaged by fire, disease, or infestation. Removing the

damaged stands and leaving healthy seed-trees in strategic areas can ensure a vigorous young forest, as long as the newly harvested area is protected from fire for the first ten to fifteen years after harvest. Seed-tree harvests usually result in fewer trees left in the residual stand when compared to the traditional select-tree harvest. As a result, these stands may take up to 20 years longer to reach the point of being commercially harvestable. The goal of a seed-tree harvest should emphasize the quality of the trees left in the residual stand rather than the quantity.

Accessibility

A majority of the timber, approximately 143 acres, found on the C. Williams tract is located on the South side of an unnamed watershed running parallel with Chestnut Flat and extending South to Miller Ridge. It would be difficult, if not impossible to access this area from Chestnut Flat Road (Co. Rt. 19/3) due to the soft, swamp-like soil in and around the stream and the bottleneck aspect of the property boundaries within the watershed which would severely inhibit construction of an adequate skid trail/access road to the field located on the Northern portion of the property. Historic satellite images show that the timber on this portion of the tract was last harvested in the mid-1990's and the logs were hauled approximately 1.2 miles via a private road located on the lands of Nellie Burns which connects to Unus Road (Co. Rt. 19) across from the Greystone Quarry. Securing an easement for future timber removal through and over the aforementioned property will be essential to the marketability of the timber. The remaining 42-acres of timberland could be landed along and hauled via Chestnut Flat Road.



Figure 1. Evidence of past logging on property

Invasive Species

As with many forests in Appalachia, invasive species are a threat to forest regeneration. The West Virginia Division of Natural Resources categorizes invasive species by the severity of their threat level. Level 1 includes “highly invasive species” that exhibit the most invasive tendencies, disrupting the ecosystem processes and causing “major” alterations in plant community composition and structure. They establish readily and spread rapidly. There are many “Level 1” invasive species found on the C. Williams tract, but there are two that are most prevalent.

- *Autumn Olive*

Much of the forest fringe and non-forested areas on the C. Williams tract, particularly the old fields and skidding trails, contain an abundance of Autumn Olive (Figure 2.), which is a prolific non-native shrub that can spread, especially after a timber harvest, and prevent natural reforestation of native tree species. Although it is impossible to completely eradicate Autumn Olive on a property of this size, it is imperative that measures are taken to prevent it from spreading to forested areas. Leaving buffer zones or “no-harvest” areas around affected sites may slow the spread to some degree.



Figure 2. Autumn Olive growing in an old skidding road.

- *Japanese Barberry*

Another invasive plant that was found on the C. Williams tract is Japanese Barberry, although not as numerous as Autumn Olive, it also has the ability to spread over vast areas like Autumn Olive, especially after a timber harvest, (Figure 3.). If left unchecked, Barberry can form a dense and almost impenetrable thicket preventing the growth of native species and providing an environment where rodents and tick populations can thrive.



Figure 3. Japanese Barberry.

Valuation

Pricing

The standing timber value, also referred to as stumpage value, was calculated by applying the 4/4, (1-inch), #1 Common “green” lumber prices for each species listed in the Appalachian section of the Hardwood Market Report, Volume CII, Number 52, published on December 27, 2024 (“Exhibit C”), less the total estimated harvest and processing cost of \$435.00 per thousand board feet, which includes logging cost, freight cost, forest road improvement/construction cost, and reclamation cost. A harvest and processing cost of \$325 per thousand board feet was applied to Yellow Poplar and Cucumber Magnolia “Cucumber” to more accurately reflect the higher prices paid for these species in the peeler market in West Virginia. Although these costs can vary from county to county in West Virginia depending on terrain, market demand, accessibility to market, and labor force, just to name a few, the harvest cost represents an estimated average for Central and Eastern West Virginia. Not all species are represented in the Hardwood Market Report. As a result, Black Oak and Scarlet Oak, which are in the “Red Oak” group, were valued at the 4/4, #1 Common Red Oak price of \$680 per thousand board feet, less a 20% discount, (\$544 per thousand board feet) to account for a higher yield of low-grade lumber, usually encountered in these species when compared to “true” Northern Red Oak. Another unlisted species in the Hardwood Market Report is Chestnut Oak, which is the “White Oak” group. The 4/4, #1 Common White Oak price of \$1,325 per thousand board feet was applied to Chestnut Oak, less a 40% discount, (\$795 per thousand board feet) to account for a higher yield of low-grade lumber when compared to White Oak lumber. The listed Yellow Poplar price of \$525 per thousand board feet, was applied to Cucumber Magnolia, “Cucumber”, which is sold as Yellow Poplar in log and lumber form. Stumpage pricing for Locust, Black Gum, and White Pine, which are not represented in the Hardwood Market Report, were calculated utilizing pricing from local yards and mills. Most of the aforementioned species are considered low-grade material and/or pulpwood. White Ash, which was once a major commercial species, has been decimated by the Emerald Ash Borer over the last ten years. Consequently, most mature White Ash trees found on the C. Williams tract are dead. The evaluation for the C. Williams tract is shown in Table 3.

Table 3. Timber Valuation for C. Williams tract.

Species	Volumes (in board feet, Doyle Scale)			*4/4, #1C Lbr. Price	12" to 15" dbh Prices & Totals			16" dbh and larger Prices & Totals		
	12" to 15" dbh	16" dbh and up	Total Volume		price/bf	Total		price/bf	Total	
Red Oak	-	23,446.00	23,446	680 \$	147.00	\$ -	\$	245.00	\$	5,744.27
White Oak	8,551.00	57,337.00	65,888	1325 \$	534.00	\$ 4,566.23	\$	890.00	\$	51,029.93
Black Oak	4,392.00	15,564.00	19,956	544 \$	65.40	\$ 287.24	\$	109.00	\$	1,696.48
Scarlet Oak	6,563.00	62,615.00	69,178	544 \$	65.40	\$ 429.22	\$	109.00	\$	6,825.04
Chestnut Oak	18,604.00	121,193.00	139,797	795 \$	216.00	\$ 4,018.46	\$	360.00	\$	43,629.48
Yellow Poplar	19,897.00	87,862.00	107,759	525 \$	120.00	\$ 2,387.64	\$	200.00	\$	17,572.40
Basswood	3,960.00	16,848.00	20,808	310 \$	(75.00)	\$ (297.00)	\$	(125.00)	\$	(2,106.00)
Sugar (Hard) Maple	7,143.00	91,584.00	98,727	810 \$	225.00	\$ 1,607.18	\$	375.00	\$	34,344.00
Red (Soft) Maple	3,615.00	9,891.00	13,506	725 \$	174.00	\$ 629.01	\$	290.00	\$	2,868.39
Black Cherry	1,542.00	-	1,542	500 \$	39.00	\$ 60.14	\$	65.00	\$	-
Black Walnut	2,134.00	3,379.00	5,513	1770 \$	801.00	\$ 1,709.33	\$	1,335.00	\$	4,510.97
Hickory	7,045.00	78,416.00	85,461	465 \$	18.00	\$ 126.81	\$	30.00	\$	2,352.48
Beech	1,542.00	10,137.00	11,679	370 \$	(39.00)	\$ (60.14)	\$	(65.00)	\$	(658.91)
Locust	2,899.00	-	2,899	600 \$	99.00	\$ 287.00	\$	165.00	\$	-
Birch	1,074.00	-	1,074	535 \$	60.00	\$ 64.44	\$	100.00	\$	-
White Pine	6,783.00	34,101.00	40,884	475 \$	24.00	\$ 162.79	\$	40.00	\$	1,364.04
Cucumber Magnolia	358.00	4,378.00	4,736	525 \$	120.00	\$ 42.96	\$	200.00	\$	875.60
Black Gum	1,715.00	2,590.00	4,305	350 \$	(51.00)	\$ (87.47)	\$	(85.00)	\$	(220.15)
Totals	97,817.00	619,341.00	717,158			\$ 15,933.85			\$ 169,828.01	
Volume/acre	528.74	3,347.79	3,877				Total Value		\$ 185,761.86	

Stumpage price estimates for the volumes shown in the 12-inch to 14-inch diameter classes were calculated using 60% of the stumpage prices for each tree species listed in the 16 inches and larger category. Although some smaller trees may be of good form and quality, logs recovered from these trees, if sawn, would not yield enough sufficient high-grade lumber volume to justify the full stumpage price. The intent of the discounted pricing is to place a present value on the smaller trees as if they were severed and sold on the market today.

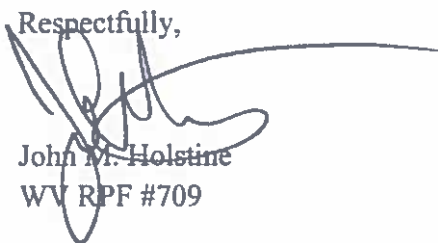
Under current market conditions, the standing timber and pulpwood on the C. Williams tract has an estimated present value of \$ 185,761.86. Of this value, the mature timber measuring 16 inches DBH and larger is estimated to be worth \$ 169,828.01, which equates to \$274.21 per thousand board foot. The estimated value of trees measuring 12 inches to 14 inches is \$15,933.85, which equates to \$162.89 per thousand board feet.

Conclusion

The timber found on much of the C. Williams tract will be mature and commercially viable in about ten to fifteen years when stems measuring sixteen inches and larger exceed an average 5,000 board feet per acre. The timber stand is considered healthy with the dominate species being Chestnut Oak, Yellow Poplar and Hard (Sugar) Maple. When the timber is ready to harvest, the primary challenge to extracting the timber will be to acquire suitable access to the majority of the timber situated South of the watershed that bisects the property. The timber located North of the watershed can be harvested and skidded to a landing location along Chestnut Flat Road.

Certification: I certify that the statements in this report are true, complete and correct to the best of my knowledge and belief limited only by the report assumptions. I have no personal interest or bias with respect to the parties involved and my compensation is not contingent upon a predetermined value. My analysis, opinions and conclusions were developed, and this report has been prepared using accepted professional forestry techniques.

Respectfully,

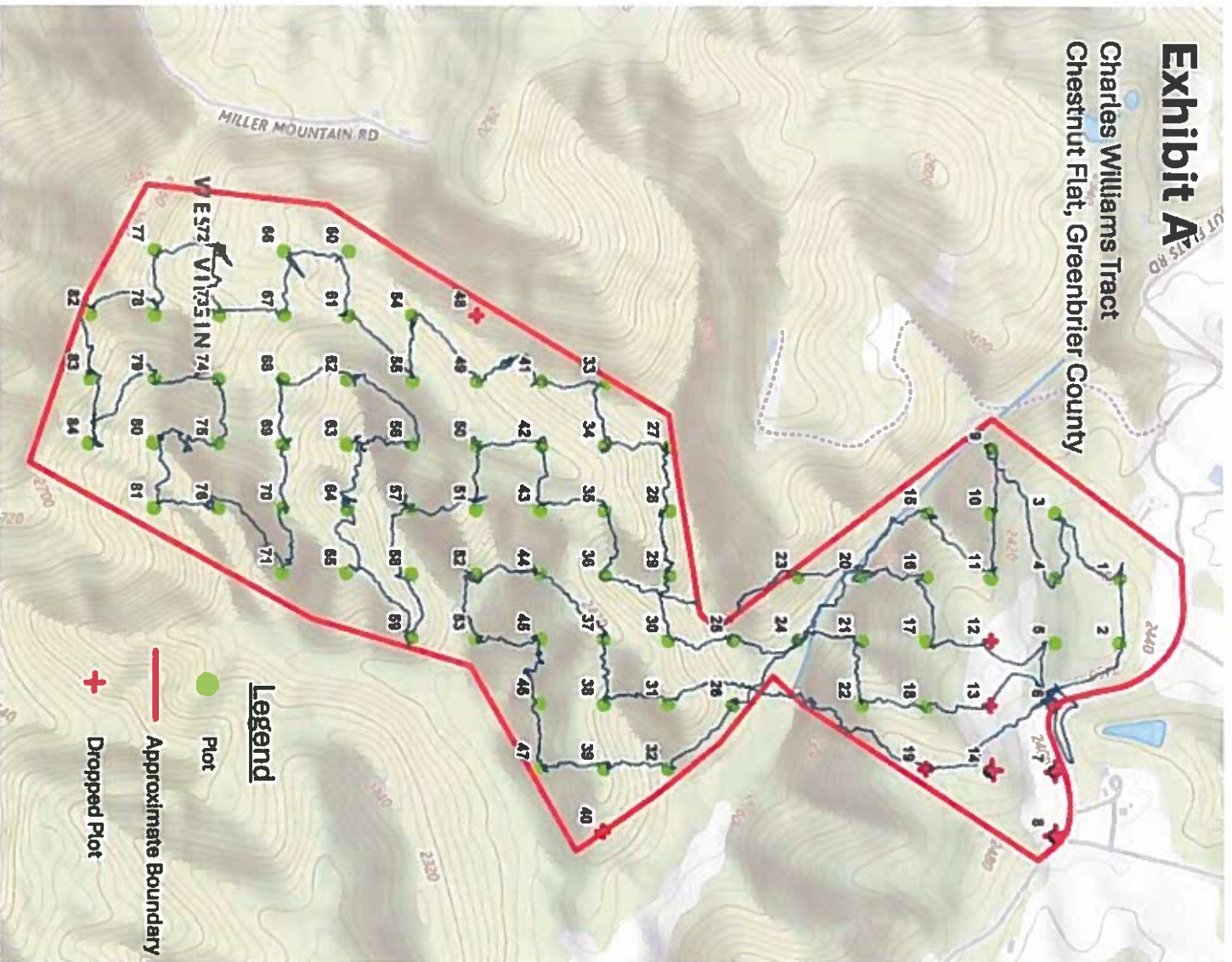


John M. Holstine
WV RPF #709



Exhibit A

Charles Williams Tract
Chestnut Flat, Greenbrier County



Cruise Details

Tract Name:	Williams C
Client Name:	Charles Williams
Inventory Type:	Fixed Area
Cruise Acres:	185
Total Acres:	212
Number of Plots:	75
Plot Size:	1/5 th Acre
Plot/Line Spacing:	5 x 5 chains
DBH Class:	2 inch
Volume Scale:	Doyle
Form Class:	78
Cruise Date:	11/2024
Date of Report:	1/2/2025

Cruise Summary | Sawtimber

Charles Williams | Williams C | 1/2/2025 | C1078 | Fixed Area

Species	Trees	Total BFV	Avg. BF/Tree	BFV/Acre	% of BFV	Avg. DBH	Avg. MHT	BA/Acre
AB	132	11,679	88	63	1.6	16.4	1	1.1
BB	36	1,074	30	6	0.1	12	1	0.2
BC	36	1,542	43	8	0.2	13.3	1	0.2
BG	60	4,305	72	23	0.6	14.4	1.4	0.4
BL	72	2,899	40	16	0.4	12.3	1.4	0.3
BO	180	19,956	111	108	2.8	15.6	1.3	1.4
BSW	204	20,808	102	112	2.9	15.6	1.6	1.6
BW	72	5,513	77	30	0.8	15	1.2	0.5
CO	1,344	139,797	104	756	19.5	16.8	1.2	11.9
CUC	36	4,736	132	26	0.7	16	1.7	0.3
HI	600	85,461	142	462	11.9	17.1	1.6	5.5
HM	720	98,727	137	534	13.8	17.2	1.4	6.7
POP	816	107,759	132	582	15	15.8	1.8	6.5
RO	72	23,446	326	127	3.3	22	2.2	1.1
SM	144	13,506	94	73	1.9	15.5	1.2	1.1
SO	492	69,178	141	374	9.6	17.9	1.3	5
WO	648	65,888	102	356	9.2	16.4	1.3	5.4
WP	252	40,884	162	221	5.7	16.3	2.2	2.2
TOTAL	5,916	717,158	121	3,876	100	15.9	1.4	51

Stock Table | Sawtimber

Charles Williams | Williams C | 1/2/2025 | C1078 | Fixed Area

DBH Class (inches)

Species	12	14	16	18	20	22	24	26	28	Total
AB	358	1,184	3,552	3,699	-	2,886	-	-	-	11,679
BB	1,074	-	-	-	-	-	-	-	-	1,074
BC	358	1,184	-	-	-	-	-	-	-	1,542
BG	358	1,357	2,590	-	-	-	-	-	-	4,305
BL	2,134	765	-	-	-	-	-	-	-	2,899
BO	1,432	2,960	2,318	2,023	2,220	2,886	6,117	-	-	19,956
BSW	1,246	2,714	6,265	7,697	-	2,886	-	-	-	20,808
BW	358	1,776	1,159	-	2,220	-	-	-	-	5,513
CO	5,456	13,148	25,798	33,458	30,956	14,441	8,942	2,245	5,353	139,797
CUC	358	-	1,159	-	3,219	-	-	-	-	4,736
HI	1,790	5,255	13,220	24,767	14,652	25,777	-	-	-	85,461
HM	2,234	4,909	21,828	15,490	19,869	10,914	5,340	10,126	8,017	98,727
POP	7,118	12,779	17,020	24,321	9,102	19,845	17,574	-	-	107,759
RO	-	-	-	-	8,769	7,881	-	-	6,796	23,446
SM	1,074	2,541	888	1,233	7,770	-	-	-	-	13,506
SO	716	5,847	8,189	11,001	7,770	26,096	6,278	3,281	-	69,178
WO	4,110	4,441	10,508	22,927	18,870	5,032	-	-	-	65,888
WP	2,750	4,033	6,315	2,343	6,882	7,881	10,680	-	-	40,884
TOTAL	32,924	64,893	120,809	148,959	132,299	126,525	54,931	15,652	20,166	717,158

Stand Table | Sawtimber

Charles Williams | Williams C | 1/2/2025 | C1078 | Fixed Area

DBH Class (inches)

Species	12	14	16	18	20	22	24	26	28	Total
AB	12	24	48	36	-	12	-	-	-	132
BB	36	-	-	-	-	-	-	-	-	36
BC	12	24	-	-	-	-	-	-	-	36
BG	12	24	24	-	-	-	-	-	-	60
BL	60	12	-	-	-	-	-	-	-	72
BO	48	60	24	12	12	12	12	-	-	180
BSW	36	48	60	48	-	12	-	-	-	204
BW	12	36	12	-	12	-	-	-	-	72
CO	180	264	312	264	204	60	36	12	12	1,344
CUC	12	-	12	-	12	-	-	-	-	36
HI	60	96	132	168	60	84	-	-	-	600
HM	72	96	252	120	96	36	12	24	12	720
POP	204	192	156	132	36	60	36	-	-	816
RO	-	-	-	-	36	24	-	-	12	72
SM	36	48	12	12	36	-	-	-	-	144
SO	24	108	96	84	48	96	24	12	-	492
WO	132	84	120	180	108	24	-	-	-	648
WP	72	48	48	12	24	24	24	-	-	252
TOTAL	1,020	1,164	1,308	1,068	684	444	144	48	36	5,916

Cruise Statistics

Charles Williams | Williams C | 1/2/2025 | C1078 | Fixed Area

Sawtimber Statistics (based on 75 sample points)

Coefficient of Variation (CV)%: 61

Confidence Level	% of Mean	(BFV/Acre)			+/-	(Total BFV)		
		Lower CL	Mean	Upper CL		Lower CL	Total	Upper CL
99%	18	699	3,876	4,576	129,315	587,843	717,158	846,473
95%	13.7	532	3,876	4,408	98,420	618,738	717,158	815,578
90%	11.5	447	3,876	4,323	82,695	634,463	717,158	799,853
80%	9	348	3,876	4,224	64,380	652,778	717,158	781,538
70%	7.3	281	3,876	4,158	51,985	665,173	717,158	769,143
68%	7	271	3,876	4,148	50,135	667,023	717,158	767,293

Species Codes

Code	Common Name	Scientific Name	Form Class
AB	American beech	Fagus grandifolia	78
BB	sweet birch	Betula lenta	78
BC	black cherry	Prunus serotina	78
BG	blackgum	Nyssa sylvatica	78
BL	black locust	Robinia pseudoacacia	78
BO	black oak	Quercus velutina	78
BSW	American basswood	Tilia americana	78
BW	black walnut	Juglans nigra	78
CO	chestnut oak	Quercus prinus	78
CUC	cucumbertree	Magnolia acuminata	78
HI	hickory	Carya spp.	78
HM	sugar maple	Acer saccharum	78
POP	yellow-poplar	Liriodendron tulipifera	78
RO	northern red oak	Quercus rubra	78
SM	red maple	Acer rubrum	78
SO	scarlet oak	Quercus coccinea	78
WO	white oak	Quercus alba	78
WP	eastern white pine	Pinus strobus	78

APPALACHIAN HARDWOODS

12/27/24

ASH				HARD MAPLE - UNSELECTED			
FAS	#1C	#2A	#3A	FAS	#1C	#2A	#3A
4/4 1300	765	445 [+20]	360	4/4 1465	835	415	375
5/4 1500	915	510	375	5/4 1815	885	465	390
6/4 1580	975	545	415	6/4 1740	930	525	390
8/4 1700 [+25]	1015	610		8/4 1865	1050	565	415
BASSWOOD				SOFT MAPLE - SAP&BTR			
FAS	#1C	#2A	#2B	FAS	#1C	#2A	
4/4 675	310	190	180	4/4 1675	800	360	
5/4 755	330	205	185	5/4 1725	830	375	
6/4 810	395	220	175	6/4 1780	880	375	
8/4 835	420	235	185	8/4 1780	880	375	
9/4 855	445	240	200	8/4 1860	905	420	
BEECH				SOFT MAPLE - UNSELECTED			
FAS	#1C	#2A	#3A	FAS	#1C	#2A	
4/4 640 [+25]	370	260	225	4/4 1500	725	335	
5/4 660 [+25]	425	280	240	5/4 1565	780	360	
6/4 750	530	360	290	6/4 1605	785	385	
8/4 765	545	355	305	8/4 1665	820	405	
BIRCH				FAS&1F ALONE ADD \$0			
FAS	#1C	#2A		FAS	#1C	#2A	
4/4 840	535	365		4/4 1115 [+25]	880 [+15]	415	#3A
5/4 930	810	400		5/4 1120 [+15]	700 [+15]	425	305
6/4 995	670	435		6/4 1185 [+20]	740	445	345
8/4 1020	695	450		8/4 1250 [+20]	750	460	355
CHERRY				#2A ALONE			
FAS	#1C	#2A	#3A	4/4 ADD	\$0	4/4	435
4/4 945	600	290	285	5/4 ADD <th>\$0</th> <th></th> <th></th>	\$0		
5/4 980	585	305	285	6/4 & 8/4 ADD <th>\$0</th> <th></th> <th></th>	\$0		
6/4 1030	595	310	295	WHITE OAK			
8/4 1075	615	330	305	FAS	#1C	#2A	#3A
CHERRY - NORTH CENTRAL				4/4 3260 [+20]	1325 [+20]	535	460
FAS	#1C	#2A	#3A	5/4 3485	1380 [+20]	500	440
4/4 1035 [+25]	580 [+20]	295	270	6/4 3580 [-30]	1400 [+20]	550	490
5/4 1060 [+25]	610 [+20]	320	285	8/4 3740 [-30]	1425 [+20]	---	---
6/4 1085 [+25]	635 [+10]	330	295	FAS&1F ALONE			
8/4 1140 [+25]	660 [+10]	350	310	4/4 ADD	\$0		
HICKORY				5/4 ADD	\$0		
FAS	#1C	#2A	#2B	6/4 ADD	\$0		
4/4 800 [-15]	485	370	305	8/4 ADD	\$0		
5/4 870	485	375	325	ALL IF PRICES \$10/M LESS THAN FAS			
6/4 1065	605	415	340	F. O. B. MILLS - APPALACHIAN AREA			
8/4 1245	755	515	380	Estimate of FOB Appalachian mill point average market prices for well manufactured Appalachian hardwoods in truckload and greater quantities. Stocks are random widths and lengths, green, rough, and graded in accordance with NIELA rules. Prices in US dollars per M'. Prices published in Hardwood Market Report are presented only as a guide. See statement on back page.			
HARD MAPLE - #1&2 WHITE				2024 Hardwood Market			
FAS	#1C	#2A		Pricing is also posted weekly on hmr.com.			
4/4 1665	995	585					
5/4 1765	975	---					
6/4 1840	1015	---					
8/4 2100	1100	---					

Exhibit C

APPALACHIAN HARDWOODS

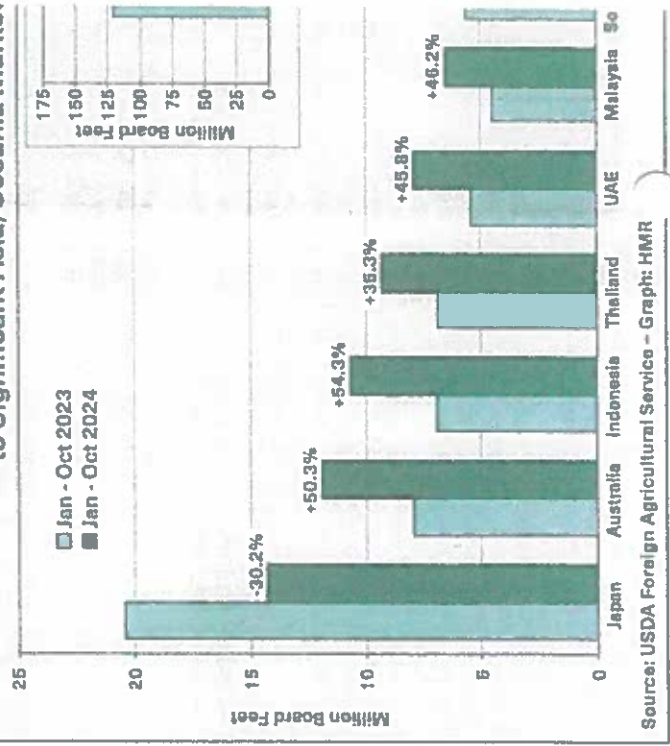
12/27/24

WHITE OAK - WHND				FRAMESTOCK			
FAS	#1C	#2A	#2B	4/4 OAK S2S	5/4	6/4	
4/4 1775	980	545		4/4 OAK S2S	545		
5/4 1805	1030	575		4/4 MIXED S2S	575		
IF PRICES \$10/M LESS THAN FAS				CANTS - GREEN			
POPULAR	FAS	#1C	#2A	TIES - 7x9 - GR			
4/4 940 [+15]	525 [+15]	400 [+20]	260	SOUTHERN APPAL			
5/4 970 [+15]	570 [+15]	420 [+20]	290	CROSSTIES			
6/4 990 [+15]	585 [+20]	440 [+20]	315	NORTHERN APPAL			
8/4 1005 [+15]	595 [+20]	446 [+20]	320	CROSSTIES			
10/4 1060 [+15]	605 [+20]	470 [+20]	350	BOARD ROAD			
12/4 1155 [+15]	635 [+20]	500 [+20]	360	FAS	#1C	#2A	
16/4 1195 [+15]	685 [+20]	515 [+20]	385	4/4 2865	1770	850	
IF PRICES \$10/M LESS THAN FAS				5/4 3000	1850	890	
WALNUT	FAS	#1C	#2A	6/4 3170	2025	950	
4/4 2865	1770	850		8/4 3385	2105	980	
5/4 3000	1850	890		IF PRICES \$100/M LESS THAN FAS			
6/4 3170	2025	950					
8/4 3385	2105	980					

If you would like to purchase contact Andy@hmr.com
is kept confidential and

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US Exports of Hardwood Lumber to Significant Asia/Oceania Market



Source: USDA Foreign Agricultural Service - Graph: HMR