



Cost-Benefit Analysis of State Timber Sales

Fiscal Years 2013 - 2017

Overview

This report provides data and analysis of Indiana Department of Resources, Division of Forestry's timber-sale costs and revenue for fiscal years 2013-2017. Indiana Division of Forestry (DoF) board foot (stumpage) prices received are compared to sources of publicly available information on market and board-foot prices.

Summary DoF Timber Sales Information

This report covers 190 Division of Forestry (DoF) timber sales for fiscal years (FY) 2013–2017. There are 10 State Forest properties contributing data: Clark, Ferdinand/Pike, Greene-Sullivan, Harrison-Crawford, Jackson-Washington, Martin, Morgan-Monroe, Owen-Putnam, Selmier, and Yellowwood. There was an average of 38 sales per year, system wide.

Table 1: System-wide timber sales by fiscal year, 2013–2017

Year	Timber sales
2013	39
2014	54
2015	42
2016	29
2017	26

Table 2: Timber sales by property, FY 2013-2017

Property	Timber sales
Clark	15
Ferdinand/Pike	16
Greene-Sullivan	8
Harrison-Crawford	28
Jackson-Washington	25
Martin	16
Morgan-Monroe	30
Owen-Putnam	16
Selmier	1
Yellowwood	35



DoF owns 158,300 total acres including 1,810 acres of water and 2,710 acres of non-harvest nature preserves. ⁽¹⁾

Total marked acres (22,209) for the five-year period are as 14.4% of harvestable acres (153,780).⁽¹⁾ This equates to a DoF system-wide cycle of approximately 35 years.

Table 3: Marked acres by fiscal year 2013-2017

Year	Marked acres
2013	5,036
2014	6,436
2015	4,308
2016	2,902
2017	3,527

These marked acres include very large (821 acre salvage sale at Clark after a tornado in 2012) and very small (multiple sales of 1 acre in size at properties with straight-line wind damage) salvage sales.

DoF properties have about 973 million board feet (Doyle) of net sawlog volume in standing timber.⁽²⁾ Over the most recent five fiscal years the DoF has sold an average of 10.25 million board feet per year, or approximately 1% of total volume. Average volume sold is less than average annual growth.⁽²⁾

Table 4: System-wide total volume (board feet) sawtimber sold, FY 2013-2017

Year	Volume (BF)
2013	10,705,471
2014	15,494,993
2015	10,858,510
2016	6,537,596
2017	7,656,994

System-wide total volume sold during FY 2013-2017 was 51,253,564 board feet. This volume was contained in 243,939 trees. System wide, the average volume per tree for the five-year period is 212 board feet. This equates to a single tree with about three 12-foot saw logs that are 18 inches in diameter, or a single tree that contains approximately one 12-foot saw log 25 inches in diameter.

Total volume by species is listed in Table 5. The most common species sold was tulip poplar, *Liriodendron tulipifera*, which was about 27% of total volume. Combined oak families, including white oak subgenus species: bur oak, chestnut oak, chinquapin oak, overcup oak, post oak, swamp white oak, and white oak; and red oak subgenus species: black oak, pin oak, red oak, and



scarlet oak, represented 35% of total volume. Pine (including cedar), mostly non-native remnant of Depression-era reforestation efforts, was 9% of the total volume sold FY 2013-2017.

Table 5: Total volume by species, FY 2013-2017

Species	Volume (BF)
Tulip Poplar	14,013,869
Red Oak (subgenus)	9,397,773
White Oak (subgenus)	8,687,571
Pine (includes Cedar)	4,673,634
Ash	4,079,204
Hard Maple	2,433,798
Soft Maple	1,286,836
Hickory	1,185,017
Cherry	286,097
Black Walnut	78,887
Other species	5,130,878
Total	51,253,564

System-wide sale revenues over the five-year period totaled \$12.3 million, and sale costs totaled \$0.9 million. The system-wide average price received per board foot was .240 (24 cents for a measure of lumber equivalent to 1-inch thick, 1-foot wide and 1-foot long). Board-foot prices for timber will vary widely based on the quality, species, quantity, ease of access for removal, distance between trees in harvest area, current log inventories, contract requirements and many other factors to be discussed further in the section below.

Sale notices and SF200 forms (see “Sources” section below) list volume by species, which can be categorized into industry-recognized groups: Ash, Tulip Poplar, Red Oak, White Oak, Soft Maple, Hard Maple, Cherry, Hickory, Black Walnut and Pine. These are the common hardwood lumber categories/species for hardwood product manufacture. They form the basis of commodity products in commercial demand. Other species have less commercial demand and were not sorted into those common hardwood groups but lumped into an “Other” category for this analysis. Species in the “Other” category include: beech, elm, hackberry, sassafras, sycamore and others. As expected, higher board-foot prices are paid for sales that contain less of the “Other” category of species. When ranked by board-foot price received, the top half (95 sales) had an average of 9% “Other” species, while the bottom half (95 sales) had an average of 12% “Other” species.

Using the same methodology, white oak, a traditionally high value species, represented a relatively larger amount of the sale volume (average of 18%) in the top half of sales ranked by BF price received. In the lower half of sales white oak made up 15% volume. Red oak was an average of 22% of volume in the top half of ranked sales and 14% in the bottom half. Average pine volume in the top-half of ranked sales was 5%. In the bottom half of ranked sales, it was 15% of volume.



Larger sales by area tended to receive lower BF prices. Average marked acres were 111 in the top half of ranked sales, and 126 acres in the bottom-half. The number of bids were also higher in the top half of ranked sales by MBF price. There were an average of three bids in the ranked top half, and an average of two bids on sales in the ranked bottom half.

Table 6: Five year property-level summary statistics

Property	Acres	Volume (MBF)	Trees	Avg. Vol./Tree	Avg. Trees/Acre	Vol./Acre (MBF)	MBF Price	Revenue (\$)	Rev./Acre (\$)	Cost (\$)	Avg. Marking Cost/Acre (\$)	Avg. Cost as % of Rev.	Avg. Bids
Clark	3,914	6,159,096	38,998	155	11	1,759	0.162	1,052,052	315	95,093	11.09	14%	4
Ferdinand/Pike	1,545	4,076,861	20,729	204	13	2,639	0.235	905,681	603	62,512	33.37	9%	2
Greene-Sullivan	360	826,431	5,348	142	24	2,698	0.091	87,091	225	36,873	59.09	143%	2
Harrison-Crawford	2,768	7,787,313	36,157	203	14	2,816	0.287	2,368,614	828	187,785	30.48	13%	3
Jackson-Washington	1,935	5,874,541	31,790	189	15	2,809	0.230	1,251,162	747	111,251	35.32	13%	3
Martin	1,738	3,110,907	13,829	244	9	2,125	0.264	821,095	575	27,328	12.69	4%	2
Morgan-Monroe	4,582	10,793,669	39,802	266	9	2,438	0.248	2,761,291	603	139,843	15.02	7%	4
Owen-Putnam	1,170	3,136,032	14,319	218	13	2,757	0.210	685,118	602	39,564	24.58	7%	3
Selmier	72	200,567	648	310	9	2,786	0.264	53,000	736	3,562	19.61	7%	3
Yellowwood	4,310	9,288,147	42,319	213	12	2,283	0.246	2,319,157	159	150,240	19.33	8%	3
System-Wide	22,394	51,253,564	243,939	210	11	2,289	0.240	12,304,261	549	896,355	19.51	7%	3

In Table 6, “Cost (\$)” describes Total Cost of Operation that is broken into the following categories in Form SF200 (See Sources section below): Marking Cost (which includes salary hours, cases of paint used, and mileage traveled), Administration Costs (which includes salary costs per hour to prepare paperwork, per our costs to show and conduct sale and per-mile cost to travel to show sale), Boundary Location and Marking Costs (which includes salary hours to locate and mark boundary and costs of paint for marking boundary), Advertising Costs (which include costs to mail sale notices and costs to publish notices in local newspapers) and Other Costs (which includes costs for bulldozer time, rock, and additional forester assistance salary hours.) “Avg. Marking Cost/Acre” and “Avg. Cost as % of Rev.” columns are averages based on the figures for each sale not the total.

All Greene-Sullivan sales ranked in the bottom half of sales by MBF prices received. Greene-Sullivan sales were also some of the most expensive as measured by cost as a percentage of revenue received. In two cases, Greene-Sullivan sales cost more than they brought in revenue. These were small salvage sales—one was three marked acres; the other was 13. The 13-acre sale contained 371 trees, 42% of which were pine. The 3-acre sale contained 59 trees. The cost for the 3-acre sale was \$565, and the sale brought in only \$100 in revenue. The 13-acre sale cost \$1,649 and brought in \$500 in revenue. It should be noted that these two sales at Greene-Sullivan were non-traditional operations involving site prep and salvage that ordinarily would not be included in a study such as this but are included here for the sake of uniformity and consistency in reporting all SF200 form sales for the study period.



System wide over the five-year period, there were 3/190 timber sales (2%) where costs exceeded revenue. The total loss for these four instances was \$3,280. These sales include those salvage sales described above at Greene-Sullivan and one other salvage sale at Jackson-Washington. Again, this sale was a non-traditional operation involving salvage harvest that is included for the sake of consistency but normally would not be included in a study like this. System wide over the five-year period there were 187/190 timber sales (98%) where revenue exceeded costs.

System wide, income (revenue less cost) from all timber sales for FY 2013-2017 was \$11,450,210 (\$12,304,261 - \$854,051).

DoF sales over the five-year period were purchased by 39 different agents/buyers from a pool of licensed timber buyers. Currently, there are 512 active timber buyers and an associated 996 active agents.⁽³⁾

Table 7: Top 10 winning bidders of Indiana State Forest timber sales, FY 2013-2017

Buyer	Sales purchased	Total BF volume purchased
R. Booe & Son Hardwoods Inc.	27	7,566,559
Hamilton Logging, Inc.	23	5,761,027
Phil Etienne's Timber Harvest Inc.	13	5,175,922
Tri-State Timber, LLC.	12	3,946,486
Benham Bros	10	2,151,558
Commiskey Hardwoods	10	2,270,136
Werner Specialty Hardwoods	9	2,259,904
Don R. Darlage	7	1,722,673
Eric Wheeler	7	1,867,793
Kinser Timber Products Inc.	7	2,467,349
Other buyers (30)	<u>66</u>	<u>16,064,157</u>
Total	190	51,253,564

There were 552 bids by licensed timber buyers for the DoF stumpage sold in 190 separate sales over the five-year period. When ranked by number of trees sold, the 20 sales that had lowest number of trees received only one bid each. The 20 sales that had the highest number of trees received an average of 3.9 bids. There is a positive (+.38) correlation between number of bidders and sale price. Sale size by marked acres is also positively correlated (+.32) with number of bidders.



Table 8: Avg. MBF price by # of bidders, FY 2013-2017

Number of bidders	# of Sales	Average Sale Price (MBF)
9	1	0.202
8	2	0.329
7	1	0.330
6	7	0.263
5	14	0.263
4	37	0.247
3	43	0.265
2	42	0.200
1	41	0.180

During the five-year period, 46% DoF timber sales took place in the second quarter of the year. Twenty-seven percent of sales occurred in the month of June. June is the last month in the State of Indiana’s fiscal year.

Table 9: Number of Sales by Month, FY 2013-2017

Month	# of Sales
January	8
February	7
March	15
April	11
May	25
June	51
July	17
August	4
September	19
October	14
November	13
December	6

Limitations of Comparing DoF Stumpage Prices to Other Publicly Available Market Data & Buyer Comments on State Sales:

It is difficult to compare the stumpage prices in the Indiana Consulting Foresters Stumpage Timber Price Reports (see “Sources” section below) with those for State sales. There are many reasons for this difficulty. This report will not address all of them but will highlight some important ones.



Over the five-year period 2013-2017, according to Indiana Consulting Foresters Stumpage Timber Price Reports, there were 1,636 private sealed-bid timber sales of 148.1 MBF of timber. Average sale volume was 90,418 BF, compared with 269,756 BF for State sales. An average State sale is thus about three times as large as an average private sale. This may influence bids/prices received.

Most importantly, Indiana Consulting Foresters Stumpage Timber Price Reports sorts its 1,636 private sealed-bid timber sales according to quality, as stated: “The prices reported are broken into three sale types—high quality, average quality, and low quality. A high-quality sale has more than 50% of the volume in #2 or better red oak, white oak, sugar maple, black cherry, or black walnut. The low-quality sale has more than 70% of the volume in #3 (pallet) grade or is cottonwood, beech, elm, sycamore, hackberry, pin oak, aspen, black gum, black locust, honey locust, catalpa, or sweet gum. The average sale is a sale that is not a low-quality or high-quality sale as defined above.” DoF does not rate or categorize its sales similarly according to quality. It is possible that all or most of DoF sales are close to the Indiana Consulting Foresters Stumpage Timber Price Report low-quality category, with 70% of volume in #3 grade. If this were case, the average price received for consultant forester low-quality sales over the five-year period, .237 MBF, is similar to the .240 MBF average price received for all DoF sales for the similar time period.

The average number of bidders for all Indiana Consulting Foresters Stumpage Timber Price Report sales during the five-year period is 4.68 bids/sale. This is slightly higher than the DoF average bids/sale of three. In 2017, Indiana Consulting Foresters Stumpage Timber Price Report notes that there were 33 low-quality sales with 92 bids, with a resulting average of 2.78 bids/sale.

DoF notes “Prime and Quality” trees when marking and advertising a sale and though this is in a certain sense a measure of quality, it is rarely used and cannot be compared to the sales type categorization done by Indiana Consulting Foresters in their report. The vast majority of DoF sales do not list any Prime or Quality trees on Form SF200, as such; they were not a part of this analysis.

The Indiana Forest Products Price Report and Trend Analysis (see “Sources” section below) is likewise difficult to use as a tool to judge the value that DoF receives for its stumpage because it reports very different information, i.e., log values and not stumpage. The Indiana Forest Products Price Report and Trend Analysis states in its introduction:

“Data is collected twice a year, but log prices change constantly. Please note, because of the small number of mills reporting logging costs, “stumpage prices” estimated by deducting the average logging and hauling costs from delivered log prices must be interpreted with extreme caution and is meant to serve only as a guide.



Actual stumpage values you may be offered depend on many variables such as access, terrain, time of year, etc. Data for this survey was obtained by a direct mail survey to a variety of forest product businesses including sawmills, veneer mills, concentration yards, and independent log buyers. Only firms operating in Indiana were included. The prices reported are for logs delivered to the log yards of the reporting mills or concentration yards. Thus, prices reported may include logs shipped in from other states (e.g. black cherry veneer logs from Pennsylvania and New York).”

In the March 2017 report ⁽⁴⁾ no firms reported logging and hauling costs. Thus, it is difficult to use the Indiana Forest Products Price Report and Trend Analysis data to directly evaluate stumpage values received.

However, using the Indiana Forest Products Price Report and Trend Analysis data we can extrapolate the average BF price received for the logs based on the volume/species data in the form SF200. Volume by species of DoF timber over the five-year period as multiplied by the Indiana Forest Products Price Report and Trend Analysis price values equals an average price of .480 per board foot. DoF’s actual average stumpage value is .240 per board foot. Thus, the extrapolated cost of logging and hauling is 24 cents per board foot.

Although there were no survey responses in 2017, .240/board foot for logging and hauling is within the historical range according to the Indiana Forest Products Price Report. In 2013, with 11 responses for the two items (logging and hauling), the average was .166 per board foot. In 2014, with eight responses, the average was .169 per board foot. In 2015, with seven responses, the average was .285 per board foot. In 2016, with eight responses, the average was .264 per board foot.

A third public-data source against which DoF stumpage prices can be measured against is the Hardwood Market Report (see “Sources” section below) but this adds another level of complication in that it provides data on the price for 1-inch-thick green and kiln-dried lumber. Thus, in addition to having to estimate the cost of logging and hauling, the cost of milling the logs must also be factored in.

However, using Hardwood Market Report values we can estimate an average BF price received for the logs based on the volume/species data in the form SF200. Using this method and factoring in the cost of logging, hauling and milling, the average BF price received for DoF timber over the five-year period is .593. Estimating logging and hauling at .221 per board foot (an average of the rates reported above in 2013-2016) then the cost of milling is equal to 13 cents per board foot. The cost of milling per board foot (by those companies responding to the Hardwood Market Report) is beyond the scope of this document. However, it is possible to state that cost is influenced by scale, and 13 cents may be in the within the range of larger mills responding to commodity demand in the Hardwood Market Report.



The above discussion has considered how it is difficult to compare stumpage prices between DoF sales and private timber sales as described in the Indiana Consulting Foresters Stumpage Timber Price Reports or other publicly available data. Anecdotally, these differences can be confirmed by interview with timber buyers. Timber buyers are acutely aware of the differences between DoF sales and private sales in Indiana. Several timber buyers have described their thoughts regarding the price difference between DoF and private timber sales. Buyers provided comment confidentially so specific statements are not attributed to individuals, and only summaries are provided below.

Buyer 1: I think the most obvious reasons, or arguments for why the timber the state sells goes for a lower average per board foot is simply because it's lower quality timber on average. It's lower quality on multiple fronts. 1.) The quality of the wood inside. 2.) The quality of species (generally speaking more low grade species present at the state forests and also more low-grade species on the sale notices) 3.) Quality of the logging operation required to perform the work. For the most part these are pretty detailed sites with lots of people to please and long haul roads and stream crossings etc., so more stringent logging process and more stringent standards leads to higher labor costs for us therefore less to pay for the timber. 4.) Terrain. I was trained and brought up to believe the acquisition of most of these State Forests happened because the slopes were so aggressive and soils so poor that settlers couldn't grow any crops to survive or pay for the land. That fact lets us know these are pretty difficult slopes to maneuver and safely and efficiently log.

Buyer 2: The most important difference between DoF sales and private sales is quality. DoF employees do a good job of selecting the low-grade, damaged and less-desirable trees while protecting the higher-grade and value trees. Most the time that pine is involved, no money is put on it. So that makes a sale average look low also. Also, there is a difference between State and private sales regarding veneer. Along with DoF foresters protecting the higher-grade trees there is seldom a veneer tree selected and in a lot of consultant sales that higher percentage of veneer is what drives the average up. Also, there is a difference between DoF and private sales regarding marked footage. DoF employees run sales pretty close on footage meanwhile many consultant sales will range from a 15-30% over cut. So when you look at the bid versus the advertised footage, it makes the average look pretty good. Some do this purposely for good advertising. Lastly, there is a difference between State and private sales regarding the work bill. Most buyers and loggers know that a little more extensive and costly closeout is required for DoF sales. Very seldom are work bills added on to close out private sales. When they are done on private sales they are a lot less extensive. On private sales some closeouts can be done with a skidder. Many private landowners refuse water bars due to access issues. A lot of DoF sales are on rougher terrain, which raises work bill due to production loss, expense of closeout and risk involved.

Buyer 3: DoF sales receive lower board-foot price for multiple reasons: 1.) Bat laws restrict working periods, which coincides with hunting season and wet weather. 2.) Tree selection: The last few years it seems that nearly all the excellent trees are unmarked, while endless poles wind



up in the tree count. 3) Many State Forests contain some very difficult terrain, which adds to the work bill. 4) Bonding and closeouts: In the end, the bond process doesn't cost extra, but can present an issue if there is not good communication with DoF regarding a satisfactory closeout, and it takes a long time to get the bond money back. 5) The biggest reason is this: DoF sales used to have a pretty consistent "over-run" percentage. Everyone has their own scaling method, but in recent years the State has gone one way while consultants have gone another. It is not unusual for some consultants to get a 40% overrun. There is one guy for whom we routinely figure 50-60%. Sounds ludicrous, but it makes their stumpage values look great to the uninitiated. Meanwhile, DoF foresters have apparently swung the other way. We just finished a job at one State Forest that barely reached the cruised footage. And that has become the norm for most, but not quite all State sales. In summary, the State sales and private sales really are bringing very similar values, after accounting for quality, difficulty and goofy tallies.

Buyer 4: DoF foresters are not marking near the quality of timber—species and size—compared to private sales. DoF sales contain a lot of long-haul skidding and some DoF sites are not very accessible.

Buyer 5: 1.) DoF foresters mark trees that are over-mature or too young. This results in a loss of high-quality lumber. As a timber buyer, I would prefer more trees in the 20-24" range. 2.) There are extra costs on DoF sales due to more restrictive BMPs and wet-weather logging restrictions 3.) DoF foresters are not predictable on scaling; some are under by 25% and some are over by 30%.

Conclusions:

Timber sales are an economic benefit to the DoF. Over the five-year period revenues exceeded costs by \$11,450,210.

The DoF, by virtue of selling timber through a sealed-bid process with a minimum-bid threshold based on current market prices, is receiving a fair market value price based on the spot market for timber determined by buyers. Based on available public information, one cannot demonstrate that DoF is receiving lower than market prices. Publicly available data indicates the price received for DoF timber is well within market range.

DoF timber sales are different from private timber sales by nature due to the uniqueness of the tracts across the varied geography of our state. Likewise, the State of Indiana, DNR, Division of Forestry, as a landowner often has very different objectives than private landowners who have very few constraints regarding management of their forests. DoF's approximately 153,780 harvestable acres are managed in perpetuity as working forest for multiple benefits and the DoF promotes and practices good stewardship of natural, recreational and cultural resources within the Indiana DNR's mission.



Commercial logging of Indiana's State Forests is economical and generates sufficient income. System-wide revenues over the five-year period totaled \$12.3 million and cost \$0.9 million. There is clear financial benefit, considering that income of \$11,450,210, and costs for an average timber sale equal 7% of revenues. Also, it should be noted that 51 million board feet harvested over the five-year period has resulted in an estimated \$2.2 billion economic impact.⁽⁶⁾

Finally, the largest single driver of stumpage prices received by landowners is the price paid by mills for logs. DoF-sold logs are generally not distinguished from privately sold logs at mill gates. Over the five-year period 2013-2017, 51 million board feet of timber was sold by DoF, 148 million board feet of timber was sold by consultant foresters, and 1.2 billion board feet was sold by other private landowners in Indiana. By this estimate, timber sold by DoF represents about 3.6% of timber sold in Indiana. Because DoF sales represent such a small part of the market, it is unlikely that DoF timber sales have an effect on the market for private timber sales in the State.

Sources:

Form SF200 (DoF)

DoF form SF 200 provides date, location, acreage, marked volume by species, cost and revenue data for each timber sale that occurs at on Indiana State Forest property. These forms are completed at the State Forest property level and submitted to the DoF property specialist after a sealed-bid timber sale.

These forms are the base documents used to track DoF cost-benefit concerning the removal of merchantable timber from the State Forests.

Timber Sale Summary – Memorandum (DoF)

Timber sale summary memoranda are completed annually by a DoF property specialist and provide a fiscal-year summary of sales, including narrative discussion of trends.

Indiana Consulting Foresters Stumpage Timber Price Reports

Indiana Consulting Foresters Stumpage Timber Price Reports are published annually (since 2001) in the Indiana Woodland Steward (<http://www.inwoodlands.org/>). According to the reports, data are obtained via “survey to all known professional consulting foresters operating in Indiana.” The report covers stumpage prices for about 25 million board feet of timber sold in Indiana. Most data are reported based on categorizing timber sold based on quality attributes. See the following paragraph description from the reports:

“The prices reported are broken into three sale types—high quality, average quality, and low quality. A high-quality sale has more than 50% of the volume in #2 or better red oak, white oak, sugar maple, black cherry, or black walnut. The low-quality sale has more than 70% of the



volume in #3 (pallet) grade or is cottonwood, beech, elm, sycamore, hackberry, pin oak, aspen, black gum, black locust, honey locust, catalpa, or sweet gum. The average sale is a sale that is not a low-quality or high-quality sale as defined above.”

Indiana Forest Products Price Report and Trend Analysis

The Indiana Forest Products Price Report and Trend Analysis is an annual publication produced in autumn/early winter (a complementary but smaller spring report was added beginning in 2015). It has been in existence since the 1950s. Until 2015, the report was produced by Purdue’s Department of Forestry and Natural Resources with the assistance of Indiana Office of USDA’s Agricultural Statistics Service and Indiana Department of Natural Resources (IDNR), DoF. Historical reports are available online at <http://docs.lib.purdue.edu/timber/>. Since 2015, the report has been produced by DoF. Recent reports are available online in the “Hardwood Market Information” section of the page, <https://www.in.gov/dnr/forestry/3605.htm>.

The report is based on a survey of sawmills and veneer mills operating in Indiana. It provides an indication of price trends for logs of defined species and qualities delivered to mills during a certain month of the year also average logging and hauling costs. Producers reported a total average of 95 million board feet production over the survey’s most recent five years.

The report includes the following hardwood species: white ash, beech, cherry, hickory, hard maple, soft maple, white oak, red oak, tulip poplar, black walnut, pine and cedar.

Hardwood Market Report

The Hardwood Market Report, according to its website (<http://www.hmr.com>), was established in 1922 and provides benchmark pricing on North American hardwood lumber, pallet lumber, cants, and crossties. It covers individual North American hardwood species on a weekly basis: ash, cherry, hickory, hard maple, soft maple, red oak, white oak, tulip poplar and walnut. This report uses an average of non-selected grades from Hardwood Market Report’s weekly Appalachian pricing for 10-inch-thick green lumber.

Footnotes:

- (1) Source: Brett Martin, GIS Specialist (per J. Seifert email 11/1/2017)
- (2) Forest Inventory & Analysis -State Forest Continuous Forest Inventory, Continuous Forest Inventory Property Report 2012-2016 - <http://www.in.gov/dnr/forestry/files/fo-State Forest CFI Report 2012 2016.pdf> (Accessed 11/8/17).
- (3) As of October 25th, 2017 there were 512 Active Timber Buyers and an associated 996 Active Agents according to LTB Bulletin, Volume XLVII, Number 11, November, 2017
- (4) <https://www.in.gov/dnr/forestry/files/fo-spring 2017 Timber Price Report.pdf>, page 26.
- (5) “The data represents approximately 10 to 15 percent of the total volume of stumpage purchased during the periods from April 16, 2016 through April 15, 2017.” <http://www.inwoodlands.org/> (accessed 11/15/17). This report assumes that “total” includes all Indiana timber private sales but



does not include public timber sales. This should be confirmed with the authors of the consultant forester report.

- (6) https://www.in.gov/isda/files/Indiana_Hardwoods_and_Their_Economic_Impact.pdf (accessed 12/21/17).



Appendix (1): Data

Property	Sale Date	FY	Sale #	Marked acres	Vol/Tree	# trees	Volume	Trees/Acre	Marking	Admin.	Boundary	Costs	Adverts	Other	Total cost	Sale price (\$)	Cost /Rev	Rev/ Acre	VOL./ Acre	Actual BF Price	
JWSF	4 24 2012	13	6351307	61 248	1,445	139	358,540	24	3,381	313	88	-	72	-	3,766	77,778	5%	1,275	5,878	202	0.217
JWSF	7 24 2012	13	6351304	120 174	1,399	139	24,185	1	247	287	88	-	-	-	335	2,000	17%	17	808	0.083	
CLARK	7 31 2012	13	6301220	237 170	2,553	433,945	11	1,110	863	212	96	4,612	6,892	87,512	6,892	8%	369	1,831	1,170	0.202	
CLARK	7 31 2012	13	6301221	821 140	6,864	960,956	8	1,369	570	132	64	27,935	30,071	71,772	42%	87	1,170	1,170	0.075		
Martin	8 14 2012	13	6361301	95 197	872	172,110	9	1,884	222	-	53	-	2,160	40,278	5%	424	1,812	2,234	0.234		
Martin	8 14 2012	13	6361302	167 218	1,759	383,652	11	2,638	165	79	53	-	2,935	104,000	3%	623	2,297	0.271			
JWSF	8 16 2012	13	6351305	10 215	9	1,935	1	58	67	-	-	-	125	400	31%	40	194	0.207			
JWSF	8 16 2012	13	6351301	100 151	74	11,171	1	1,035	0	-	-	-	1,881	1,250	233%	13	112	0.112			
CLARK	9 6 2012	13	6301302	187 166	2,114	351,354	11	1,518	46	116	98	1,796	3,574	50,594	7%	271	1,879	0.144			
CLARK	9 6 2012	13	6301301	268 187	2,626	491,096	10	2,684	46	116	132	-	2,977	89,111	3%	332	1,830	0.181			
CLARK	9 6 2012	13	6301304	215 127	3,386	428,662	16	3,766	46	121	98	4,025	8,057	53,200	15%	247	1,994	0.124			
JWSF	9 17 2012	13	6351303	136 213	1,881	400,475	14	3,453	300	-	107	-	3,859	61,849	6%	455	2,945	0.154			
JWSF	9 17 2012	13	6351302	151 223	1,898	423,658	13	2,600	368	-	107	-	1,500	72,800	6%	483	2,811	0.172			
MMSF	9 27 2012	13	6421303	35 174	425	73,783	12	753	86	79	48	1,880	2,847	14,444	20%	413	2,108	0.196			
JWSF	9 27 2012	13	6421302	194 211	978	205,991	5	1,329	127	36	34	625	2,151	64,322	3%	332	1,062	0.312			
JWSF	9 27 2012	13	6421301	135 246	1,385	340,530	10	3,725	143	19	34	-	3,921	82,002	5%	607	2,522	0.241			
Greene	10 11 2012	13	6331301	100 154	1,524	234,604	15	2,444	220	244	76	3,300	6,284	17,000	37%	170	2,346	0.072			
CLARK	10 25 2012	13	6301303	144 165	1,493	245,823	10	1,769	31	116	126	37	2,079	31,578	7%	219	1,707	0.128			
CLARK	10 25 2012	13	6301305	156 167	1,908	318,980	12	1,922	46	116	90	2,247	4,421	32,000	14%	205	2,045	0.100			
MMSF	3 28 2013	13	6421304	177 205	2,581	528,237	15	2,745	335	-	88	5,636	8,804	74,000	12%	418	2,984	0.140			
F/P	5 21 2013	13	6311302	53 230	1,097	252,107	21	2,200	196	138	84,99	-	2,619	62,307	4%	1,176	4,757	0.247			
F/P	5 21 2013	13	6311301	100 154	1,698	262,060	17	3,421	232	138	85	3,875	3,875	37,281	10%	373	2,621	0.142			
OPSE	5 22 2013	13	6381304	70 195	534	103,943	8	1,187	82	174	81	1,639	3,163	15,300	21%	219	1,485	0.147			
OPSE	5 22 2013	13	6381303	60 178	699	124,438	12	1,538	82	104	81	437	2,241	17,800	13%	297	2,074	0.143			
OPSE	5 22 2013	13	6381302	70 219	879	192,646	13	1,697	82	80	81	2,068	4,008	42,424	9%	606	2,752	0.220			
OPSE	5 22 2013	13	6381301	127 215	1,450	311,931	11	4,271	82	244	81	437	5,115	81,187	6%	639	2,456	0.260			
JWSF	5 23 2013	13	6351308	1 184	12	2,209	24	27	99	-	-	-	8	460	29%	920	4,418	0.208			
JWSF	5 23 2013	13	6351306	147 218	3,155	686,727	21	8,977	298	387	70	2,911	12,643	96,500	13%	656	4,672	0.141			
JWSF	5 30 2013	13	6421309	60 172	1,097	188,538	18	2,542	173	-	59	1,012	3,786	30,889	12%	515	3,142	0.164			
JWSF	5 30 2013	13	6421306	156 190	1,907	362,358	12	4,864	423	29	62	7,069	12,446	92,987	13%	596	2,323	0.257			
Martin	6 18 2013	13	6361304	40 220	281	61,680	7	508	34	24	-	875	1,441	18,652	8%	466	1,542	0.302			
Martin	6 18 2013	13	6361303	73 208	1,117	232,233	15	1,110	68	-	86	-	1,264	58,260	2%	801	3,194	0.251			
HCSF	6 25 2013	13	6341305	27 162	249	40,275	9	685	97	65	31	-	878	10,169	9%	377	1,492	0.229			
HCSF	6 25 2013	13	6341302	61 202	675	136,371	11	1,000	94	-	31	19,988	21,114	31,250	68%	512	2,236	0.252			
HCSF	6 25 2013	13	6341303	62 221	801	177,110	13	1,470	239	-	31	-	1,740	42,500	4%	685	2,857	0.240			
HCSF	6 25 2013	13	6341304	114 166	1,360	225,634	12	789	94	-	31	504	1,419	50,000	3%	439	1,979	0.222			
HCSF	6 25 2013	13	6341301	120 209	2,137	445,672	18	-	-	-	12	-	12	115,252	0%	960	3,714	0.259			
F/P	6 27 2013	13	6311303	140 177	2,173	385,675	16	1,683	196	89	82	4,625	6,677	44,118	15%	315	2,755	0.114			
Greene	6 28 2013	13	6331302	47 184	675	124,177	15	1,268	251	16	99	2,400	4,033	12,500	32%	269	2,670	0.101			
CLARK	7 31 2012	14	6301221	821 140	3,522	492,741	4	702	292	68	33	14,324	15,419	41,061	38%	50	600	0.083			
MMSF	7 11 2013	14	6421401	243 323	2,238	723,701	9	3,151	405	-	47	3,285	6,888	262,003	3%	1,078	2,978	0.362			
MMSF	7 11 2013	14	6421402	284 290	2,487	721,224	9	3,426	529	-	47	6,730	10,731	192,752	6%	679	2,540	0.267			
JWSF	7 15 2013	14	6351403	195 257	1,077	276,589	6	971	127	-	40	8,140	9,278	84,001	11%	431	1,418	0.304			
JWSF	7 15 2013	14	6351402	22 182	7	1,271	0	56	106	-	-	-	162	750	22%	34	58	0.590			
MMSF	7 25 2013	14	6421406	101 221	908	200,810	9	3,747	266	47	33	2,099	6,193	51,556	12%	510	1,988	0.257			



Property	Sale Date	FY	Sale #	Marked acres	Vol/Tree	# trees	Volume	Trees/Acre	Marking	Admin	Boundary	Adverts	Other	Total cost	Sale price	Cost /Rev	Rev/ Acre	VOL./Acre	Actual BF Price
MMSF	7 25 2013	14	6421404	138 206	1,317	271,009	10	2,830	81	264	33	5,402	8,610	63,911	13%	463	1,964	0.236	
WVSF	7 25 2013	14	6421405	151 198	842	166,818	6	1,200	127	-	33	5,208	6,569	45,556	14%	302	1,105	0.274	
WVSF	7 25 2013	14	6421407	145 170	2,621	444,833	18	4,127	320	72	33	1,283	5,834	57,575	10%	397	3,068	0.129	
JWSF	7 30 2013	14	6351401	162 163	3,264	530,585	20	4,262	448	152	102	7,876	8,853	58,550	13%	362	3,279	0.110	
MMSF	9 12 2013	14	6421408	140 271	1,013	274,893	7	2,040	127	76	45	1,500	3,788	83,290	5%	595	1,964	0.303	
WVSF	9 12 2013	14	6421409	82 127	1,156	146,646	14	1,576	197	-	35	1,773	26,840	7%	327	1,788	0.183		
JWSF	9 17 2013	14	6351403	52 215	789	169,365	15	2,695	132	387	40	3,249	41,500	8%	798	3,257	0.245		
JWSF	9 17 2013	14	6351404	65 218	980	213,731	15	1,495	264	31	40	1,831	17,750	4%	663	3,283	0.202		
JWSF	9 17 2013	14	6351405	73 128	1,239	158,386	17	2,239	229	229	40	6,344	8,853	17,750	50%	245	2,185	0.112	
HCSF	10 3 2013	14	6341404	40 185	540	100,169	14	942	130	-	30	1,101	1,627	35,273	3%	882	2,504	0.352	
HCSF	10 3 2013	14	6341405	72 151	785	118,252	11	1,471	126	-	30	1,627	1,627	25,000	7%	347	1,642	0.211	
HCSF	10 3 2013	14	6341403	104 187	1,067	199,392	10	1,432	130	-	30	8,002	9,593	35,000	27%	337	1,917	0.176	
HCSF	10 3 2013	14	6341402	70 196	1,168	228,780	17	2,314	177	325	30	2,845	64,200	4%	917	3,268	0.281		
HCSF	10 3 2013	14	6341401	86 293	1,543	451,530	18	3,322	154	77	30	7,550	11,134	151,500	7%	1,762	5,250	0.336	
Martin	10 8 2013	14	6361402	186 248	949	235,184	5	1,854	195	80	33	380	2,542	52,050	5%	280	1,264	0.221	
Martin	10 8 2013	14	6361401	70 151	1,290	194,853	18	564	195	80	95	1,731	2,664	31,600	8%	451	2,784	0.162	
Martin	10 11 2013	14	6361403	2 392	11	4,315	6	22	34	-	-	56	1,295	4%	647	2,158	0.300		
WVSF	11 6 2013	14	6421415	15 136	13	1,770	1	25	73	-	98	250	39%	17	118	0.141			
JWSF	11 20 2013	14	6351406	12 115	96	11,047	8	56	49	0+	356	461	2,760	17%	230	921	0.250		
MMSF	11 21 2013	14	6421414	81 236	691	162,739	9	2,089	172	-	35	779	3,075	47,448	6%	586	2,009	0.292	
MMSF	11 21 2013	14	6421412	73 159	1,078	170,947	15	908	107	-	22	1,037	1,037	43,520	2%	596	2,342	0.255	
MMSF	11 21 2013	14	6421410	285 324	2,722	881,189	10	4,275	710	-	31	4,871	9,886	293,342	3%	1,029	3,092	0.333	
WVSF	11 21 2013	14	6421413	77 233	659	153,508	9	1,140	163	-	31	1,334	41,333	3%	537	1,994	0.269		
WVSF	11 21 2013	14	6421411	88 225	1,368	307,515	16	1,799	176	-	30	2,619	4,625	67,691	7%	769	3,494	0.220	
Martin	12 17 2013	14	6361404	83 246	1,002	246,597	12	1,666	169	-	91	1,926	71,800	3%	865	2,971	0.291		
Martin	2 12 2014	14	6361405	145 315	63	19,854	0	119	51	-	0	170	3,600	5%	25	137	0.181		
CLARK	3 20 2014	14	6301402	140 168	1,831	307,799	13	-	-	-	-	58,482	0%	418	2,199	0.190			
CLARK	3 20 2014	14	6301401	250 206	3,411	702,970	14	2,686	67	132	123	324	3,333	226,100	1%	904	2,812	0.322	
MMSF	3 20 2014	14	6421417	104 437	1,224	534,451	12	1,809	710	-	48	1,778	4,344	176,444	2%	1,697	5,139	0.330	
WVSF	3 20 2014	14	6421418	73 200	2,356	471,633	32	1,353	449	14	56	1,873	82,315	2%	1,135	6,505	0.175		
OPSF	3 26 2014	14	6381401	65 275	701	192,706	11	1,139	167	29	84	1,419	48,277	3%	743	2,965	0.251		
OPSF	3 26 2014	14	6381402	83 221	806	178,099	10	1,370	109	167	84	2,114	3,843	32,000	12%	386	2,146	0.180	
MMSF	4 24 2014	14	6421422	61 228	1,214	276,450	20	1,491	83	-	54	3,060	4,688	78,315	6%	1,284	4,532	0.283	
WVSF	4 24 2014	14	6421419	212 250	2,411	602,918	11	5,119	278	-	58	3,499	8,954	181,889	5%	857	2,841	0.302	
JWSF	4 29 2014	14	6351408	132 167	1,601	267,085	12	2,883	442	-	120	3,454	6,898	81,700	8%	619	2,023	0.306	
OPSF	5 28 2014	14	6381403	75 281	1,094	307,477	15	1,790	171	82	83	2,127	64,571	3%	861	4,100	0.210		
MMSF	5 29 2014	14	6421421	116 277	854	236,752	7	1,336	647	-	58	1,063	3,104	60,289	5%	520	2,041	0.255	
WVSF	5 29 2014	14	6421420	91 229	662	151,297	7	1,394	127	-	51	1,572	39,434	4%	433	1,663	0.261		
JWSF	6 3 2014	14	6351409	73 179	1,671	299,239	23	4,549	132	811	102	5,593	100,500	6%	1,377	4,099	0.336		
Greene	6 12 2014	14	6331401	42 219	583	127,854	14	1,555	264	463	103	3,474	5,860	19,024	31%	453	3,044	0.149	
Greene	6 12 2014	14	6331402	93 134	1,536	206,157	17	1,705	211	31	103	6,554	8,605	24,500	35%	263	2,217	0.119	
F/P	6 17 2014	14	6311402	195 147	2,424	356,301	12	1,721	333	316	74	2,189	4,632	68,567	7%	352	1,827	0.192	



Property	Sale Date	FY	Sale #	Marked acres	Vol/Tree	# trees	Volume	Trees/Acre	Marking	Admin	Costs		Total cost	Sale price	Cost /Rev	Rev/ Acre	VOL./Acre	Actual BF Price
											Boundary	Adverts Other						
F/P	6 17 2014	14	6311401	181 274	2,548	697,322	14	6,334	261	94	78	496	7,262	135,392	5%	746	3,844	0.194
HCSF	6 26 2014	14	6341410	20 105	95	10,000	5	143	96	31	-	-	270	2,000	13%	100	500	0.200
HCSF	6 26 2014	14	6341409	69 223	726	161,562	11	1,182	167	44	6,760	8,153	59,400	14%	861	2,341	0.368	
HCSF	6 26 2014	14	6341408	120 241	1,445	348,751	12	3,200	1,043	62	27	4,332	156,359	3%	1,303	2,906	0.448	
HCSF	6 26 2014	14	6341411	142 256	1,676	428,500	12	5,949	20	31	-	5,999	185,295	3%	1,305	3,018	0.432	
HCSF	6 26 2014	14	6341407	123 190	1,842	349,427	15	3,163	164	44	6,019	9,391	118,000	8%	959	2,841	0.338	
WMSF	9 18 2014	15	6421503	78 202	951	192,054	12	755	107	33	-	895	31,200	3%	400	2,462	0.162	
WMSF	9 18 2014	15	6421501	225 221	2,159	477,312	10	4,374	300	50	528	5,252	77,778	7%	346	2,121	0.163	
WMSF	9 20 2014	15	6421502	160 175	1,091	190,521	7	1,622	188	42	1,250	3,101	39,200	8%	245	1,191	0.206	
WMSF	11 18 2014	15	6421508	29 173	1,023	176,621	35	282	185	60	527	527	25,889	2%	887	6,049	0.147	
WMSF	11 20 2014	15	6421505	189 214	2,252	481,496	12	7,534	248	60	1,637	9,478	123,456	8%	653	2,548	0.256	
HCSF	1 8 2015	15	6341501	102 277	1,550	429,940	15	3,907	232	48	-	4,187	195,289	2%	1,915	4,215	0.454	
HCSF	1 8 2015	15	6341502	146 181	2,007	363,840	14	4,153	193	96	48	4,490	140,000	3%	959	2,492	0.385	
HCSF	1 8 2015	15	6341503	150 173	2,090	361,440	14	5,845	193	36	6,073	120,300	5%	802	2,410	0.333		
JWSF	2 10 2015	15	6351503	44 273	376	102,658	9	1,152	235	56	-	1,443	36,250	4%	824	2,333	0.353	
JWSF	2 10 2015	15	6351502	53 275	882	242,270	17	1,564	297	259	56	2,176	76,315	3%	1,440	4,571	0.315	
JWSF	2 10 2015	15	6351501	95 240	1,546	370,887	16	5,745	301	547	56	9,765	112,001	15%	1,179	3,904	0.302	
NMMSF	2 19 2015	15	6421506	157 236	1,596	376,182	10	3,365	200	38	45	889	91,222	5%	581	2,396	0.242	
WMSF	2 19 2015	15	6421510	15 93	657	61,390	43	-	106	45	-	150	6,778	2%	440	3,986	0.110	
WMSF	2 19 2015	15	6421507	225 263	1,471	386,526	7	3,210	145	45	625	4,025	123,800	3%	550	1,718	0.320	
NMMSF	3 19 2015	15	6421507	100 295	761	224,689	8	1,218	146	32	2,814	4,210	47,515	9%	475	2,247	0.211	
NMMSF	3 19 2015	15	6421511	69 308	834	256,729	12	1,053	125	32	1,782	2,992	91,653	3%	1,328	3,721	0.357	
NMMSF	3 19 2015	15	6421504	150 255	1,286	327,341	9	1,730	125	32	3,516	5,403	81,321	7%	542	2,182	0.248	
Greene	3 20 2015	15	6331501	1 53	75	4,000	75	84	51	-	-	135	360	37%	360	4,000	0.090	
OPSF	3 25 2015	15	6381502	47 231	834	192,822	18	1,230	97	53	85	1,465	57,800	3%	1,230	4,103	0.300	
OPSF	3 25 2015	15	6381501	70 199	836	166,532	12	1,522	97	53	86	1,757	38,990	5%	557	2,379	0.234	
CLARK	4 2 2015	15	6301502	47 128	388	49,828	8	774	371	169	-	1,313	7,778	17%	165	1,060	0.156	
CLARK	4 2 2015	15	6301501	166 154	1,831	281,280	11	1,531	50	133	-	252	81,887	2%	493	1,694	0.291	
CLARK	4 2 2015	15	6301503	292 168	5,231	879,149	18	3,489	370	246	169	3,665	202,878	4%	695	3,011	0.231	
F/P	4 16 2015	15	6311501	82 209	1,235	258,585	15	2,385	236	79	88	2,872	84,649	3%	1,032	3,153	0.327	
Martin	5 8 2015	15	6361501	192 208	807	167,873	4	1,738	85	88	-	1,910	55,200	3%	288	874	0.329	
F/P	6 4 2015	15	6311502	15 206	193	39,800	13	756	72	84	84	996	13,600	7%	938	2,745	0.342	
F/P	6 4 2015	15	6311503	62 141	1,239	175,117	20	2,561	235	312	80	3,186	40,415	8%	652	2,824	0.231	
F/P	6 4 2015	15	6311504	180 231	1,791	414,216	10	4,431	80	3,196	80	7,787	88,398	9%	491	2,301	0.213	
F/P	6 11 2015	15	6311505	41 198	597	118,104	15	2,328	304	212	80	2,924	37,793	8%	922	2,881	0.320	
OPSF	6 16 2015	15	6381503	30 224	584	130,604	19	895	121	77	85	1,179	35,353	3%	1,178	4,353	0.271	
OPSF	6 16 2015	15	6381504	51 180	893	160,988	18	2,362	121	82	85	2,650	33,433	8%	656	3,157	0.208	
NMMSF	6 18 2015	15	6421512	148 249	1,505	374,280	10	1,765	250	47	42	1,282	3,339	3%	647	2,529	0.256	
WMSF	6 18 2015	15	6421514	50 163	276	45,058	6	358	385	42	-	790	13,333	6%	267	901	0.296	
WMSF	6 18 2015	15	6421518	116 215	1,171	251,995	10	2,516	224	123	1,123	3,987	65,300	6%	564	2,178	0.259	
Martin	6 24 2015	15	6361502	100 197	1,425	280,501	14	2,420	166	69	89	2,744	91,670	3%	917	2,805	0.327	
HCSF	6 25 2015	15	6341505	67 153	586	89,605	9	1,951	50	165	42	2,986	29,500	18%	440	1,337	0.329	



Property	Sale Date	FY	Sale #	Marked acres	Vol/Tree	# trees	Volume	Trees/Acre	Marking	Admin	Costs			Total cost	Sale price	Cost /Rev	Vol./Acre	Actual BF Price	
											Boundary	Adverts	Other						
HCSF	6 25 2015	15	6341506	56 245		821	200,820	15	2,585	1,093	252	42	8,859	12,831	81,500	16%	1,455	3,586	0.406
HCSF	6 25 2015	15	6341504	165 215		2,128	458,175	13	5,669	324	157	68	5,080	11,299	148,231	8%	898	2,777	0.324
JWSF	6 30 2015	15	6351505	40 106		1,255	132,455	31	2,834	257	51	81	805	4,028	16,200	25%	405	3,111	0.122
JWSF	6 30 2015	15	6351504	107 137		3,802	519,673	36	5,523	171	205	81	2,217	8,196	131,501	6%	1,229	4,857	0.253
Greene	7 10 2015	15	6331502	13 130		371	48,079	29	1,375	82	192	192	1,649	500	500	330%	38	3,698	0.010
MMSF	6 18 2016	15	6421513	183 315		1,262	397,075	7	1,495	209	42	42	2,032	3,778	116,080	3%	634	2,170	0.292
MMSF	7 16 2015	16	6421603	76 321		609	195,262	8	884	209	45	45	782	1,920	47,840	4%	629	2,569	0.245
MMSF	7 16 2015	16	6421601	105 289		844	244,333	8	1,308	230	45	45	1,782	3,365	54,733	6%	521	2,327	0.224
YWSF	7 16 2015	16	6421602	66 301		473	142,462	7	989	225	46	46	1,260	1,260	43,630	3%	661	2,159	0.204
YWSF	10 14 2015	16	6421608	10 147		60	8,813	6	138	127	265	265	265	265	1,800	15%	180	881	0.206
HCSF	11 16 2015	16	6341601	105 194		166	32,125	2	388	83	83	83	553	553	5,800	10%	55	306	0.181
Greene	12 3 2015	16	6331601	61 142		525	74,402	9	1,553	82	127	127	7,855	9,743	13,107	74%	215	1,220	0.176
MARTIN	12 10 2015	16	6361603	113 249		578	143,944	5	898	174	49	86	1,208	1,208	35,120	3%	311	1,274	0.244
MARTIN	12 10 2015	16	6361601	129 251		902	226,117	7	1,247	92	86	86	1,425	1,425	65,000	2%	504	1,753	0.287
MARTIN	12 10 2015	16	6361602	124 234		978	228,392	8	1,479	92	25	85	1,682	1,682	56,000	3%	453	1,848	0.245
YWSF	12 17 2015	16	6421604	202 240		2,148	514,940	11	5,483	244	110	867	6,704	119,716	119,716	6%	594	2,556	0.232
Greene	1 22 2016	16	6331302	3 121		59	7,158	20	450	115	115	115	565	565	100	565%	33	2,386	0.014
MMSF	3 16 2016	16	6421610	116 243		158	38,335	1	273	159	432	432	432	432	5,246	8%	45	332	0.137
MMSF	4 21 2016	16	6421611	95 288		911	262,041	10	1,650	459	42	42	2,151	2,151	63,401	3%	667	2,758	0.242
YWSF	4 21 2016	16	6421607	160 234		1,109	259,884	7	2,590	311	46	46	2,946	2,946	142,322	2%	890	1,624	0.548
YWSF	4 21 2016	16	6421606	160 250		1,187	296,507	7	2,721	300	48	48	3,068	3,068	101,106	3%	632	1,853	0.341
JWSF	5 6 2016	16	6351620	10 180		41	7,392	4	253	84	337	337	337	337	2,000	17%	200	739	0.271
MMSF	5 19 2016	16	6421605	221 267		3,359	897,068	15	4,827	668	61	61	5,556	5,556	157,711	4%	714	4,059	0.176
F/P	5 24 2016	16	6311602	119 227		1,305	296,354	11	7,075	106	134	78	7,393	7,393	78,350	9%	658	2,490	0.264
OPSF	5 25 2016	16	6381602	60 254		534	135,625	9	1,228	101	83	83	1,412	1,412	28,711	5%	479	2,260	0.212
OPSF	5 25 2016	16	6381601	170 222		2,269	503,613	13	3,785	101	307	83	4,276	4,276	114,661	4%	674	2,962	0.228
MARTIN	6 2 2016	16	6361604	50 286		564	161,055	11	-	85	82	64	231	231	55,570	0%	1,111	3,221	0.345
YWSF	6 7 2016	16	6421615	242		13	3,148	47	73	73	31	31	150	150	800	19%	800	0.254	
MMSF	6 8 2016	16	6421612	227 282		1,788	504,042	8	2,315	584	106	106	1,750	4,755	111,000	4%	489	2,220	0.220
F/P	6 9 2016	16	3111603	21 324		100	32,370	5	377	100	477	477	477	477	6,000	8%	286	1,541	0.185
HCSF	6 29 2016	16	6341604	6 129		354	45,552	55	519	33	48	44	644	644	7,650	8%	1,195	7,118	0.168
HCSF	6 29 2016	16	6341603	41 188		634	119,471	15	1,748	99	217	36	11,802	13,902	18,000	77%	439	2,914	0.151
HCSF	6 29 2016	16	6341605	76 229		1,045	239,777	14	3,590	657	266	44	4,570	4,570	60,000	8%	789	3,155	0.250
HCSF	6 29 2016	16	6341602	232 200		3,468	692,620	15	7,589	223	41	45	1,719	9,616	125,000	8%	539	2,985	0.180
YWSF	6 30 2016	16	6241534	145 235		955	224,804	7	3,139	346	114	114	3,599	3,599	67,815	5%	468	1,550	0.302
JWSF	9 13 2016	17	6351703	60 202		836	169,022	14	3,128	129	41	41	65	3,363	41,275	8%	688	2,817	0.244
JWSF	9 13 2016	17	6351701	134 221		2,182	481,543	16	5,912	420	41	41	6,373	116,100	59,800	9%	866	3,594	0.241
JWSF	9 13 2016	17	6351702	77 111		2,610	289,032	34	5,221	266	118	41	5,646	59,800	52,326	9%	777	3,754	0.207
MMSF	10 6 2016	17	6421742	229 238		1,347	320,793	6	2,441	235	71	71	1,951	4,699	40,200	19%	319	2,682	0.119
YWSF	10 6 2016	17	6421741	126 216		1,564	337,667	12	3,453	244	71	71	3,827	7,594	47,448	5%	392	1,710	0.229
MMSF	11 17 2016	17	6421721	121 278		744	206,933	6	1,278	605	69	69	375	2,327	114,476	15%	626	2,978	0.210
YWSF	11 17 2016	17	6421711	183 289		1,888	544,969	10	8,254	291	68	68	8,861	17,474	114,476	15%	626	2,978	0.210



Property	Sale Date	FY	Sale #	Marked acres	Vol/Tree	# trees	Volume	Trees/Acre			Costs			Total cost	Sale price	Cost /Rev	Rev/ Acre	VOL./Acre	Actual BF Price
								Marking	Admin	Boundary	Adverts	Other							
HCSF	11 30 2016	17	6341701	224	231	2,480	571,683	11	8,802	316	372	213	3,993	13,697	118,146	12%	527	2,552	0.207
CLARK	1 18 2017	17	6301702	55	119	614	73,172	11	1,265	157	2	69	-	1,493	11,000	14%	200	1,330	0.150
CLARK	1 18 2017	17	6301701	115	115	1,226	141,341	11	1,886	157	245	88	-	2,376	7,100	33%	62	1,229	0.050
NMMSF	1 26 2017	17	6421722	172	353	1,325	467,140	8	1,888	480	-	66	3,261	5,695	118,700	5%	690	2,716	0.254
YWSF	1 26 2017	17	6421701	131	260	975	253,318	7	2,755	11	-	66	-	2,831	104,154	3%	795	1,934	0.411
NMMSF	3 16 2017	17	6421743	260	153	704	107,414	3	1,689	247	-	94	3,500	5,531	24,717	22%	95	413	0.230
F/P	5 8 2017	17	6311703	65	196	518	101,615	8	2,074	126	240	75	-	2,515	37,100	7%	571	1,563	0.365
F/P	5 8 2017	17	6311702	120	242	1,369	331,953	11	2,688	126	300	75	-	3,189	133,652	2%	1,114	2,766	0.403
OPBF	5 10 2017	17	6381702	60	215	558	119,723	9	1,302	131	-	85	-	1,517	16,300	9%	272	1,995	0.136
OPBF	5 10 2017	17	6381703	51	178	802	142,815	16	1,680	131	120	88	-	2,018	17,200	12%	337	2,800	0.120
OPBF	5 10 2017	17	6381701	81	203	846	172,070	10	1,094	131	62	88	-	1,374	41,111	3%	508	2,124	0.239
SELSF	5 11 2017	17	6131701	72	310	648	200,567	9	1,412	324	-	182	1,645	3,562	53,000	7%	736	2,786	0.264
F/P	6 15 2017	17	6311704	61	175	722	126,580	12	2,514	133	190	74	-	2,911	15,190	19%	249	2,075	0.120
F/P	6 15 2017	17	6311705	110	133	1,720	228,702	16	2,817	126	180	74	-	3,197	22,870	14%	208	2,079	0.100
HCSF	6 22 2017	17	6341702	168	280	2,719	760,840	16	6,823	267	43	148	13,843	21,125	238,000	9%	1,417	4,529	0.313
NMMSF	6 22 2017	17	6421723	315	267	2,017	537,847	6	4,607	501	-	49	-	5,156	113,333	5%	360	1,707	0.211
YWSF	6 22 2017	17	6421744	127	192	861	165,026	7	2,479	802	-	129	4,091	7,501	37,100	20%	293	1,301	0.225
YWSF	6 22 2017	17	6421702	240	301	1,503	452,692	6	4,369	6	0	53	-	4,428	142,220	3%	593	1,886	0.314
MARTIN	6 27 2017	17	6361701	170	286	1,231	352,547	7	2,389	213	298	73	-	2,972	81,000	4%	476	2,074	0.230