

C.S. BOND
FOREST MANAGEMENT

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*Professional Forest Management and Harvesting
1990 Indiana Logger of the Year*

sambond4ster1@gmail.com
5267 Old St. Rd. 37N
Springville, Indiana 47462
812-345-6966

On 13 May 2024, C. S. Bond Forest Management performed an inventory on a 50 acre tract of timber located in Warrick county, Indiana. Specifically, the tract is located in the S.E. $\frac{1}{4}$ of Section 23; T 5 S; R 9 W. It is north and west of the town of Chandler, Indiana.

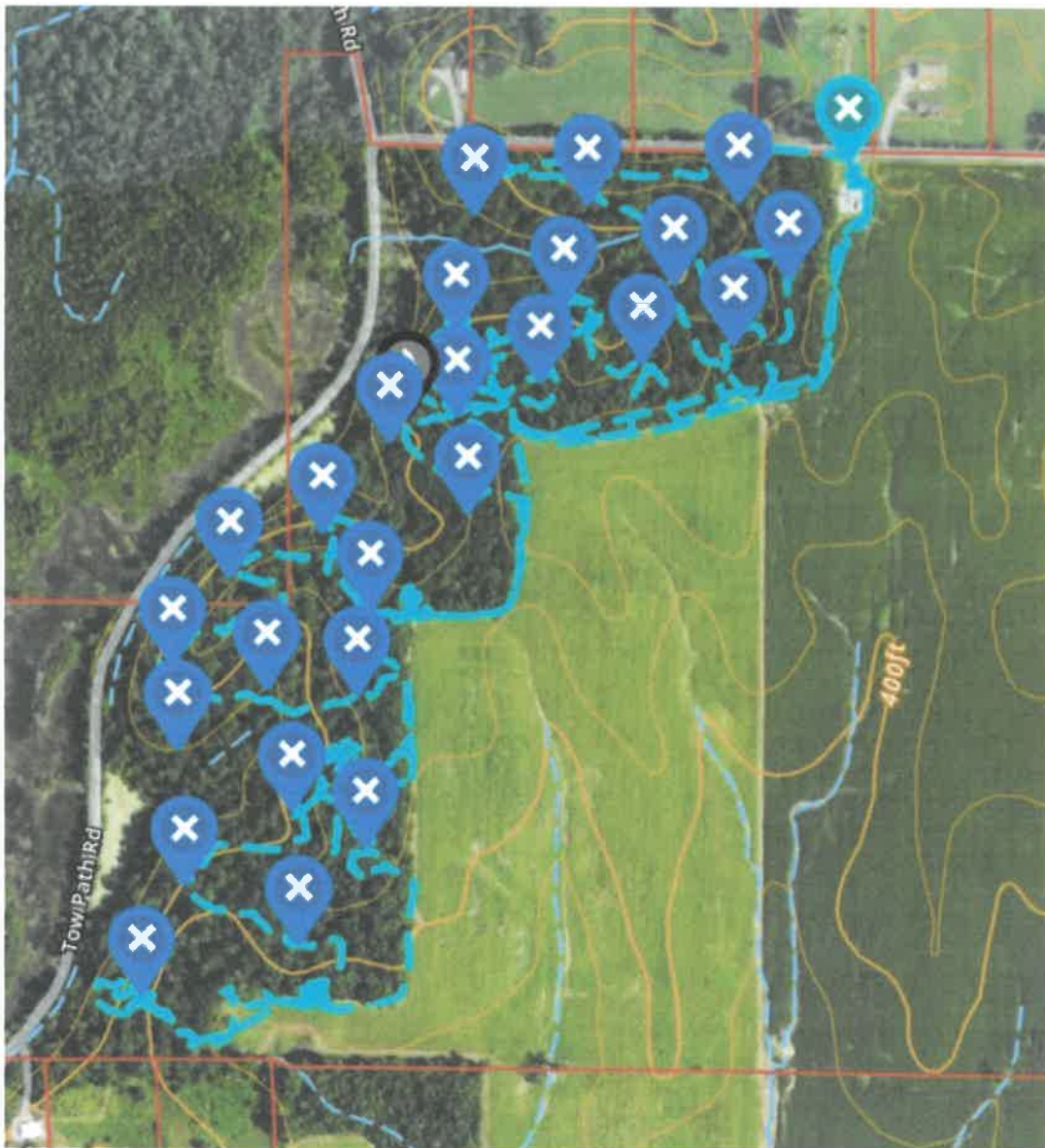
The forested area is west of a larger agriculture field that is held by the same owners as the timber. The north boundary of the wooded tract is Warrington Road (County Rd 225 N) and the west boundary is Tow Path Road. Located along Warrington road is a telephone tower. The ownership extends west of Tow Path road into an area that is primarily wet land and any trees in that portion are inaccessible for any considered harvest and so this area was not included in the inventory. Of note, this Tow Path Road follows the old Wabash and Erie Canal route.

The Warrick county soil survey indicates that the subject area contains predominately Hosmer silt loam with 1 to 6% slopes. This soil suited for growing trees with the white oak index at 75 and the tulip poplar index at 90. Site index means that in 50 years what the expected height growth of the various species would be. The area is well suited to growing trees.

The main purpose of this inventory is to establish a cost basis of the timber value. In order to do this, the volume by species had to be first determined. The tract was inventoried using the Forest 2000 inventory program which was created from an inventory program by Dr. John W. Moser, Jr. at the School of Forestry and Natural Resources at Purdue University. The program uses the horizontal point sampling method with a wedge prism for tree selection. Predetermined plots (25 in this case) are established and trees are then sampled at the plot locations with the data entered onto a field tally sheet. Information collected at each plot included; species, diameter at chest height, and merchantable height. Notes were made on the quality of the standing trees found as well.

The field data was then entered into the program to produce the inventory results included in this report.

Below is an image produced from the OnX Hunt GPS application which was used to both pre locate the plots and to navigate to the specific plot locations. The plots are indicated by the blue waypoint symbols with the small blue lines being the track that the cruise followed.



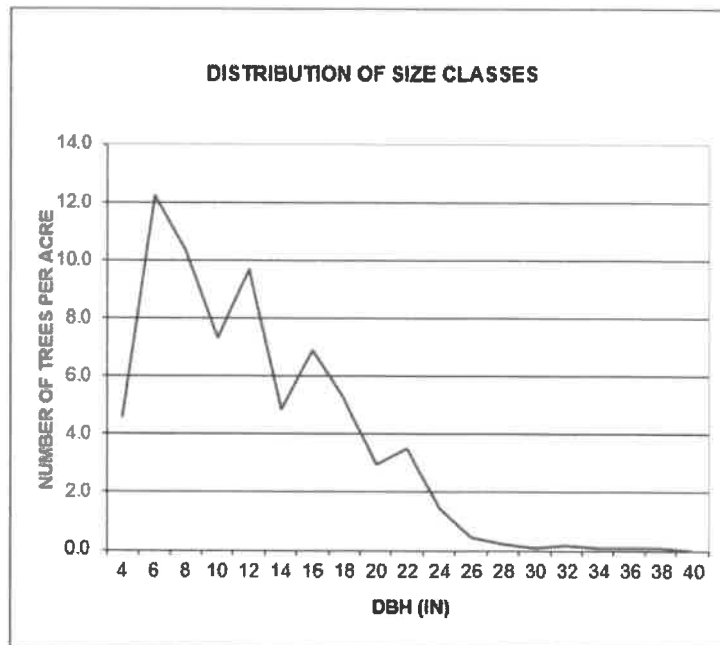
The Forest 2000 program produces several useful sets of data in the form of charts. Following are the results of the cruise data.

**INDIANA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY
SUMMARY AND ANALYSIS OF FOREST INVENTORY 2000
SUMMING ALL TREES**

OWNER: Dunnington Trust **DATE:** 5/13/2024
TRACT: SE1/4Sec.23;T5S;R9W,Ohio TWP;Warrick Cty, IN **FORESTER:** C. S. Bond Forest Management
ACRES: 50.00 **10** over

This inventory was accomplished using a wedge prism or angle gauge with a basal area factor of **10** over **25** sample points. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in feet², and all figures for diameter at breast height (dbh) are in inches.

SUMMARY BY SIZE CLASS			
DBH	VOL. PER ACRE	TREES PER ACRE	BASAL AREA / ACRE
4		4.6	0.4
6		12.2	2.4
8		10.3	3.6
10		7.3	4.0
12	236	9.7	7.6
14	315	4.9	5.2
16	767	6.9	9.8
18	907	5.2	9.2
20	743	2.9	6.4
22	1167	3.5	9.2
24	631	1.4	4.4
26	234	0.4	1.6
28	122	0.2	0.8
30	73	0.1	0.4
32	132	0.1	0.8
34	78	0.1	0.4
36	70	0.1	0.4
38	83	0.1	0.4
40			
TOTAL	5558	69.9	66.8



The above chart shows how the trees are distributed by size, species and volume. Basal Area is simply the cross section of all the trees per acre if measured at 4.5 feet above the stump. An example of this would be if a very large chain saw, held at 4.5 feet above the ground were to cut all of the trees on any given acre and then the cross section area of all those tall stumps were to be measured. Forest managers can use this information to determine how much harvesting can be done on a tract while retaining an adequate growing stock for the future. This is an **Average** of the stand. There are areas where there is a higher basal area as well as areas with lower basal areas. Any harvest plans would take this into

in a potential harvest than just the diameter volumes show. Any harvest decisions would be following the owner's objective as to the extent of harvest volumes.

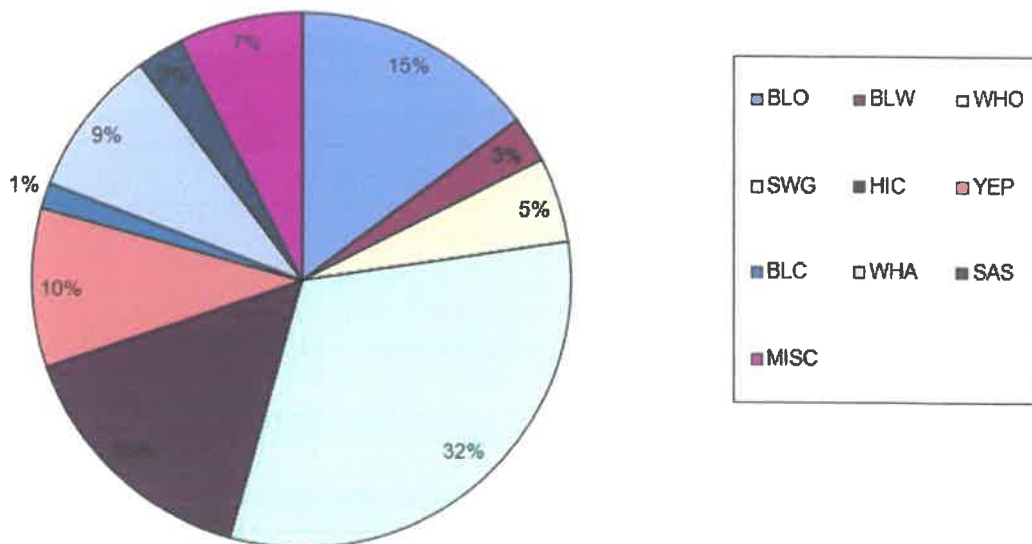
OWNER: Dunnington Trust
 TRACT: SE1/4Sec.23;T5S;R9W,Ohio TWP;Warrick Cty, IN
 ACRES: 50.00

DATE: 5/13/2024
 FORESTER: C. S. Bond Forest Management

SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS												
DBH	*** SPECIES LISTING ***										VOL. PER ACRE	
	BLO	BLW	WHO	SWG	HIC	YEP	BLC	WHA	SAS	MISC		
12	15		15	118	30	30					30	236
14			23	269							23	315
16				416		131	33	87	66	33		767
18	80		30	392	196	43		92			74	907
20	48	48		183	272	48		96			48	743
22		52	158	209	357		52	112	89		140	1167
24	185	55		173		126		110				631
26	234											234
28	61		61									122
30						73						73
32	66										66	132
34	78											78
36	70											70
38						83						83
40												
VOL./ACRE	817	155	285	1760	855	534	85	496	156	414		5558

This last is a simple pie chart which fulfills that need on any data presentation

DISTRIBUTION OF VOLUME PER ACRE



The pie chart does show the large number of Sweet gum trees present on the site which is the first thing noticed upon entering the subject tract especially on the northern end.

Valuation

The inventory data provides the basis for estimating the standing value of the timber on this parcel. Trees are worth what can be made from them minus the cost of processing from standing to delivered logs. Species, quality, and logging costs are considered when evaluating the value of standing trees. Logging costs include overall volume, volume per acre, site terrain, and access to haul roads from the specific site. The species desirability is a market driven factor and quality is a factor specific to the particular stand of trees being examined. Also, to a certain extent, the size of the trees being examined plays a role in the value per board foot. In general, larger trees tend to be more valuable because larger dimension lumber can be milled from larger logs as well as larger trees tend to have less limb defects showing because they have just grown large enough to cover the old limbs with clear wood. This last factor often allows specific species to have veneer quality logs produced from them which makes the logs more valuable.

While this inventory accounted for tree sizes down to approximately 8 inches in diameter at chest height, trees of the lower diameters cannot be considered merchantable at this time. It is however, instructive to have these diameters available to help analyze the stand structure for future planning.

'The Summary of Volume per Acre By Species and Size Class' chart is very useful in understanding what the current value of the standing tract is worth.

This chart allows an analysis of the volumes available by size class and species so that a summary of what is available to harvest can be made.

Species	Bd. Ft./Tract	\$/Bd.Ft.	\$ Value /Species
BLO	40,100	.30	12,030
BLW	7,750	1.75	13,562
WHO	10,850	1.	10,850
SWG	68,650	.30	20,595

HIC	40,800	.3	12,240
YEP	18,650	.35	6,527
BLC	2,000	.35	600
SAS	7,750	.3	2,325
MICS	14,600	.25	3,650
Totals	211,150	AVG .39/bd.Ft.	82,379

The previous chart uses the same abbreviations as the other charts.

The volume represented from this estimated total merchantable value is for **ALL** of the trees on the subject tract that are currently merchantable size by industry utilization stands. It would **NOT** be a recommended harvest volume if the owner's objectives are for a sustainable stand of timber.

A selective harvest where each tree is examined and marked for harvest or not based on the owner's objectives and the silvicultural requirements of that tree would likely be in the volume range of 100,000 board feet to 125,000 board feet with about the same Average value per board foot (\$0.39/bdft).

Summary

The objective of this report was to provide the owners with an estimation of the total volume currently on the tract. (277,909 board feet)

This volume may be used to establish a current cost basis for the stand which may be used for a depletion allowance to offset tax liabilities in the event of a timber sale. The owner and their accounting representative can at the time of a potential sale, determine the volume in board feet which is sold (harvested) and multiply that volume by the average value per board foot (\$.39) which will give the depletion allowance for that particular sale.


A second objective was to determine if in fact there was sufficient volume and value for the owners to consider a harvest.

There are two alternatives here to be explored.

The first alternative would be a harvest of the currently merchantable trees which are estimated to be 211,150 board feet with an estimated value of \$82,379.

A second alternative could be a harvest of approximately 125,000 board feet in a selective harvest with anticipated return of \$48,750.

The subject tract is enrolled in the Indiana Classified Forest Program. There are some restrictions imposed by enrollment in the program which are offset by lower property taxes.

From: Julie Johnson muddpaw@comcast.net 
Subject: Re: Dunnington inventory report and invoice
Date: May 18, 2024 at 8:56 AM
To: Mary Johnson mnmjohnson@charter.net



Sent from my iPad

On May 17, 2024, at 12:54 PM, Sam Bond <sambond4ster1@gmail.com> wrote:

Julie,

'If the creeks don't rise...'

We keep having rain. I don't think that we have teleported to your area but who knows? Got the report finished up. I had to search around my contacts to find some sawmills/loggers that purchased Sweet gum. I needed this to get a handle on how to value the sweet gum in your woods.

They use this material for 'matt' board or road boards to provide a pad for heavy equipment to travel on in a construction site.

In any event, it is a saleable material with one mill owner asking if I was going to have a sale. I told him I did not know but would let him know if the owners decided to have a sale. I didn't mention the ownership name

only that it was in SW Indiana and only bring this up because in my earlier conversation with you I may have sounded negative on the sale of sweet gum. Guess that's not the case.

Hope the report is understandable and helps support any decisions you and your family make.

Thank you for the work and if you have any questions on the report or management of your tract, please let me know.

Best regards,
Sam

--

C. Sam Bond, CF

C. S. Bond Forest

Management

5267 Old St. Rd. 37 N.

Springville, IN 47462

812-345-6999