FOREST MANAGEMENT PLAN

For the

Davis Purdue Agriculture Center (Davis PAC)

Prepared by Don Carlson-Purdue University Forester December 2004 (Updated February 2022)

1. Legal Description and Location

The Davis PAC is located in Section 23, Township 21 North, Range 12 East, containing 622.5 acres in Randolph County, IN. The property is located approximately 15 miles north northeast of Muncie, IN. It is accessed off of State Road 1 between 600 North and 700 North.

2. Physical Description

<u>Soils:</u> Pewano silty clay loam and Blount silt loam are the two primary soil types. They are both poorly to very poorly drained with minimal slopes 0-2%. The major limitations are wetness, ponding, and potential windthrow. Erosion is not a concern. Site index (SI) is a standard measure of soil capability for growing trees. SI is simply how tall a non-suppressed tree can grow in 50 years. The SI for pin oak on Pewano silty clay loam is 90. The reported SI for red and white oak on Blount silt loam is 65.

<u>Topography:</u> The property is typical of the Tipton Till Plain in that is has minimal relieve and gentle slopes. Its maximum elevation above sea level is 970 while the minimum is just under 960 feet along Elkhorn Creek). Several poorly drained depressional areas exist.

<u>Acreage:</u> The total property contains 622.5 acres of which 126.4 acres are established woodlands. The woodlands are divided into 5 primary stands.

- 1. 51 acres (old growth forest)
- 1A.10.9 acres (prior grazed woodlands south of Elkhorn Creek)
- 2. 21.8 acres
- 3. 33.7 acres
- 4. 7.0 acres
- 5. <u>5.3 acre</u>

Total Acres: 129.7 acres

<u>Property lines</u>: Property lines are easily distinguishable or not an issue as the individual woodlands are primarily well within the bounds of the PAC and are bounded by agricultural fields or roads.

3. Forest Description

<u>Background:</u> Prior to 1917, the woodlands were doubtlessly protected for many years except for probable minimal disturbances such as sanitation cutting and grazing by cattle. In 1917, Martha F. Davis bequeathed 385 acres to the state of Indiana for the use and benefit of the Trustees of Purdue University. Within this agreement, several stipulations were agreed to. Of prominent importance in management considerations are three stipulations summarized below.

• Purdue "agrees to keep the present wooded tract on the farm as a forest reserve, to be an example of Indiana native forest, preserving all native trees and plants in their natural condition. It is further agreed that no timber shall ever be cut or sold for commercial purposes from this tract."

However, in the following paragraph, it is stated that "Trees damaged by action of the elements, it shall be permitted to cut the same and in that event the timber from the trees so cut shall be used in making improvement on the said real estate, and in no case or under no circumstances shall any timber be sold for commercial purposes....."

- Purdue also "agrees to keep and maintain the forest land in such condition that it will be a refuge for all song birds and other useful birds....and at no time shall it be permitted to be used by the sportsman for the sport of killing any birds or game...."
- Purdue "shall endeavor to keep from becoming extinct our fine native wild flowers, medicinal plants and trees....."

Purdue University and its Department of Forestry and Natural Resources understand the importance of preserving this forest. The Department also understands that if the first two points of this agreement are maintained to the letter, the last point will not be met. For example, it is now known that the natural oaks are not regenerating in the understory and that over time they will continue to decline in numbers while more shade tolerant species will continue to increase. It is also a fact that uncontrolled wildlife species, especially white-tailed deer, can do serious harm to the flora of a forest. This impacts the forest and the species which inhabit it for many years to come. Over time the conflicts of these agreements became increasingly clear to Purdue University staff charged with managing this treasured resource.

To assist in understanding of how the will of Mrs. Davis was used and interpreted in the management of the Davis PAC woodlands, it is necessary to summarize some of the events of the past. This is accomplished nicely in a 1964 report concerning the Davis PAC woodlands, by Thomas W. Beers, associate professor of forestry. He stated the following:

"Up until 1960, although more than 100,000 board feet of lumber were cut from storm damaged and defective trees (observe the many farm buildings built from this lumber), little formal forest management was practiced. This was primarily due to the interpretation of the Davis' will – that no commercial sale of timber could take place. The Department of Forestry felt, however, that maintaining the large 51-acre woodland in a natural condition while managing the remaining woodlands according to sound forestry practices was within the intent of the will, and to this end an initial forest management plan was prepared. This plan has as its main objective "the maintenance of the woodlots in a natural and productive condition as an example of an "Indiana native forest." Removal of trees will be done in an orderly fashion so as to build up the growing

stock of the woodlots and provide for their perpetuation as a combined producing unit. The 51acre woodlot which is a fine example of old-growth, will be preserved as a natural area where no cutting will be done, except to utilize damaged or dying trees if their removal does not seriously affect research being carried out in the compartment.

In December, 1963, authorization was received from the University to "cut timber on this farm in accordance with sound forestry practices, provided that the net income from such cutting be applied to improvement to the woodlots on the Farm." Income and expenditures are to be reported annually to the Board of Trustees."

Since this time, four additional timber sales were completed in 1964 (Comp. 3 & 4), 1979 (Comp. 3), 2006 (Comp. 3), and 2018 (Comp. 2) along with other forest health and vigor improvement practices such as timber stand improvement and grape vine control. In addition, the 51 acre Compartment 1 was officially dedicated as a National Natural Landmark by the National Park Service on April 7, 1975.

<u>Stand Characteristics</u>: The forest is uneven-aged over all with pockets of even-aged trees from past disturbances. The past management has been to maintain this characteristic while maintaining the health and regeneration of the diversity of species on the woodlands.

<u>Species Composition</u>: The overstory is a mix of typical upland hardwood species including oak, maple, walnut, ash, basswood, beech and hickory. The midstory and understory of the undisturbed compartments are increasingly dominated by shade tolerant species, mainly sugar maple. For example, Compartment 2' maples per acre increased from 25 (12.2%) in 1986 to 42.5 (21.4%) in 2004 to 60 (30.9%) in 2018. While shade tolerant tree numbers are increasing, shade intolerants are declining in undisturbed compartments. As time progresses and the large diameter canopy trees, especially the oaks, continue to die out, the unmanaged forests will increasingly convert to a climax forest of shade tolerant tree species such as maple and beech barring no major disturbances that create large gaps in the forest canopy.

Compartment 3 has received management over the last 60 years in the form of three timber harvests and periodic timber stand improvement practices. The changes in numbers of a given species by percentage of the total number of trees per acre have been maintained to within a few percentage points for all species (except in recent years for ash). As expected, the oaks show minimal regeneration except in the larger regeneration opening resulting from the 2006 timber sale.

When considering species composition, it should be first noted that the majority of ash trees greater than four inches in diameter were killed when the non-native emerald ash bore invasion swept through eastern Indiana between 2010-2020. It is evident that ash seedlings and some small trees have persisted and will presumably once again re-establish themselves in the woodlands of Davis PAC (and throughout most of their native range) but in lower numbers and densities.

<u>General Size Classes:</u> The forest canopy in compartments 1 is dominated by large to very large trees such as red, white, swamp white, and bur oak along with walnut. Some of the oaks, especially in Compartment 1, exceed 3 feet in diameter. The managed compartments also

maintain a canopy of large saw timber trees of similar species distribution except in the regeneration openings created through harvesting timber.

Regeneration openings were established in areas of declining timber vigor and value. The openings were initiated by marking and harvesting all merchantable trees within the opening. Following the harvest of the trees, timber stand improvement (TSI) was conducted throughout the harvest acres. In the openings, TSI focused on the deadening/cutting of all residual trees greater than 1-inch DBH. These trees were cut down to allow full sunlight to hit the forest floor. This abundant sunlight has since allowed the establishment of diverse stands of vigorous, young trees ranging in size from 0-20 inches DBH dependent upon the age and size of the openings.

Below is a brief chart comparing the average diameter of trees by compartment for years 1986, 2004, and 2018.

| COMPARTMENT | AVE. DBH OF TREES GREATER THAN 3 INCHES DBH | | | | | | | |
|-------------|---|------|------|--|--|--|--|--|
| COMPARTMENT | 1986 | 2004 | 2018 | | | | | |
| 1 | - | - | | | | | | |
| 2 | 9.3 | 10.8 | 10.6 | | | | | |
| 3 | 9.7 | 10.1 | 9.0 | | | | | |
| 4 | 9.3 | 9.8 | 11.6 | | | | | |

<u>Stocking</u>: Forest stocking is a measurement of forest density and is primarily influenced by site quality, age, and species. Stocking is theoretically determined by measuring the amount of surface area on the cut surface of stumps if all the trees in a given area were cut off at 4.5 feet above the ground. This is called the basal area (BA) and is generally given in ft² per acre. This measurement is taken through nondestructive means by measuring tree diameters at dbh. All trees can be measured or various sampling techniques can be used to determine basal area.

Below is a brief chart comparing the BA by compartments for years 1986, 2004, and 2018. It is important to realize that Compartment 2 has not been cut in many years, Compartment 3 was cut in 1964, 1979, and 2006 and Compartment 4 was last cut in 1964. Compartment 3 has also had timber stand improvement conducted multiple times which has deadened numerous damaged and defective trees, trees excessively competing with desired crop trees, and EVERY tree within the 6 acres regeneration opening established in 2008.

| COMPARTMENT | AVE. BA OF TREES GREATER THAN 3 INCHES DBH | | | | | | | |
|-------------|--|------------|------------|--|--|--|--|--|
| COMPARIMENT | 1986 | 2004 (ash) | 2018 (ash) | | | | | |
| 1 | - | - | - | | | | | |
| 2 | 97.4 | 126 (13%) | 118 (0.2%) | | | | | |
| 3 | 88.6 | 130 (15%) | 89 (0.7%) | | | | | |
| 4 | 97.8 | 128 (18%) | 117 (0.1%) | | | | | |

Inventory Data: See attached 1986, 2004 and 2018 Volume Summaries for CFI Plots on Compartments 2, 3, & 4.

An important segment of forest growth data that can be easily demonstrated by the inventory data is how the timber volume of a woodland is influence through management over time. Timber volume is influenced by soils and environmental factors along with the tree species grown and the competition each species is encountering. The Davis PAC offers a unique opportunity to compare these changes in volume assuming the soils and environmental factors have been relatively consistent on all compartments and that all compartments started off with the same comparable mix of species and size classes.

| | Timbe | er Volu | me Har | vested | Volume per Acre | | | Total Volume Grown During Last 32 | | | | |
|-------|-------|-----------|-----------|--------|-----------------|------------|-------|-----------------------------------|------------|-----------|--|--|
| COMP. | | / A | cre | | | | | | Years | | | |
| COMI. | (| (Board Fe | eet Doyle | e) | (Boa | rd Feet De | oyle) | e) | | | | |
| | 1964 | 1979 | 2006 | 2018 | 1986 | 2004 | 2018 | 1986-2004 | 2004-2018 | 1986-2018 | | |
| 1 | - | - | - | - | - | - | | - | - | _ | | |
| 2 | - | - | - | * | 4961 | 9150 | 7804 | 4189 | ** (-1346) | 2843 | | |
| 3 | 1729 | 1930 | 2898 | - | 5654 | 9244 | 4982 | 7249 | ** (-1364) | 5885 | | |
| 4 | 1729 | - | - | - | 3217 | 5791 | 6045 | 4303 | 4557 | | | |

* The 2018 inventory took place in August prompting a November 2018 timber sale on Comp 2. ** During 2010-2018, additional decreases in volume occurred due to ash mortality. Comp. 2 lost ~13%, Comp. 3 lost ~9%, and Comp. 4 lost ~17%.

4. Unique Features

<u>Physical:</u> Woodlands in highly productive agricultural lands are generally on the poorly drained lands and have typically been heavily disturbed by grazing, burning, or heavy timber harvesting. The Davis PAC woodlands are an exception. It is situated on some poorly drained / depressional areas, but its protection has resulted in minimal disturbance over most of the acres with some areas of light to moderate disturbance through the harvesting of timber.

<u>Biological:</u> This forest provides excellent wildlife habitat for a variety of species, none of which are known to be endangered or threatened.

<u>Cultural</u>: The Davis family obviously had a tremendous appreciation for the outdoors, especially in regards to the forest and birds. This is reflected in their strong desire to see this forest protected.

5. History

<u>Acquisition Date:</u> In 1917, Martha F. Davis gifted 385 acres to Purdue University in honor of her deceased son. This original acreage contains Compartments 1-4.

<u>Fire:</u> A surface fire occurred in the western 6-7 acres of Compartment 1 in April of 1971. The fire reportedly killed a few larger trees and considerably opened up the understory.

Grazing: Compartments 1-4 have thankfully been protected from grazing since at least 1921. The 11 acre section of woods east of Compartment 1 and south of Elkhorn Creek was grazed more recently.

Inventory:

- 1926-7: The first recorded timber inventory was accomplished by Professor Burr N. Prentice when he measured, tagged, and recorded data on all trees greater than 4" dbh. This involved a massive amount of data from over 7,000 trees to be calculated without the aid of computers.
- 1959: J.C. Callahan installed and measured 61 one-fifth acre permanent, continuous forest inventory (CFI) plots. On these plots, all trees 3.0" dbh and greater are measured while all trees 9.0" dbh and greater are permanently numbered and data taken such as species, dbh, merchantable length, tree height, volume, grade, tree health, soundness, and status.
- 1961-2: T.W. Beers completed a 100% inventory by species and diameter class on Compartment 1.
- 1971: A 100% inventory was completed in compartment 1. All trees 5.0" dbh and greater were measured.
- October 1975: CFI plots in Compartment 2, 3, and 4 were remeasured by L. Fix.
- *February 1986: CFI plots in Compartments 2, 3, and 4 were remeasured by G. Parker.
- *July 2004: CFI plots in Compartments 2, 3, and 4 were remeasured by D. Carlson.
- *August 2018: CFI plots in Compartments 2, 3, and 4 were remeasured by D. Carlson.

<u>Research Studies</u>: Several research studies have taken place on the Davis PAC involving forest ecology, growth of natural oak seedlings verses seedling sprouts, and the enrichment of regeneration of species like red, bur, and swamp white oak, walnut, and butternut. Some important research data continues to be collected in the form of CFI and 100% inventory data. Through these inventories, there is sufficient data to compare to more recent inventories in an effort to understand how natural and managed forests change over time.

<u>Harvests:</u> This forest has been managed for timber in one degree or another since the Davis's first lived on the property. The initial management had been primarily in the form of harvesting dead, dying, and damaged trees. The first recorded timber harvest took place in 1941. During 1941-1963, approximately 104,000 board feet of lumber was harvested from the Davis PAC and was used as farm lumber to build structures on the property. The harvests of 1964 and 1979 were performed to not only remove dead, dying, and damaged trees but also trees of poor vigor and form, especially where they were competing with other more desirable trees. The 2006 and 2018 timber harvest were conducted to improve forest health and vigor by reducing stocking, removing selected mature and over mature trees to release desirable trees from excessive competition and create regeneration openings to diversify the forest, improve wildlife habitat, capture mortality, and regenerate desirable trees.

| Year | Compartment | ompartment Bd Ft/Acre Total Bd. Ft | | \$\$ / Acre | Total \$\$ |
|------|-------------|------------------------------------|--------|--------------------|------------|
| 1964 | 3 & 4 | 1,729 | 70,362 | \$90 | \$3,611 |
| 1979 | 3 | 1,930 | 65,040 | \$899 | \$30,300 |
| 2006 | 3 | 2,898 | 97,674 | \$2,222 | \$74,880 |
| 2018 | 2 | 2,834 | 61799 | \$6,958 | \$151,688 |

The recent timber harvest summaries are listed below.

Specific Management Activities (not including timber harvesting or inventory):

- 1975 13.4 acres of TSI were completed in Compartment 2 to release walnut pole and small sawtimber from excessive crown competition. Grape vines were also cut.
- 1978 13.1 acres of TSI were completed on the south half of Compartment 3 to deaden grapevines and cull trees.
- 1980 Five 1/5th acre plots lacking desirable reproduction were cleared and planted to red oak seedlings in compartment 3 in a research study conducted by Phil Pope.
- 1982 The access trail was established in Compartment 3.
- 1982 Grape vines were controlled.
- 2003 A 3-acre demonstration tree planting was established south of elkhorn Creek adjacent to Hwy 1 in the old building site/pasture. Crop trees were periodically released from excessive competition as time allowed 2015-2021.
- 2008 Post-harvest TSI completed in Compartment 3.
- 2008 A 2-acre demonstration tree planting in Compartment 3 established in cleared 6 acre regeneration opening. 8x8 planted red and white oak alternated with cherry and walnut. 1 acre south of the center lane enclosed by a 7.5 ft plastic deer fence. No data was taken due to the excessive high water table and high seedling mortality. However, many planted trees still faired well and regeneration thrives.
- 2018 Comp 2: Invasive plant control (including spice bush in high density areas)
- 2020 Comp 2: ~12 acres post-harvest TSI completed, including 8-10 acres of openings .
- 2020 Comp 2: Enrichment planting established in regeneration openings.
 - Planted:
 - 300 black walnut (~100 tubed)
 - 200 pure butternut (~75 tubed)
 - 200 hybrid butternut (`75 tubed)
 - 300 bur oak
 - 30 pecan, 30 red oak, and 30 swamp white oak

6. Forest Management Concerns

The major forest management concern is how to maintain the health and vigor of this important forest resource for generations to come while meeting as nearly as possible the desires of the Davis will. Invasive plant and insects can have major impacts on the forest and should be included in management decisions.

7. Management Objectives

The present objectives for ownership of the woodlands on this property are:

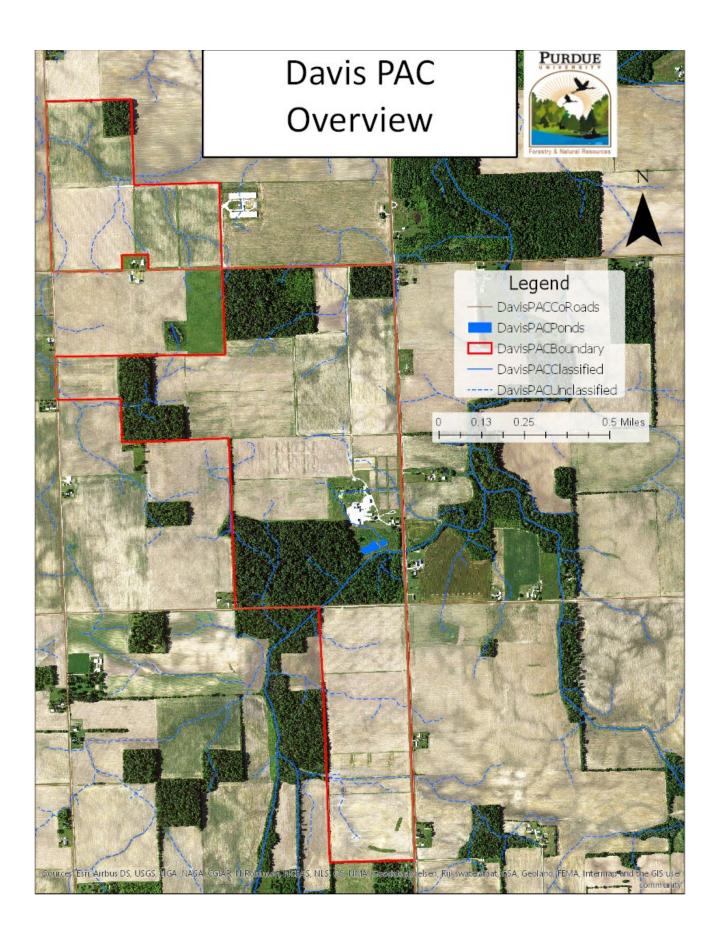
- To ensure the forest is protected for future generations to enjoy.
- To encourage and support the use of the forest for educational purposes.
- To continue to preserve Compartment 1 in its natural state with minimal unnatural disturbances while periodically conducting a 100% inventory.
- To continue to manage Compartments 2, 3, and 4 using sound forest management practices to maintain and enhance the health, vigor, and productivity of the forest for research and demonstration purposes.
- To continue to remeasure the CFI plots to track the long-term changes occurring in this forest and relay that information through public / professional educational programs.

8. Implementation Plan

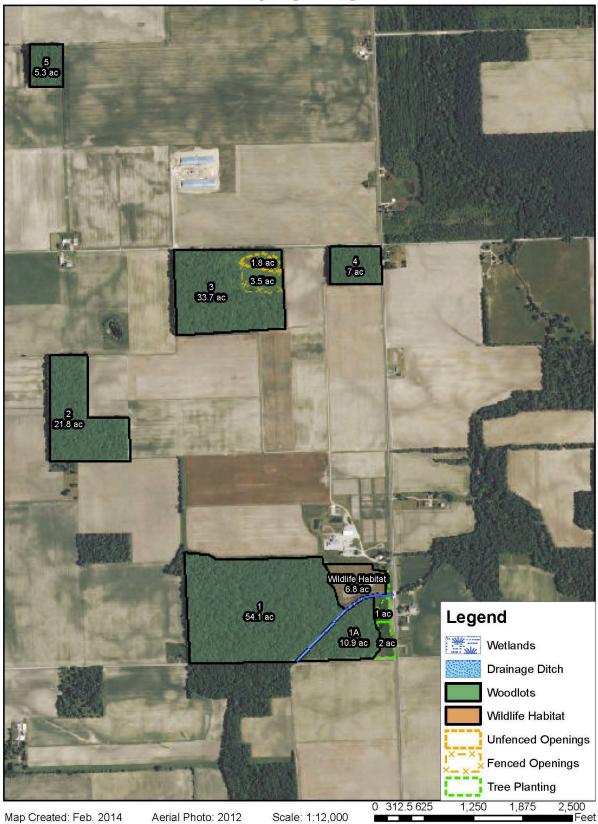
Realizing the importance of this forest for its natural value and education / demonstration potential, the continued periodic inventories should be a priority. Compartment 1 should continue to be protected from unnatural disturbances. Compartments 2, 3, and 4 should be managed using sound forest management practices, including harvesting, to demonstrate how these practices affect the long-term characteristics / productivity of native Indiana woodlots.

9. Summary

| Year | Task to be completed |
|-----------|---|
| 2022-26 | Conduct a 100% inventory of Compartment 1 and remeasure CFI plots on Compartments 2, 3, and 4. |
| 2022-2024 | Complete the release of crop trees in the 2008 6-acre regeneration opening |
| 2024-2035 | Ensure vigorous, planted trees and desirable naturally regenerating trees in the Comp 2 regeneration opening are in free to grow status. |
| 2025-30 | Conduct an improvement harvest on Compartments 3 & 4 to remove |
| | damaged, dying, and defective trees and those excessively competing with healthy, more desirable trees. In areas where stocking of healthy, desirable overstory trees is lacking, the creation of natural regeneration openings should be considered. Follow up with post-harvest TSI on Comp 3. Comp 4 should continue to be harvested periodically but with no TSI to demonstrate the impacts of TSI on forest growth. |
| 2026-2031 | Complete the release of crop trees in the 2003 demonstration tree planting. |
| 2030-33 | Conduct an improvement harvest on Compartments 2 according to the above guidelines. Follow up with TSI. |



Davis PAC



SUMMARY AND ANALYSIS OF CFI

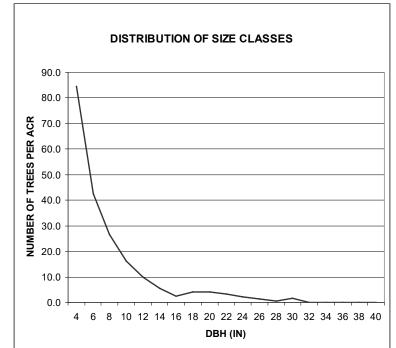
| OWNER: | Purdue l | Jniversity | DATE: | February 1986 |
|---------|----------|--------------------|-----------|---------------|
| COMPART | MENT: | Davis PAC- Comp. 2 | FORESTER: | G. Parker |
| ACRES: | 20.00 | | | |

This inventory was accomplished by measuring all trees greater than 3" on 1/5 acre plots.

Sawtimber trees (9"+ dbh) measured on 12 plots. Pole trees (3" - 8.9" dbh) measured on 12 plots. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in square feet, and all figures for

diameter at breast height (dbh) are in inches. Volumes were adjusted for soundness and reconciled to other inventories.

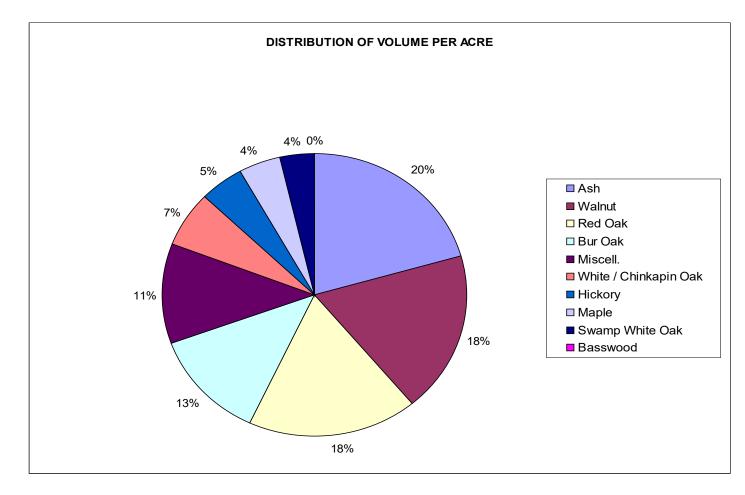
| SUMMARY BY SIZE CLASS | | | | | | | | | | |
|-----------------------|---------------------|----------------------|-------------------------|--|--|--|--|--|--|--|
| DBH | VOL. PER ACRE | TREES PER ACRE | BASAL AREA / ACRE | | | | | | | |
| 4 | | 84.6 | 7.4 | | | | | | | |
| 6 | | 42.5 | 8.3 | | | | | | | |
| 8 | | 26.7 | 9.3 | | | | | | | |
| 10 | | 16.3 | 8.9 | | | | | | | |
| 12 | 37 | 10.0 | 7.9 | | | | | | | |
| 14 | 231 | 5.4 | 5.8 | | | | | | | |
| 16 | 306 | 2.5 | 3.5 | | | | | | | |
| 18 | 693 | 4.2 | 7.4 | | | | | | | |
| 20 | 956 | 4.2 | 9.1 | | | | | | | |
| 22 | 929 | 3.3 | 8.8 | | | | | | | |
| 24 | 618 | 2.1 | 6.5 | | | | | | | |
| 26 | 598 | 1.3 | 4.6 | | | | | | | |
| 28 | 199 | 0.4 | 1.8 | | | | | | | |
| 30 | 395 | 1.7 | 8.2 | | | | | | | |
| 32 | | | | | | | | | | |
| 34 | | | | | | | | | | |
| 36 | | | | | | | | | | |
| 38 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| TOTAL | 4961 | 205.0 | 97.4 | | | | | | | |



| | SUMMARY BY SPECIES | | | | | | | | | | |
|-----------------------|---------------------|-----------------------------|----------------------|------------------------------|------------------------|---------------------------|-------------|--|-----------------------|--|--|
| SPECIES | VOL. PER ACRE | PCT. OF PER ACRE VOL. | TREES PER ACRE | PCT. OF PER ACRE TREES | BASAL AREA/ ACRE | PCT. OF PER ACRE BA | AVG. DBH | | TOTAL STAND VOLUME | | |
| Ash | 1016 | 20.5% | 10.4 | 5.1% | 13.3 | 13.7% | 15.3 | | 20,325 | | |
| Walnut | 909 | 18.3% | 6.3 | 3.0% | 10.4 | 10.7% | 17.5 | | 18,175 | | |
| Red Oak | 899 | 18.1% | 4.2 | 2.0% | 11.2 | 11.5% | 22.2 | | 17,983 | | |
| Bur Oak | 624 | 12.6% | 10.0 | 4.9% | 9.4 | 9.6% | 13.1 | | 12,475 | | |
| Miscell. | 561 | 11.3% | 83.3 | 40.7% | 19.9 | 20.4% | 6.6 | | 11,217 | | |
| White / Chinkapin Oak | 324 | 6.5% | 1.3 | 0.6% | 2.7 | 2.8% | 20.1 | | 6,475 | | |
| Hickory | 236 | 4.8% | 57.1 | 27.8% | 19.3 | 19.8% | 7.9 | | 4,717 | | |
| Maple | 212 | 4.3% | 25.0 | 12.2% | 7.2 | 7.4% | 7.3 | | 4,242 | | |
| Swamp White Oak | 181 | 3.6% | 2.9 | 1.4% | 3.0 | 3.1% | 13.8 | | 3,617 | | |
| Basswood | | | 4.6 | 2.2% | 0.9 | 0.9% | 5.9 | | - | | |
| PER ACRE TOTALS | 4961 | 100.0% | 205.0 | 100.0% | 97.4 | 100.0% | 9.3 | | 99,225 | | |

OWNER: Purdue University TRACT: Davis PAC- Comp. 2 ACRES: 20.00 DATE: FORESTER: February 1986 G. Parker

| | รเ | JMMAR | OF VO | LUME P | ER ACR | E BY SP | ECIES | AND SIZ | E CLAS | S | |
|-----------|------|--------|---------|---------|----------|-----------------------------|---------|---------|--------------------|----------|-------------|
| | | | | *** SP | ECIES | LISTIN | NG *** | | | | VOL. |
| DBH | Ash | Walnut | Red Oak | Bur Oak | Miscell. | White / Chinkapin Oak | Hickory | Maple | Swamp White Oak | Basswood | PER ACRE |
| 12 | 10 | | | | 10 | | 4 | 14 | | | 37 |
| 14 | 17 | 82 | 60 | 47 | | | 17 | | 8 | | 231 |
| 16 | 54 | | | | 153 | | 54 | | 46 | | 306 |
| 18 | 136 | 86 | 150 | 211 | 35 | 75 | | | | | 693 |
| 20 | 263 | | | 231 | 164 | 99 | | 198 | | | 956 |
| 22 | 106 | 419 | 127 | | | 150 | | | 127 | | 929 |
| 24 | | 322 | | 135 | | | 161 | | | | 618 |
| 26 | 166 | | 233 | | 200 | | | | | | 598 |
| 28 | 199 | | | | | | | | | | 199 |
| 30 | 65 | | 330 | | | | | | | | 395 |
| 32 | | | | | | | | | | | |
| 34 | | | | | | | | | | | |
| 36 | | | | | | | | | | | |
| 38 | | | | | | | | | | | |
| 40 | | | | | | | | | | | |
| VOL./ACRE | 1016 | 909 | 899 | 624 | 561 | 324 | 236 | 212 | 181 | | 4961 |



SUMMARY AND ANALYSIS OF CFI

OWNER: Purdue University

COMPARTMENT: Davis PAC- Compartment 3

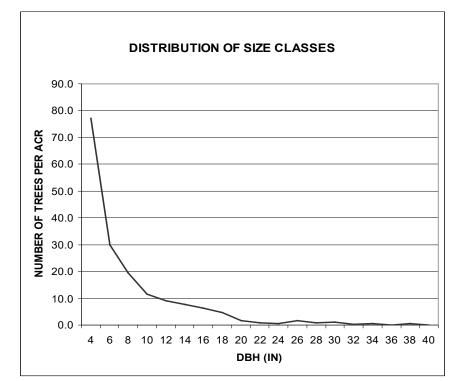
DATE: FORESTER: February 1986 G. Parker

ACRES: 33.30

This inventory was accomplished by measuring all trees greater than 3" on 1/5 acre plots.

Sawtimber trees (9"+ dbh) measured on 20 plots. Pole trees (3" - 8.9" dbh) measured on 20 plots. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in square feet, and all figures for diameter at breast height (dbh) are in inches. Volumes were adjusted for soundness and reconciled to other inventories.

| SUMMARY BY SIZE CLASS | | | | | | | | | |
|-----------------------|---------------------|----------------------|-------------------------|--|--|--|--|--|--|
| DBH | VOL. PER ACRE | TREES PER ACRE | BASAL AREA / ACRE | | | | | | |
| 4 | | 77.0 | 6.7 | | | | | | |
| 6 | | 30.0 | 5.9 | | | | | | |
| 8 | | 19.5 | 6.8 | | | | | | |
| 10 | | 11.5 | 6.3 | | | | | | |
| 12 | 72 | 9.0 | 7.1 | | | | | | |
| 14 | 330 | 7.8 | 8.3 | | | | | | |
| 16 | 590 | 6.3 | 8.7 | | | | | | |
| 18 | 645 | 4.8 | 8.4 | | | | | | |
| 20 | 429 | 1.8 | 3.8 | | | | | | |
| 22 | 139 | 0.8 | 2.0 | | | | | | |
| 24 | 227 | 0.5 | 1.6 | | | | | | |
| 26 | 773 | 1.8 | 6.5 | | | | | | |
| 28 | 472 | 0.8 | 3.2 | | | | | | |
| 30 | 540 | 1.0 | 4.9 | | | | | | |
| 32 | 169 | 0.3 | 1.4 | | | | | | |
| 34 | 608 | 0.5 | 3.2 | | | | | | |
| 36 | | | | | | | | | |
| 38 | 662 | 0.5 | 3.9 | | | | | | |
| 40 | | | | | | | | | |
| TOTAL | 5654 | 173.5 | 88.6 | | | | | | |

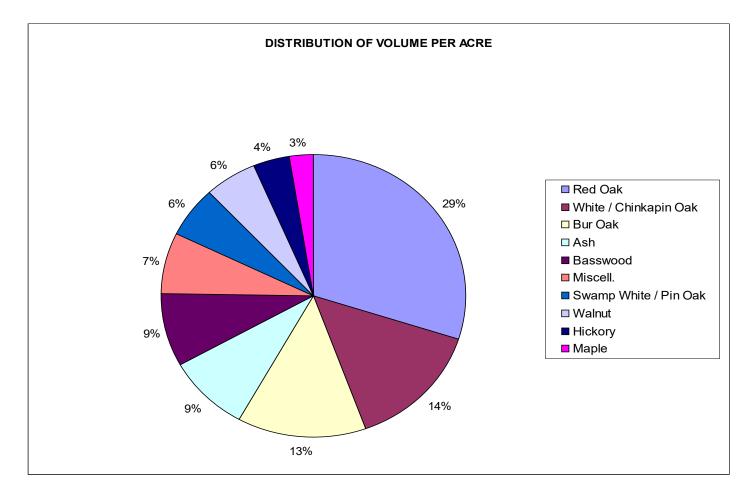


| | | | SUM | MARY B | Y SPEC | IES | | |
|-----------------------|---------------------|-----------------------------|----------------------|------------------------------|------------------------|---------------------------|-------------|-----------------------|
| SPECIES | VOL. PER ACRE | PCT. OF PER ACRE VOL. | TREES PER ACRE | PCT. OF PER ACRE TREES | BASAL AREA/ ACRE | PCT. OF PER ACRE BA | AVG. DBH | TOTAL STAND VOLUME |
| Red Oak | 1694 | 30.0% | 6.5 | 3.7% | 13.3 | 15.0% | 19.4 | 56,402 |
| White / Chinkapin Oak | 821 | 14.5% | 2.3 | 1.3% | 6.2 | 7.0% | 22.4 | 27,339 |
| Bur Oak | 766 | 13.5% | 3.3 | 1.9% | 6.0 | 6.7% | 18.3 | 25,491 |
| Ash | 497 | 8.8% | 20.8 | 12.0% | 9.7 | 10.9% | 9.3 | 16,558 |
| Basswood | 485 | 8.6% | 18.3 | 10.5% | 11.6 | 13.1% | 10.8 | 16,142 |
| Miscell. | 390 | 6.9% | 86.8 | 50.0% | 21.0 | 23.8% | 6.7 | 12,995 |
| Swamp White / Pin Oak | 324 | 5.7% | 4.5 | 2.6% | 3.6 | 4.0% | 12.0 | 10,798 |
| Walnut | 316 | 5.6% | 6.3 | 3.6% | 6.8 | 7.7% | 14.2 | 10,523 |
| Hickory | 216 | 3.8% | 8.5 | 4.9% | 5.3 | 6.0% | 10.7 | 7,193 |
| Maple | 145 | 2.6% | 16.5 | 9.5% | 5.1 | 5.7% | 7.5 | 4,829 |
| PER ACRE TOTALS | 5654 | 100.0% | 173.5 | 100.0% | 88.6 | 100.0% | 9.7 | 188,270 |

OWNER:Purdue UniversityTRACT:Davis PAC- Compartment 3ACRES:33.30

DATE: FORESTER: February 1986 G. Parker

| | SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS | | | | | | | | | | | |
|-----------|--|-----------------------------|---------|--------|----------|----------|-----------------------------|--------|---------|-------|-------------|--|
| | | | | *** SF | PECIES | LISTI | NG *** | | | | VOL. | |
| DBH | Red Oak | White / Chinkapin Oak | Bur Oak | Ash | Basswood | Miscell. | Swamp White / Pin Oak | Walnut | Hickory | Maple | PER ACRE | |
| 12 | 6 | | 3 | 6 | 19 | 8 | | 8 | 12 | 11 | 72 | |
| 14 | 10 | | 36 | 41 | 88 | 14 | 39 | 45 | 57 | | 330 | |
| 16 | 32 | 43 | 15 | 69 | 49 | 92 | 101 | 86 | 103 | | 590 | |
| 18 | 38 | 60 | | 184 | 73 | 38 | 45 | 30 | 45 | 134 | 645 | |
| 20 | | | 108 | 127 | 85 | 69 | | 39 | | | 429 | |
| 22 | | | 90 | | | | | 50 | | | 139 | |
| 24 | 114 | | 114 | | | | | | | | 227 | |
| 26 | 435 | 140 | | | | | 140 | 59 | | | 773 | |
| 28 | | | 400 | 71 | | | | | | | 472 | |
| 30 | 369 | | | | 171 | | | | | | 540 | |
| 32 | | | | | | 169 | | | | | 169 | |
| 34 | 338 | 270 | | | | | | | | | 608 | |
| 36 | | | | | | | | | | | | |
| 38 | 353 | 310 | | | | | 1 | | | | 662 | |
| 40 | | | | | | | | | | | | |
| VOL./ACRE | 1694 | 821 | 766 | 497 | 485 | 390 | 324 | 316 | 216 | 145 | 5654 | |



SUMMARY AND ANALYSIS OF CFI

OWNER: Purdue University

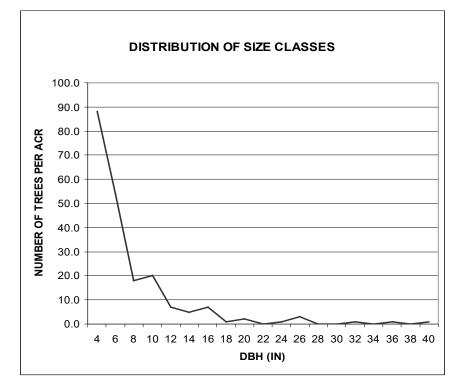
COMPARTMENT: Davis PAC-Comp. 4 DATE: FORESTER: February 1986 G. Parker

ACRES: 7.00

This inventory was accomplished by measuring all trees greater than 3" on 1/5 acre plots.

plots. Pole trees (3" - 8.9" dbh) measured on Sawtimber trees (9"+ dbh) measured on 5 plots. 5 All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in square feet, and all figures for diameter at breast height (dbh) are in inches. Volumes were adjusted for soundness and reconciled to other inventories.

| SUMM | ARY BY | SIZE CL | ASS |
|-------|---------------------|----------------------|-------------------------|
| DBH | VOL. PER ACRE | TREES PER ACRE | BASAL AREA / ACRE |
| 4 | | 88.0 | 7.7 |
| 6 | | 54.0 | 10.6 |
| 8 | | 18.0 | 6.3 |
| 10 | | 20.0 | 10.9 |
| 12 | 30 | 7.0 | 5.5 |
| 14 | 158 | 5.0 | 5.3 |
| 16 | 674 | 7.0 | 9.8 |
| 18 | 150 | 1.0 | 1.8 |
| 20 | 349 | 2.0 | 4.4 |
| 22 | | | |
| 24 | 86 | 1.0 | 3.1 |
| 26 | 1035 | 3.0 | 11.1 |
| 28 | | | |
| 30 | | | |
| 32 | | 1.0 | 5.6 |
| 34 | | | |
| 36 | 735 | 1.0 | 7.1 |
| 38 | | | |
| 40 | | 1.0 | 8.7 |
| TOTAL | 3217 | 209.0 | 97.8 |

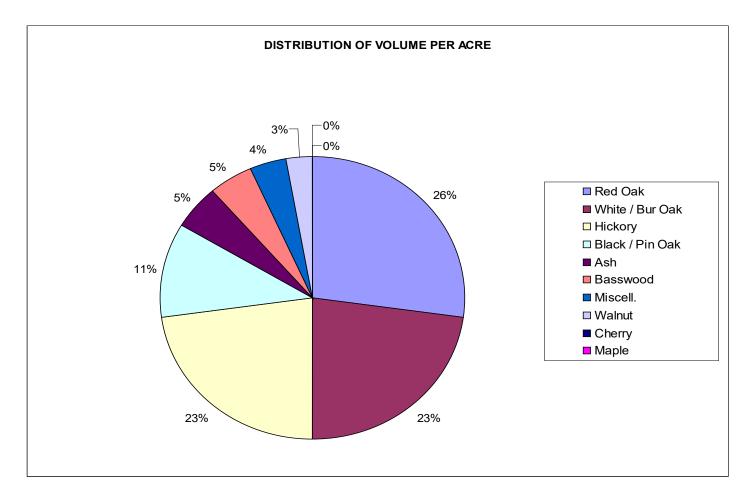


| | SUMMARY BY SPECIES | | | | | | | | | | | |
|-----------------|---------------------|-----------------------------|----------------------|------------------------------|------------------------|---------------------------|-------------|--|-----------------------|--|--|--|
| SPECIES | VOL. PER ACRE | PCT. OF PER ACRE VOL. | TREES PER ACRE | PCT. OF PER ACRE TREES | BASAL AREA/ ACRE | PCT. OF PER ACRE BA | AVG. DBH | | TOTAL STAND VOLUME | | | |
| Red Oak | 877 | 27.3% | 17.0 | 8.1% | 18.8 | 19.2% | 14.2 | | 6,139 | | | |
| White / Bur Oak | 735 | 22.8% | 8.0 | 3.8% | 16.6 | 17.0% | 19.5 | | 5,145 | | | |
| Hickory | 727 | 22.6% | 35.0 | 16.7% | 16.1 | 16.5% | 9.2 | | 5,089 | | | |
| Black / Pin Oak | 348 | 10.8% | 5.0 | 2.4% | 5.5 | 5.6% | 14.1 | | 2,436 | | | |
| Ash | 167 | 5.2% | 29.0 | 13.9% | 8.4 | 8.6% | 7.3 | | 1,169 | | | |
| Basswood | 150 | 4.7% | 34.0 | 16.3% | 12.6 | 12.9% | 8.3 | | 1,050 | | | |
| Miscell. | 127 | 3.9% | 71.0 | 34.0% | 15.8 | 16.1% | 6.4 | | 889 | | | |
| Walnut | 86 | 2.7% | 1.0 | 0.5% | 1.4 | 1.4% | 16.0 | | 602 | | | |
| Cherry | | | 3.0 | 1.4% | 0.7 | 0.8% | 6.7 | | - | | | |
| Maple | | | 6.0 | 2.9% | 1.8 | 1.9% | 7.4 | | - | | | |
| PER ACRE TOTALS | 3217 | 100.0% | 209.0 | 100.0% | 97.8 | 100.0% | 9.3 | | 22,519 | | | |

OWNER:Purdue UniversityTRACT:Davis PAC-Comp. 4ACRES:7.00

DATE: FORESTER: February 1986 G. Parker

| | รเ | JMMARY | OF VO | | ER ACR | RE BY SP | ECIES | AND SIZ | E CLAS | 5 | |
|-----------|---------|--------------------|---------|--------------------|--------|----------|----------|---------|--------|-------|-------------|
| | | | | *** SP | ECIES | LISTI | NG *** | | | | VOL. |
| DBH | Red Oak | White / Bur Oak | Hickory | Black / Pin Oak | Ash | Basswood | Miscell. | Walnut | Cherry | Maple | PER ACRE |
| 12 | 10 | | | | | 20 | | | | | 30 |
| 14 | | | 41 | | 57 | 19 | 41 | | | | 158 |
| 16 | | | 368 | 110 | 110 | | | 86 | | | 674 |
| 18 | 150 | | | | | | | | | | 150 |
| 20 | | | | 238 | | 111 | | | | | 349 |
| 22 | | | | | | | | | | | |
| 24 | | | | | | | 86 | | | | 86 |
| 26 | 717 | | 318 | | | | | | | | 1035 |
| 28 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |
| 32 | | | | | | | | | | | |
| 34 | | | | | | | | | | | |
| 36 | | 735 | | | | | | | | | 735 |
| 38 | | | | | | | | | | | |
| 40 | | | | | | | | | | | |
| VOL./ACRE | 877 | 735 | 727 | 348 | 167 | 150 | 127 | 86 | | | 3217 |



SUMMARY AND ANALYSIS OF CFI

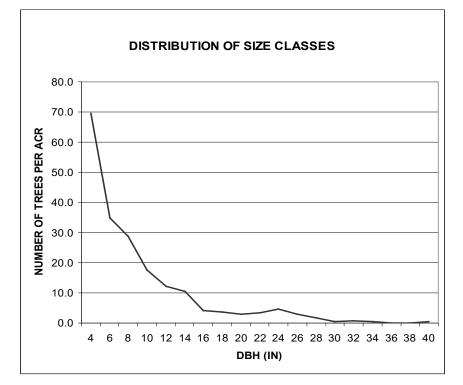
OWNER: Purdue University

COMPARTMENT: Davis PAC-Comp. 2 ACRES: 20.00 DATE: FORESTER: July 2004 Carlson

This inventory was accomplished by measuring all trees greater than 3" on 1/5 acre plots.

Sawtimber trees (9"+ dbh) measured on 12 plots. Pole trees (3" - 8.9" dbh) measured on 12 plots. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in square feet, and all figures for diameter at breast height (dbh) are in inches. Volumes have been adjusted for defect.

| SUMM | ARY BY | SIZE CL | ASS |
|-------|---------------------|----------------------|-------------------------|
| DBH | VOL. PER ACRE | TREES PER ACRE | BASAL AREA / ACRE |
| 4 | | 69.6 | 6.1 |
| 6 | | 35.0 | 6.9 |
| 8 | | 28.8 | 10.0 |
| 10 | | 17.5 | 9.5 |
| 12 | 48 | 12.1 | 9.5 |
| 14 | 371 | 10.4 | 11.1 |
| 16 | 375 | 4.2 | 5.8 |
| 18 | 678 | 3.8 | 6.6 |
| 20 | 660 | 2.9 | 6.4 |
| 22 | 1054 | 3.3 | 8.8 |
| 24 | 2063 | 4.6 | 14.4 |
| 26 | 1396 | 2.9 | 10.8 |
| 28 | 915 | 1.7 | 7.1 |
| 30 | 330 | 0.4 | 2.0 |
| 32 | 563 | 0.8 | 4.7 |
| 34 | 564 | 0.4 | 2.6 |
| 36 | | | |
| 38 | | | |
| 40 | 135 | 0.4 | 3.6 |
| TOTAL | 9150 | 198.8 | 126.0 |



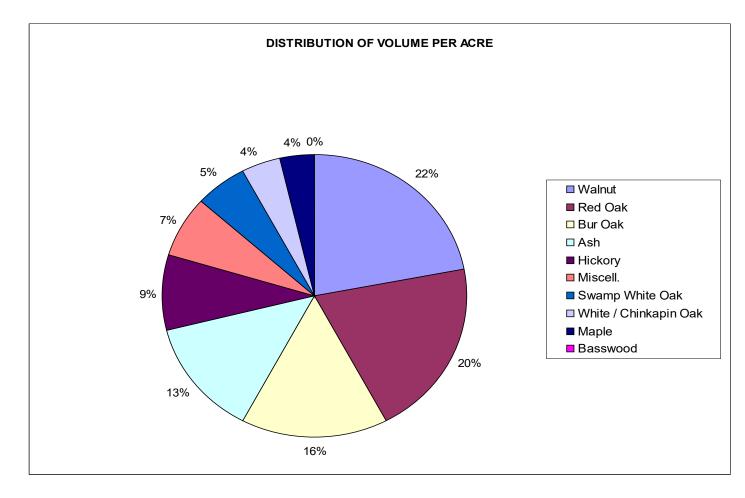
| | SUMMARY BY SPECIES | | | | | | | | | | | |
|-----------------------|---------------------|-----------------------------|----------------------|------------------------------|------------------------|---------------------------|-------------|--|-----------------------|--|--|--|
| SPECIES | VOL. PER ACRE | PCT. OF PER ACRE VOL. | TREES PER ACRE | PCT. OF PER ACRE TREES | BASAL AREA/ ACRE | PCT. OF PER ACRE BA | AVG. DBH | | TOTAL STAND VOLUME | | | |
| Walnut | 2007 | 21.9% | 7.1 | 3.6% | 17.6 | 14.0% | 21.4 | | 40,133 | | | |
| Red Oak | 1860 | 20.3% | 4.2 | 2.1% | 12.0 | 9.6% | 23.0 | | 37,208 | | | |
| Bur Oak | 1432 | 15.6% | 7.5 | 3.8% | 13.1 | 10.4% | 17.9 | | 28,633 | | | |
| Ash | 1200 | 13.1% | 8.8 | 4.4% | 15.8 | 12.5% | 18.2 | | 24,000 | | | |
| Hickory | 800 | 8.7% | 43.8 | 22.0% | 25.7 | 20.4% | 10.4 | | 16,000 | | | |
| Miscell. | 642 | 7.0% | 79.2 | 39.8% | 21.5 | 17.1% | 7.1 | | 12,833 | | | |
| Swamp White Oak | 496 | 5.4% | 3.3 | 1.7% | 5.1 | 4.1% | 16.8 | | 9,917 | | | |
| White / Chinkapin Oak | 382 | 4.2% | 0.8 | 0.4% | 2.6 | 2.1% | 24.1 | | 7,642 | | | |
| Maple | 328 | 3.6% | 42.5 | 21.4% | 11.7 | 9.3% | 7.1 | | 6,558 | | | |
| Basswood | 4 | 0.0% | 1.7 | 0.8% | 0.8 | 0.6% | 9.3 | | 83 | | | |
| PER ACRE TOTALS | 9150 | 100.0% | 198.8 | 100.0% | 126.0 | 100.0% | 10.8 | | 183,008 | | | |

OWNER: Purdue University TRACT: Davis PAC- Comp. 2 ACRES: 20.00

| DATE: |
|-----------|
| FORESTER: |

July 2004 Carlson

| | รเ | JMMARY | OF VO | LUME P | ER ACR | E BY SF | PECIES A | AND SIZE | CLAS | S | |
|-----------|--------|---------|---------|--------|---------|----------|--------------------|-----------------------------|-------------|----------|-------------|
| | | | | *** SF | PECIES | LISTI | NG *** | | | | VOL. |
| DBH | Walnut | Red Oak | Bur Oak | Ash | Hickory | Miscell. | Swamp White Oak | White / Chinkapin Oak | Maple | Basswood | PER ACRE |
| 12 | | | | | 44 | | | | | 4 | 48 |
| 14 | 17 | | 51 | 16 | 187 | 66 | 34 | | | | 371 |
| 16 | 84 | | 145 | | 46 | | 46 | | 54 | | 375 |
| 18 | 63 | 86 | 86 | | 208 | 86 | 86 | | 63 | | 678 |
| 20 | 83 | 115 | | 296 | | 166 | | | | | 660 |
| 22 | 317 | 187 | | 106 | | 83 | | 150 | 212 | | 1054 |
| 24 | 646 | 427 | 990 | | | | | | | | 2063 |
| 26 | 798 | 200 | | 166 | | | | 233 | | | 1396 |
| 28 | | | 159 | 199 | 316 | 241 | | | | | 915 |
| 30 | | | | | | | 330 | | | | 330 |
| 32 | | 282 | | 282 | | | | | | | 563 |
| 34 | | 564 | | | | | | | | | 564 |
| 36 | | | | | | | | | | | |
| 38 | | | | | | | | | | | |
| 40 | | | | 135 | | | | | | | 135 |
| VOL./ACRE | 2007 | 1860 | 1432 | 1200 | 800 | 642 | 496 | 382 | 328 | 4 | 9150 |



SUMMARY AND ANALYSIS OF CFI

OWNER: Purdue University

COMPARTMENT: Davis PAC- Compartment 3

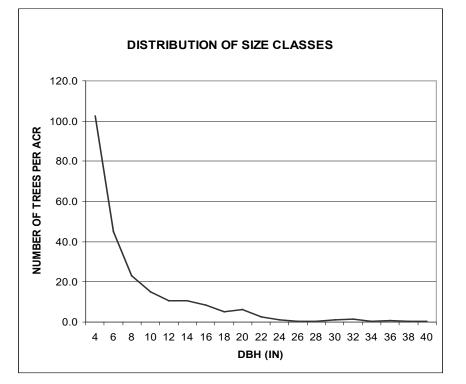
DATE: FORESTER: July 2004 Carlson

ACRES: 33.30

This inventory was accomplished by measuring all trees greater than 3" on 1/5 acre plots.

Sawtimber trees (9"+ dbh) measured on 20 plots. Pole trees (3" - 8.9" dbh) measured on 20 plots. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in square feet, and all figures for diameter at breast height (dbh) are in inches. Volumes have been adjusted for defect.

| SUMM | ARY BY | SIZE CL | ASS |
|-------|---------------------|----------------------|-------------------------|
| DBH | VOL. PER ACRE | TREES PER ACRE | BASAL AREA / ACRE |
| 4 | | 102.5 | 8.9 |
| 6 | | 45.0 | 8.8 |
| 8 | | 23.0 | 8.0 |
| 10 | | 15.0 | 8.2 |
| 12 | 50 | 10.5 | 8.2 |
| 14 | 446 | 10.5 | 11.2 |
| 16 | 788 | 8.3 | 11.5 |
| 18 | 836 | 5.3 | 9.3 |
| 20 | 1192 | 6.3 | 13.6 |
| 22 | 821 | 2.5 | 6.6 |
| 24 | 448 | 1.3 | 3.9 |
| 26 | 140 | 0.3 | 0.9 |
| 28 | 312 | 0.5 | 2.1 |
| 30 | 701 | 1.0 | 4.9 |
| 32 | 1248 | 1.5 | 8.4 |
| 34 | 158 | 0.3 | 1.6 |
| 36 | 772 | 0.8 | 5.3 |
| 38 | 791 | 0.5 | 3.9 |
| 40 | 543 | 0.5 | 4.4 |
| TOTAL | 9244 | 235.3 | 129.9 |

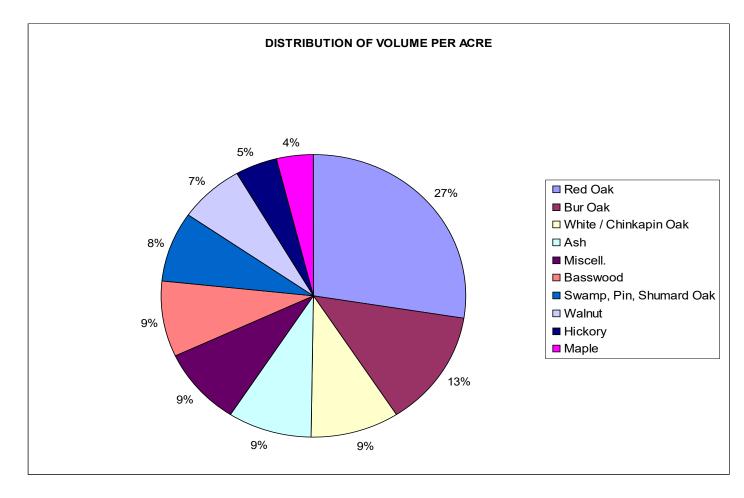


| | SUMMARY BY SPECIES | | | | | | | | | | | | |
|-------------------------|---------------------|-----------------------------|----------------------|------------------------------|------------------------|---------------------------|-------------|--|-----------------------|--|--|--|--|
| SPECIES | VOL. PER ACRE | PCT. OF PER ACRE VOL. | TREES PER ACRE | PCT. OF PER ACRE TREES | BASAL AREA/ ACRE | PCT. OF PER ACRE BA | AVG. DBH | | TOTAL STAND VOLUME | | | | |
| Red Oak | 2535 | 27.4% | 6.3 | 2.7% | 19.2 | 14.8% | 23.7 | | 84,407 | | | | |
| Bur Oak | 1246 | 13.5% | 3.5 | 1.5% | 7.9 | 6.1% | 20.3 | | 41,500 | | | | |
| White / Chinkapin Oak | 870 | 9.4% | 2.3 | 1.0% | 5.7 | 4.4% | 21.6 | | 28,971 | | | | |
| Ash | 825 | 8.9% | 25.5 | 10.8% | 15.4 | 11.9% | 10.5 | | 27,464 | | | | |
| Miscell. | 818 | 8.8% | 110.8 | 47.1% | 30.6 | 23.5% | 7.1 | | 27,239 | | | | |
| Basswood | 788 | 8.5% | 34.8 | 14.8% | 16.6 | 12.8% | 9.4 | | 26,249 | | | | |
| Swamp, Pin, Shumard Oak | 741 | 8.0% | 5.0 | 2.1% | 6.4 | 5.0% | 15.4 | | 24,684 | | | | |
| Walnut | 640 | 6.9% | 7.3 | 3.1% | 9.5 | 7.3% | 15.5 | | 21,320 | | | | |
| Hickory | 432 | 4.7% | 10.5 | 4.5% | 8.2 | 6.3% | 12.0 | | 14,386 | | | | |
| Maple | 348 | 3.8% | 29.5 | 12.5% | 10.3 | 7.9% | 8.0 | | 11,597 | | | | |
| PER ACRE TOTALS | 9244 | 100.0% | 235.3 | 100.0% | 129.9 | 100.0% | 10.1 | | 307,817 | | | | |

OWNER:Purdue UniversityTRACT:Davis PAC- Compartment 3ACRES:33.30

DATE: FORESTER: July 2004 Carlson

| | SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS | | | | | | | | | | | | |
|-----------|--|---------|-----------------------------|--------|----------|----------|---------------------------|--------|---------|-------|-------------|--|--|
| | | | | *** SP | PECIES | LISTI | NG *** | | | | VOL. | | |
| DBH | Red Oak | Bur Oak | White / Chinkapin Oak | Ash | Miscell. | Basswood | Swamp, Pin, Shumard | Walnut | Hickory | Maple | PER ACRE | | |
| 12 | 6 | | | 10 | 19 | 13 | | | | 3 | 50 | | |
| 14 | 28 | | | 107 | 118 | 50 | 10 | 70 | 28 | 36 | 446 | | |
| 16 | 75 | 60 | | 83 | 135 | 196 | | 124 | 101 | 15 | 788 | | |
| 18 | 149 | 52 | | 21 | 67 | 187 | 57 | 119 | 184 | | 836 | | |
| 20 | 60 | 69 | 149 | 441 | 119 | | 139 | 78 | 69 | 69 | 1192 | | |
| 22 | | | 76 | 164 | 90 | 112 | 190 | 139 | 50 | | 821 | | |
| 24 | 114 | 114 | | | | | 114 | 26 | | 81 | 448 | | |
| 26 | 140 | | | | | | | | | | 140 | | |
| 28 | | 168 | | | | | | | | 145 | 312 | | |
| 30 | 367 | | 249 | | | | | 85 | | | 701 | | |
| 32 | 232 | 785 | | | | | 232 | | | | 1248 | | |
| 34 | 158 | | | | | | | | | | 158 | | |
| 36 | 271 | | | | 271 | 231 | | | | | 772 | | |
| 38 | 395 | | 395 | | | | | | | | 791 | | |
| 40 | 543 | | | | | | | | | | 543 | | |
| VOL./ACRE | 2535 | 1246 | 870 | 825 | 818 | 788 | 741 | 640 | 432 | 348 | 9244 | | |



SUMMARY AND ANALYSIS OF CFI

OWNER: Purdue University

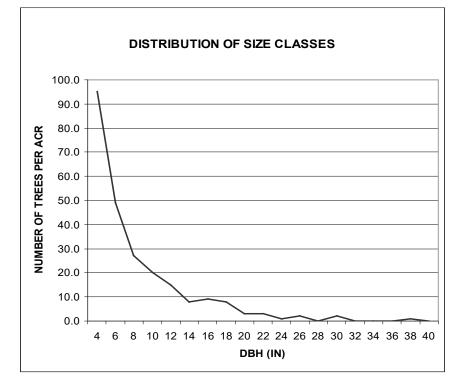
COMPARTMENT: Davis PAC-Comp. 4 DATE: FORESTER: July 2004 Carlson

ACRES: 7.00

This inventory was accomplished by measuring all trees greater than 3" on 1/5 acre plots.

Sawtimber trees (9"+ dbh) measured on plots. Pole trees (3" - 8.9" dbh) measured on 5 plots. 5 All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in square feet, and all figures for diameter at breast height (dbh) are in inches. Volumes have been adjusted for defect.

| SUMM | ARY BY | SIZE CL | ASS |
|-------|---------------------|----------------------|-------------------------|
| DBH | VOL. PER ACRE | TREES PER ACRE | BASAL AREA / ACRE |
| 4 | | 95.0 | 8.3 |
| 6 | | 49.0 | 9.6 |
| 8 | | 27.0 | 9.4 |
| 10 | | 20.0 | 10.9 |
| 12 | 106 | 15.0 | 11.8 |
| 14 | 274 | 8.0 | 8.6 |
| 16 | 776 | 9.0 | 12.6 |
| 18 | 1275 | 8.0 | 14.1 |
| 20 | 792 | 3.0 | 6.5 |
| 22 | 706 | 3.0 | 7.9 |
| 24 | 386 | 1.0 | 3.1 |
| 26 | | 2.0 | 7.4 |
| 28 | | | |
| 30 | 1476 | 2.0 | 9.8 |
| 32 | | | |
| 34 | | | |
| 36 | | | |
| 38 | | 1.0 | 7.9 |
| 40 | | | |
| TOTAL | 5791 | 243.0 | 128.0 |



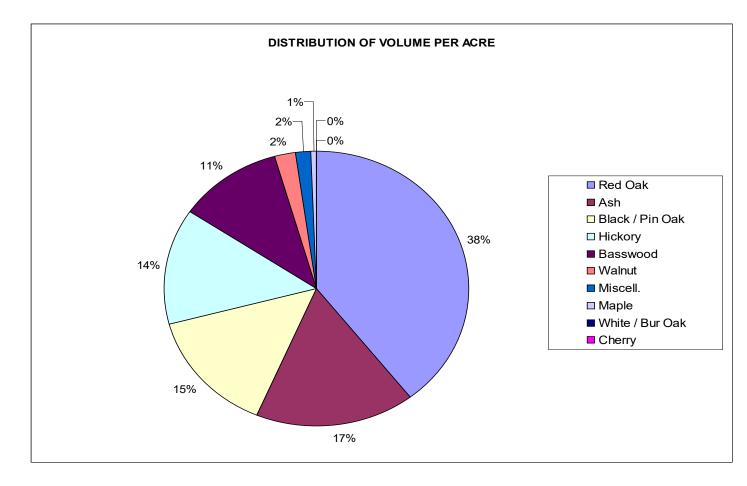
| | SUMMARY BY SPECIES | | | | | | | | | | | |
|-----------------|---------------------|-----------------------------|----------------------|------------------------------|------------------------|---------------------------|-------------|--|-----------------------|--|--|--|
| SPECIES | VOL. PER ACRE | PCT. OF PER ACRE VOL. | TREES PER ACRE | PCT. OF PER ACRE TREES | BASAL AREA/ ACRE | PCT. OF PER ACRE BA | AVG. DBH | | TOTAL STAND VOLUME | | | |
| Red Oak | 2284 | 39.4% | 22.0 | 9.1% | 29.9 | 23.4% | 15.8 | | 15,988 | | | |
| Ash | 974 | 16.8% | 40.0 | 16.5% | 18.0 | 14.1% | 9.1 | | 6,818 | | | |
| Black / Pin Oak | 852 | 14.7% | 6.0 | 2.5% | 8.2 | 6.4% | 15.8 | | 5,964 | | | |
| Hickory | 788 | 13.6% | 37.0 | 15.2% | 22.8 | 17.8% | 10.6 | | 5,516 | | | |
| Basswood | 643 | 11.1% | 32.0 | 13.2% | 22.3 | 17.4% | 11.3 | | 4,501 | | | |
| Walnut | 119 | 2.1% | 1.0 | 0.4% | 1.8 | 1.4% | 18.0 | | 833 | | | |
| Miscell. | 102 | 1.8% | 73.0 | 30.0% | 17.9 | 14.0% | 6.7 | | 714 | | | |
| Maple | 29 | 0.5% | 14.0 | 5.8% | 4.2 | 3.3% | 7.4 | | 203 | | | |
| White / Bur Oak | | | 6.0 | 2.5% | 1.4 | 1.1% | 6.5 | | - | | | |
| Cherry | | | 12.0 | 4.9% | 1.5 | 1.2% | 4.8 | | - | | | |
| PER ACRE TOTALS | 5791 | 100.0% | 243.0 | 100.0% | 128.0 | 100.0% | 9.8 | | 40,537 | | | |

OWNER: Purdue University TRACT: Davis PAC- Comp. 4 ACRES: 7.00

DATE: FORESTER:

July 2004 Carlson

| | SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS | | | | | | | | | | | | |
|-----------|--|-----|--------------------|---------|----------|--------|----------|-------|--------------------|--------|-------------|--|--|
| | *** SPECIES LISTING *** | | | | | | | | | | | | |
| DBH | Red Oak | Ash | Black / Pin Oak | Hickory | Basswood | Walnut | Miscell. | Maple | White / Bur Oak | Cherry | PER ACRE | | |
| 12 | | | 23 | 53 | 20 | | | 10 | | | 106 | | |
| 14 | 113 | 41 | 41 | | 19 | | 41 | 19 | | | 274 | | |
| 16 | 129 | 269 | 110 | 146 | 61 | | 61 | | | | 776 | | |
| 18 | 180 | 387 | | 589 | | 119 | | | | | 1275 | | |
| 20 | | 277 | 277 | | 238 | | | | | | 792 | | |
| 22 | | | 401 | | 305 | | | | | | 706 | | |
| 24 | 386 | | | | | | | | | | 386 | | |
| 26 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 30 | 1476 | | | | | | | | | | 1476 | | |
| 32 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | |
| VOL./ACRE | 2284 | 974 | 852 | 788 | 643 | 119 | 102 | 29 | | | 5791 | | |

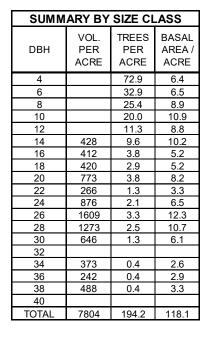


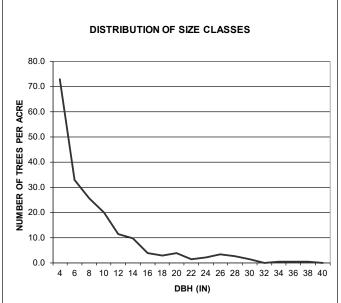
SUMMARY AND ANALYSIS OF CFI

OWNER: Purdue University COMPARTMENT: Davis PAC-Comp. 2 ACRES: 20.00 DATE: FORESTER: August 2018 Carlson

This inventory was accomplished by measuring all trees greater than 3" on 1/5 acre plots.

Sawtimber trees (9"+ dbh) measured on 12 plots. Pole trees (3" - 8.9" dbh) measured on 12 plots. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in square feet, and all figures for diameter at breast height (dbh) are in inches. Volumes have been adjusted for defect.





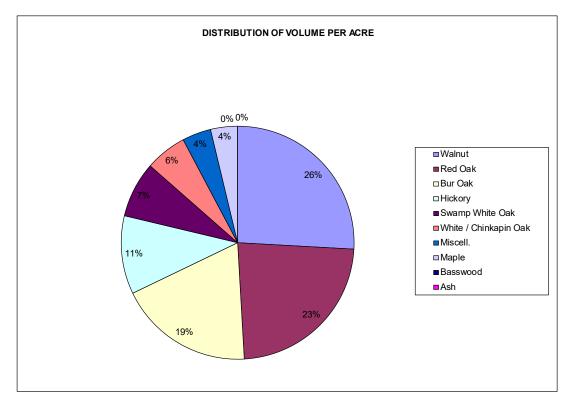
| SUMMARY BY SPECIES | | | | | | | | | | | | |
|-----------------------|---------------------|-----------------------------|----------------------|------------------------------|------------------------|---------------------------|-------------|--|-----------------------|--|--|--|
| SPECIES | VOL. PER ACRE | PCT. OF PER ACRE VOL. | TREES PER ACRE | PCT. OF PER ACRE TREES | BASAL AREA/ ACRE | PCT. OF PER ACRE BA | AVG. DBH | | TOTAL STAND VOLUME | | | |
| Walnut | 2020 | 25.9% | 6.7 | 3.4% | 19.6 | 16.6% | 23.2 | | 40,392 | | | |
| Red Oak | 1812 | 23.2% | 3.8 | 1.9% | 14.9 | 12.6% | 27.0 | | 36,233 | | | |
| Bur Oak | 1465 | 18.8% | 5.8 | 3.0% | 13.5 | 11.4% | 20.6 | | 29,292 | | | |
| Hickory | 848 | 10.9% | 39.6 | 20.4% | 26.2 | 22.2% | 11.0 | | 16,950 | | | |
| Swamp White Oak | 605 | 7.7% | 2.1 | 1.1% | 5.4 | 4.5% | 21.7 | | 12,092 | | | |
| White / Chinkapin Oak | 451 | 5.8% | 0.8 | 0.4% | 3.1 | 2.6% | 26.1 | | 9,025 | | | |
| Miscell. | 312 | 4.0% | 69.6 | 35.8% | 17.4 | 14.8% | 6.8 | | 6,242 | | | |
| Maple | 293 | 3.7% | 60.0 | 30.9% | 16.7 | 14.2% | 7.1 | | 5,850 | | | |
| Basswood | | | 3.8 | 1.9% | 1.1 | 0.9% | 7.2 | | - | | | |
| Ash | | | 2.1 | 1.1% | 0.2 | 0.2% | 4.0 | | - | | | |
| PER ACRE TOTALS | 7804 | 100.0% | 194.2 | 100.0% | 118.1 | 100.0% | 10.6 | | 156,075 | | | |

OWNER:Purdue UniversityTRACT:Davis PAC-Comp. 2ACRES:20.00

DATE: FORESTER:

August 2018 Carlson

| | SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS | | | | | | | | | | | | |
|-----------|--|---------|---------|---------|--------------------|-----------------------------|----------|-------|----------|-----|-------------|--|--|
| | *** SPECIES LISTING *** | | | | | | | | | | | | |
| DBH | Walnut | Red Oak | Bur Oak | Hickory | Swamp White Oak | White / Chinkapin Oak | Miscell. | Maple | Basswood | Ash | PER ACRE | | |
| 12 | | | | | | | | | | | | | |
| 14 | | | 26 | 331 | | | 38 | 33 | | | 428 | | |
| 16 | 78 | | 55 | 152 | 48 | | 30 | 48 | | | 412 | | |
| 18 | 83 | | 68 | 79 | | | 121 | 68 | | | 420 | | |
| 20 | 131 | 109 | 293 | 56 | 184 | | | | | | 773 | | |
| 22 | | | | | | | 123 | 143 | | | 266 | | |
| 24 | 154 | 387 | 154 | | | 180 | | | | | 876 | | |
| 26 | 902 | 225 | 483 | | | | | | | | 1609 | | |
| 28 | 181 | 362 | 230 | 230 | | 271 | | | | | 1273 | | |
| 30 | 490 | | 157 | | | | | | | | 646 | | |
| 32 | | | | | | | | | | | | | |
| 34 | | | | | 373 | | | | | | 373 | | |
| 36 | | 242 | | | | | | | | | 242 | | |
| 38 | | 488 | | | | | | | | | 488 | | |
| 40 | | | | | | | | | | | | | |
| VOL./ACRE | 2020 | 1812 | 1465 | 848 | 605 | 451 | 312 | 293 | | | 7804 | | |



SUMMARY AND ANALYSIS OF CFI

 OWNER:
 Purdue University

 COMPARTMENT:
 Davis PAC-Compartment 3

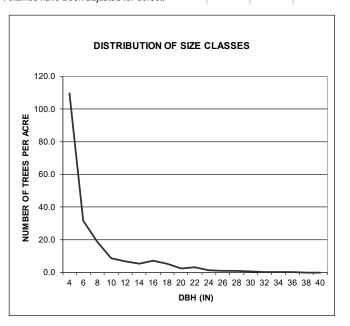
 ACRES:
 33.30

DATE: FORESTER: August 2018 Carlson

This inventory was accomplished by measuring all trees greater than 3" on 1/5 acre plots.

Sawtimber trees (9"+ dbh) measured on 20 plots. Pole trees (3" - 8.9" dbh) measured on 20 plots. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in square feet, and all figures for diameter at breast height (dbh) are in inches. Volumes have been adjusted for defect.

| SUMM | ARY BY | SIZE CL | ASS |
|-------|---------------------|----------------------|-------------------------|
| DBH | VOL. PER ACRE | TREES PER ACRE | BASAL AREA / ACRE |
| 4 | | 109.5 | 9.6 |
| 6 | | 31.8 | 6.2 |
| 8 | | 18.5 | 6.5 |
| 10 | | 8.8 | 4.8 |
| 12 | | 6.8 | 5.3 |
| 14 | 171 | 5.3 | 5.6 |
| 16 | 592 | 7.0 | 9.8 |
| 18 | 764 | 5.3 | 9.3 |
| 20 | 500 | 2.5 | 5.5 |
| 22 | 730 | 3.3 | 8.6 |
| 24 | 401 | 1.3 | 3.9 |
| 26 | 356 | 1.0 | 3.7 |
| 28 | 488 | 0.8 | 3.2 |
| 30 | 389 | 0.5 | 2.5 |
| 32 | 68 | 0.3 | 1.4 |
| 34 | 266 | 0.3 | 1.6 |
| 36 | 259 | 0.3 | 1.8 |
| 38 | | | |
| 40 | | | |
| TOTAL | 4982 | 202.8 | 89.0 |



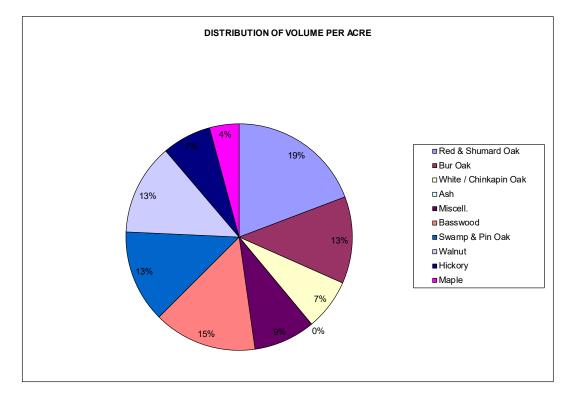
| | SUMMARY BY SPECIES | | | | | | | | | | | | |
|-----------------------|---------------------|-----------------------------|----------------------|------------------------------|------------------------|---------------------------|-------------|--|-----------------------|--|--|--|--|
| SPECIES | VOL. PER ACRE | PCT. OF PER ACRE VOL. | TREES PER ACRE | PCT. OF PER ACRE TREES | BASAL AREA/ ACRE | PCT. OF PER ACRE BA | AVG. DBH | | TOTAL STAND VOLUME | | | | |
| Red & Shumard Oak | 958 | 19.2% | 6.8 | 3.3% | 9.7 | 10.9% | 16.2 | | 31,910 | | | | |
| Bur Oak | 618 | 12.4% | 3.3 | 1.6% | 4.7 | 5.2% | 16.2 | | 20,579 | | | | |
| White / Chinkapin Oak | 364 | 7.3% | 2.8 | 1.4% | 3.3 | 3.7% | 14.7 | | 12,130 | | | | |
| Ash | | | 6.0 | 3.0% | 0.7 | 0.8% | 4.5 | | - | | | | |
| Miscell. | 438 | 8.8% | 99.5 | 49.1% | 22.8 | 25.6% | 6.5 | | 14,594 | | | | |
| Basswood | 736 | 14.8% | 30.8 | 15.2% | 16.4 | 18.4% | 9.9 | | 24,509 | | | | |
| Swamp & Pin Oak | 658 | 13.2% | 1.8 | 0.9% | 4.6 | 5.2% | 22.0 | | 21,895 | | | | |
| Walnut | 650 | 13.0% | 6.3 | 3.1% | 10.3 | 11.6% | 17.4 | | 21,628 | | | | |
| Hickory | 350 | 7.0% | 9.8 | 4.8% | 6.9 | 7.7% | 11.4 | | 11,655 | | | | |
| Maple | 210 | 4.2% | 36.0 | 17.8% | 9.8 | 11.0% | 7.1 | | 6,985 | | | | |
| PER ACRE TOTALS | 4982 | 100.0% | 202.8 | 100.0% | 89.0 | 100.0% | 9.0 | | 165,884 | | | | |

| OWNER: | Purdue University |
|--------|--------------------------|
| TRACT: | Davis PAC- Compartment 3 |
| ACRES: | 33.30 |

DATE: FORESTER:

August 2018 Carlson

| | SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS | | | | | | | | | | | | |
|-----------|--|---------|-----------------------------|-----|----------|----------|--------------------|--------|---------|-------|-------------|--|--|
| | *** SPECIES LISTING *** | | | | | | | | | | | | |
| DBH | Red & Shumard Oak | Bur Oak | White / Chinkapin Oak | Ash | Miscell. | Basswood | Swamp & Pin Oak | Walnut | Hickory | Maple | PER ACRE | | |
| 12 | | | | | | | | | | | | | |
| 14 | | | 8 | | 51 | 50 | | 16 | 8 | 40 | 171 | | |
| 16 | 115 | | | | 122 | 177 | | 112 | 66 | | 592 | | |
| 18 | 81 | 25 | | | 147 | 136 | | 180 | 149 | 48 | 764 | | |
| 20 | 176 | | | | 45 | 178 | | 45 | | 56 | 500 | | |
| 22 | 246 | | 132 | | 74 | 87 | 74 | 44 | 74 | | 730 | | |
| 24 | 93 | | | | | 108 | | 147 | 54 | | 401 | | |
| 26 | 250 | | | | | | | 40 | | 67 | 356 | | |
| 28 | | 163 | | | | | 325 | | | | 488 | | |
| 30 | | 165 | 225 | | | | | | | | 389 | | |
| 32 | | | | | | | | 68 | | | 68 | | |
| 34 | | 266 | | | | | | | | | 266 | | |
| 36 | | | | | | | 259 | | | | 259 | | |
| 38 | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | |
| VOL./ACRE | 958 | 618 | 364 | | 438 | 736 | 658 | 650 | 350 | 210 | 4982 | | |



SUMMARY AND ANALYSIS OF CFI

OWNER: Purdue University Davis PAC Comp 4 COMPARTMENT:

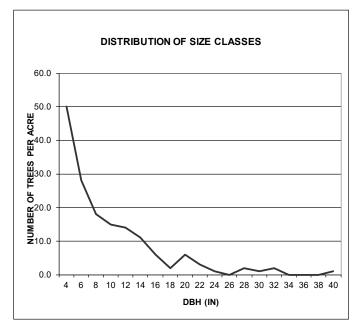
DATE: FORESTER: August 2018 Carlson

ACRES: 7.00

This inventory was accomplished by measuring all trees greater than 3" on 1/5 acre plots.

Sawtimber trees (9"+ dbh) measured on 5 plots. Pole trees (3" - 8.9" dbh) measured on 5 plots. All figures for volume are in board-feet (bd-ft) Doyle, all figures for basal area (BA) are in square feet, and all figures for diameter at breast height (dbh) are in inches.

| SUMM | ARY BY | SIZE CL | ASS |
|-------|---------------------|----------------------|-------------------------|
| DBH | VOL. PER ACRE | TREES PER ACRE | BASAL AREA / ACRE |
| 4 | | 50.0 | 4.4 |
| 6 | | 28.0 | 5.5 |
| 8 | | 18.0 | 6.3 |
| 10 | | 15.0 | 8.2 |
| 12 | | 14.0 | 11.0 |
| 14 | 357 | 11.0 | 11.8 |
| 16 | 602 | 6.0 | 8.4 |
| 18 | 379 | 2.0 | 3.5 |
| 20 | 1368 | 6.0 | 13.1 |
| 22 | 688 | 3.0 | 7.9 |
| 24 | 433 | 1.0 | 3.1 |
| 26 | | | |
| 28 | 317 | 2.0 | 8.6 |
| 30 | 517 | 1.0 | 4.9 |
| 32 | 1384 | 2.0 | 11.2 |
| 34 | | | |
| 36 | | | |
| 38 | | | |
| 40 | | 1.0 | 8.7 |
| TOTAL | 6045 | 160.0 | 116.5 |



| | SUMMARY BY SPECIES | | | | | | | | | | | | |
|-------------------|---------------------|-----------------------------|----------------------|------------------------------|------------------------|---------------------------|-------------|--|-----------------------|--|--|--|--|
| SPECIES | VOL. PER ACRE | PCT. OF PER ACRE VOL. | TREES PER ACRE | PCT. OF PER ACRE TREES | BASAL AREA/ ACRE | PCT. OF PER ACRE BA | AVG. DBH | | TOTAL STAND VOLUME | | | | |
| Red & Shumard Oak | 3768 | 62.3% | 20.0 | 12.5% | 44.0 | 37.8% | 20.1 | | 26,376 | | | | |
| Hickory | 1139 | 18.8% | 31.0 | 19.4% | 28.4 | 24.4% | 13.0 | | 7,973 | | | | |
| Basswood | 507 | 8.4% | 33.0 | 20.6% | 20.7 | 17.8% | 10.7 | | 3,549 | | | | |
| Miscellaneous | 389 | 6.4% | 50.0 | 31.3% | 15.1 | 13.0% | 7.4 | | 2,723 | | | | |
| Walnut | 180 | 3.0% | 1.0 | 0.6% | 2.2 | 1.9% | 20.0 | | 1,260 | | | | |
| Maple | 62 | 1.0% | 13.0 | 8.1% | 3.7 | 3.2% | 7.2 | | 434 | | | | |
| Ash | | | 1.0 | 0.6% | 0.1 | 0.1% | 4.0 | | - | | | | |
| Black & Pin Oak | | | | | | | | | - | | | | |
| White Oak Group | | | 4.0 | 2.5% | 1.4 | 1.2% | 7.9 | | - | | | | |
| Cherry | | | 7.0 | 4.4% | 0.8 | 0.7% | 4.7 | | - | | | | |
| PER ACRE TOTALS | 6045 | 100.0% | 160.0 | 100.0% | 116.5 | 100.0% | 11.6 | | 42,315 | | | | |

OWNER:Purdue UniversityTRACT:Davis PAC Comp 4ACRES:7.00

DATE: FORESTER:

August 2018 Carlson

| SUMMARY OF VOLUME PER ACRE BY SPECIES AND SIZE CLASS | | | | | | | | | | | | | |
|--|-------------------------|---------|----------|-------------------|--------|-------|-----|--------------------|--------------------|--------|-------------|--|--|
| | *** SPECIES LISTING *** | | | | | | | | | | | | |
| DBH | Red & Shumard Oak | Hickory | Basswood | Miscellane ous | Walnut | Maple | Ash | Black & Pin Oak | White Oak Group | Cherry | PER ACRE | | |
| 12 | | | | | | | | | | | | | |
| 14 | 185 | 110 | | | | 62 | | | | | 357 | | |
| 16 | 132 | 116 | 282 | 72 | | | | | | | 602 | | |
| 18 | 215 | 164 | | | | | | | | | 379 | | |
| 20 | 558 | 405 | 225 | | 180 | | | | | | 1368 | | |
| 22 | 344 | 344 | | | | | | | | | 688 | | |
| 24 | 433 | | | | | | | | | | 433 | | |
| 26 | | | | | | | | | | | | | |
| 28 | | | | 317 | | | | | | | 317 | | |
| 30 | 517 | | | | | | | | | | 517 | | |
| 32 | 1384 | | | | | | | | | | 1384 | | |
| 34 | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | |
| VOL./ACRE | 3768 | 1139 | 507 | 389 | 180 | 62 | | | | | 6045 | | |

