

# STEWARDSHIP PLAN

Prepared for:

**Trustees of Purdue University**  
**In care of: The Southeast Purdue Agriculture Center**  
**(SEPAC)**  
**PO Box 216**  
**Butlerville, IN 47223**

Section 3, 10, 11, & 15 T17N, R9E, Campbell Township  
Jennings County, Indiana

**743.034 Stewardship Acres**

Prepared by:

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**The stewardship goals for this property are:**

- To provide opportunities for natural resources research and education
- To demonstrate natural resources stewardship options for the benefit of the resource, professionals, and private landowners of Indiana
- To improve timber production and wildlife habitat

## PROPERTY OVERVIEW

**PROPERTY ACCESS AND FOREST ROADS & TRAILS:** Most of the property is readily accessible via county roads. The tracts east of Brush Creek Reservoir and Brush Creek have limited access at present. As management practices are planned and implemented, forest roads and trails will be installed temporarily or permanently as necessary.

**BOUNDARY MARKINGS:** All boundaries were identified and marked during a survey completed in 2005. Many of the property lines still have the original red plastic boundary markers first installed by the State of Indiana. Interior compartment boundaries are often marked on trees with tree marking paint or are clearly defined through natural features, stand boundaries, fields, or roads.

**TOPOGRAPHY AND SOILS:** The terrain is rolling with moderately steep and steep slopes. There are several soil types in this woodland. Some of the more common soils are Grayford-Corydon silt loams, Cincinnati-Nabb silt loams, Avonburg silt loam and Hickory loam.

GufE2 - Grayford-Corydon silt loams, 18 to 25 percent slopes, eroded.

The Grayford soils are well drained, have a watertable at a depth greater than 40 inches and are on side slopes on uplands. The native vegetation is hardwoods. The surface layer is silt loam and has moderately low organic matter content (1.0 to 2.0 percent). Permeability moderate (0.6 to 2 in/hr) in the most restrictive layer above bedrock. Available water capacity is moderate (8.0 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 5.5. Bedrock is at a depth of 40 to 60 inches. Droughtiness and water erosion are management concerns for crop production.

The Corydon soils are well drained, have a watertable at a depth greater than 40 inches and are on side slopes on uplands. Slopes are 18 to 25 percent. The native vegetation is hardwoods. The surface layer silt loam has moderate organic matter content (2.0 to 4.0 percent). Permeability is moderate (0.6 to 2.0 in/hr) in the most restrictive layer above bedrock. Available water capacity is low (3.0 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 6.0 to 6.6. Bedrock is at a depth of 10 to 20 inches. Droughtiness and water erosion are management concerns for crop production.

Ck1C2 - Cincinnati-Nabb silt loams, 2 to 12 percent slopes, eroded.

The Cincinnati soils are moderately well drained, have a seasonal high watertable at 2.0 to 3.0 ft. and are on ridgetops and side slopes on uplands. Slopes are 6 to 12 percent. The native vegetation is hardwoods. The surface layer is silt loam and has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is very slow (<0.06 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (7.1 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 5.5. Droughtiness and water erosion are management concerns for crop production.

The Nabb soils are moderately well drained, have a seasonal high watertable at 1.5 to 2.0 ft. and are on ridgetops and side slopes on uplands. Slopes are 2 to 6 percent. The native vegetation is hardwoods. The surface layer is silt loam has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is very slow (<0.06 in/hr) in the most restrictive layer above 60 inches. Available water capacity is moderate (8.3 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 5.5. Droughtiness and water erosion are management concerns for crop production.

AddA -- Avonburg silt loam, 0 to 2 percent slopes.

This somewhat poorly drained soil has a seasonal high watertable at 0.5 to 2.0 ft. and is on flats on uplands. Slopes are 0 to 2 percent. The native vegetation is hardwoods. The surface layer is silt loam and has moderately low organic matter content (1.0 to 2.0 percent). Permeability is very slow (< 0.06 in/hr) in the most restrictive layer above 60 inches. Available water capacity is high (9.5 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 5.5. Wetness is a management concern for crop production.

HeeE2--Hickory loam, 18 to 25 percent slopes, eroded.

This well drained soil has a watertable at a depth greater than 40 inches and is on side slopes on uplands. Slopes are 18 to 25 percent. The native vegetation is hardwoods. The surface layer is loam and has moderately low or moderate organic matter content (1.0 to 3.0 percent). Permeability is moderate (0.6 to 2 in/hr) in the most restrictive layer above 60 inches. Available water capacity is high (9.9 inches in the upper 60 inches). The pH of the surface layer in non-limed areas is 4.5 to 5.5. Water erosion is a management concern for crop production.

**WATER RESOURCES:** All of the compartments drain toward Brush Creek / Brush Creek Reservoir or the Vernon Fork of the Muscatatuck River. To protect these resources, Best Management Practices (BMPs) will be implemented, especially during timber harvesting operations.

**PAST USE OF PROPERTY:** Beginning in 1919, most of the property was owned and managed by the State of Indiana as part of the Muscatatuck State School. The property had been operated as a working farm through the mid 1900s. During this time, there were more open acres, due primarily to farming and grazing. Somewhere around 1940, the farming and grazing practices ceased and the rolling lands were been allowed to regenerate naturally back to forest. Between the years 1964-1969, the property was transferred to the Dept. of Conservation (present day IDNR Div. of Fish and Wildlife). Forested compartments owned and managed long term by the state had seen little timber management while under state ownership.

In 2005, Purdue University acquired the property as part of an extension of SEPAC. Since that time, much of the property has been allowed to continue to grow. Some limited timber harvesting has occurred in isolated areas.

The property has also offered opportunities for hunting and fishing while under both State and Purdue ownership.

**PREHISTORIC & HISTORIC FEATURES:** Most land parcels within the State of Indiana may be environmentally suitable to contain archaeological deposits but have not been investigated in order to verify the presence or absence of cultural deposits. Indiana Code 14-21-1 provides protection to archaeological sites and cemeteries on both private and public land by prohibiting digging anywhere with the intent to recover artifacts and disturbing the ground within 100 ft. of a cemetery without an approved plan from the IDNR – Division of Historic Preservation and Archaeology. In addition, if archaeological artifacts (an object made or modified prior to 1870), features (non-portable evidence of human occupations, such as a well), or human remains are uncovered during ground disturbing activities, state law requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. Landowners who need to report archaeological sites or who are interested in learning more about cultural sites should contact the Division of Historic Preservation and Archaeology at 402 W. Washington St., Rm. W274, Indianapolis, IN 46204, 317-232-1646, [dhpa@dnr.in.gov](mailto:dhpa@dnr.in.gov), or at <http://www.in.gov/dnr/historic/index.htm>.

**UNIQUE ANIMALS, PLANTS, & HABITATS:** The DNR Natural Heritage Data Center is a program designed to track Indiana's special plants, animals, and natural communities. It was contacted on 7-18-2012 and there were three recorded rare plants, wildlife, or unique communities in the immediate vicinity (within 1 mile) of your property. The Indiana Bat, Northeastern Cave Isopod and Appalachian Cave Spider have all been observed in the Muscatatuck Caverns just north of this forest; however all 3 records are from the mid to late 1990's (1994-97). Indiana bat is a federally endangered species. Indiana bats spend much of the winter in caves and mines that serve as hibernacula; however, in summer they use forested areas and trees to fulfill life requisites.



The Northeastern Cave Isopod is an eyeless, white subterranean isopod crustacean. It inhabits cave streams where it can be found on the undersides of rocks.

This does not eliminate the possibility of other species of concern existing on or near your property. Often, features on private lands, in particular, are missing from the database. You can find more information on this subject at the Division of Nature Preserves' website: <http://www.in.gov/dnr/naturepreserve/4725.htm>

**WILDLIFE RESOURCES:** Wildlife and the forests in which they live are linked closely together. The abundance of most wildlife populations and associated-forested lands has paralleled each other throughout history. This link between plant and animal communities illustrates the balance of nature. Understanding this balance helps us realize why forest management is important. Any action that affects the abundance of one population may alter the balances of another. For example, an increase in den trees provides more homes for cavity-nesting species and may result in an increase in squirrels,

raccoons, and woodpeckers. However, an increase in deer, rodent, or insect populations might have an adverse impact on surrounding plant communities. Good forest management means considering the needs of both plant and animal communities.

All wildlife species need food, shelter, and water, and all of these resources must be located within the animal's home range. Home range is the area where animals confine their activities. For example, a woodcock's home range is about 40 acres, and the deer's may be 2 square miles. The set of interactions between an animal and the environment, which supplies the three basic needs of a species, is called its niche. Each bird or mammal species has a specific niche within the forest. Although some overlap occurs, these niches are unique and allow many wildlife species to occupy the same forest without strong competition for vital resources. The more niches that can be created within a forest, the greater the number of wildlife species it can support.

**EXOTIC AND INVASIVE SPECIES CONCERNS:** Invasive plants that are exotic (not native to Indiana) are becoming an increasing problem to our natural ecosystem both on Purdue's properties and throughout the entire region. Purdue has initiated invasive plant control efforts to control the spread of multiflora rose, autumn olive, Asian bush honeysuckle, Japanese honeysuckle, barberry, ailanthus, privet, and most recently Japanese stilt grass. These efforts are focusing on areas where timber management practices are being implemented and new controllable infestations are located. Several control efforts are being implemented including: foliar treatments with glyphosate, metasulfuron, 2-4D, triclopyr, Plateau; cut surface treatments with glyphosate, imazapyr, or triclopyr; and basal treatments with triclopyr with or without imazapyr in basal oil. All treatments are applied according to herbicide labels.

**PROPERTY SETTING AND REGIONAL CONSERVATION CONCERNS:** SEPAC is located in rural SE Indiana. The property is typically rolling with some steep slopes. The primary concerns would be protecting the productivity of the soil, the quality of diverse plant and animal communities, and quality of the water resources. These concerns are being met by implementing sound forest management practices.

## **AREA DESCRIPTION AND MANAGEMENT RECOMMENDATIONS**

The acres included in this stewardship plan include numerous forest stands identified by Purdue University foresters and wildlife biologists. At present, many of the stands dominated by quality hardwoods have been mapped and inventoried. The pine and cedar dominated stands have limited timber potential and therefore will not be inventoried in the near future.

**DESIRED FUTURE CONDITION AND ACTIVITIES TO ACHIEVE IT:**  
The desired future condition of all hardwood stands would be that they be managed to contain vigorous, healthy stands of timber. Considering the species composition and soil

capabilities, the objective would be to maintain quality hardwood dominated stand BA in the range of 70-110 ft<sup>2</sup> when looking at all trees greater than 3 inches DBH. To achieve the desired stocking rate, the woodlands should be harvested using sound silvicultural practices. Timber harvest using single tree selection, group selection, and regeneration cuts (shelterwood, seedtree, and clearcutting) as deemed appropriate for a given stand or compartment is an ideal way to maintain stocking levels. Timber stand improvement practices such as crop tree release, thinning, cull tree deadening, and the completion of regeneration openings along with vine and invasive plant control are vital to maintaining the quality of the stands.

Below is a listing of present compartments along with a brief resource description, desired future condition and some activities to achieve the desire future condition.

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**AREA NAME: Compartment 4 (56.5 acres)**

**RESOURCE DESCRIPTION:** This compartment contains mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2011 forest inventory, the stand is over stocked at 128 ft<sup>2</sup> (BA) per acre looking at trees 9.0 inches in DBH and greater. The stand contains 11,229 board feet (BF) per acre. More detailed inventory data is attached.

**RECOMMENDATIONS:** A professionally conducted timber harvest is possible in the 2013-2020 timeframe. TSI work may follow the harvest if needed.

**AREA NAME: Compartment 5 (60.3 acres)**

**RESOURCE DESCRIPTION:** This compartment contains mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2011 forest inventory, the stand is over stocked at 130 ft<sup>2</sup> (BA) per acre looking at trees 9.0 inches in DBH and greater. The stand contains 11,716 board feet (BF) per acre. More detailed inventory data is attached.

**RECOMMENDATIONS:** A professionally conducted timber harvest is possible in the 2013-2020 timeframe. TSI work may follow the harvest if needed.

**AREA NAME: Compartment 6A (52.9 acres)**

**RESOURCE DESCRIPTION:** This compartment contains mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2011 forest inventory, the stand is over stocked at 117 ft<sup>2</sup> (BA) per acre looking at

trees 9.0 inches in DBH and greater. The stand contains 10,789 board feet (BF) per acre. More detailed inventory data is attached.

In the fall of 2011, a timber harvest was conducted over a portion of the stand. The immediate harvest objective focused around pockets of storm damaged timber. The harvest was conducted by forester Don Carlson with the assistance of the SEPAC farm crew and a forestry student. In all, 48,723 board feet of timber was harvested. Of this 3,507 BF were sold as veneer, while the balance was sold to various other mills for as grade or pallet logs. The gross value of the timber was \$31,415 before trucking and other miscellaneous expenses.

**RECOMMENDATIONS:** A professionally conducted timber harvest is possible in the 2013-2020 timeframe. TSI work may follow the harvest if needed.

In the fall of 2013, timber was marked on the eastern portion (approximately 26 acres) of Compartment 6A. In November 2013, the timber was sold in conjunction with timber marked on Compartments 6B and 6C. A total of 346 trees plus 48 culls containing an estimated 105,910 BF were sold from Compartment 6A. The timber is scheduled to be harvested in November - December of 2014.

**AREA NAME: Compartment 6B (22.4 acres)**

**RESOURCE DESCRIPTION:** This compartment contains mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2011 forest inventory, the stand is over stocked at 147 ft<sup>2</sup> (BA) per acre looking at trees 9.0 inches in DBH and greater. The stand contains 14,365 board feet (BF) per acre. More detailed inventory data is attached.

**RECOMMENDATIONS:** A professionally conducted timber harvest is possible in the 2013-2020 timeframe. TSI work may follow the harvest if needed.

Timber was marked and then sold in November 2013. See above. A total of 257 trees plus 32 culls containing an estimated 103,631 BF were sold from compartment 6B. The timber is scheduled to be harvested in November - December of 2014.

**AREA NAME: Compartment 6C (13.3 acres)**

**RESOURCE DESCRIPTION:** This compartment contains a mix of old field hardwoods including yellow poplar, red maple, cherry, hickory, sugar maple, ash, walnut, and sassafras. According to the 2006 forest inventory, the stand is well stocked at 77 ft<sup>2</sup> (BA) per acre looking at trees 3.0 inches in DBH and greater. The stand contains 4,187 board feet (BF) per acre. More detailed inventory data is attached.

**RECOMMENDATIONS:** The primary concern for this stand is the excessive invasive plants that abound. Multiflora rose is especially prevalent. Grape vines are also somewhat numerous at 30+ vines per acre. The primary objective will be to get the invasive plants and grape vines under control in the next 5-10 years. Following this control, a professionally conducted timber harvest is possible in the 2016-2025 timeframe. Additional TSI work may follow the harvest if needed.

Timber was marked and then sold from approximately 2 acres along the northern portion of the east line of Compartment 6C in November 2013. A total of 18 trees plus 4 culls containing an estimated 4,486 BF were sold from compartment 6C. The timber is scheduled to be harvested in November - December of 2014.

**AREA NAME: Compartment 7 Total (~153 acres)**

In 2010, Compartment 7 was chosen as the location for a timber biomass demonstration/research project area. Beginning in 2011, this compartment was divided into 14 sub compartments (3- Control, 3 Biomass All, 3 Biomass 20%, 1 Clearcut, 1 Shelterwood, 1 Selection, 1 Crop Tree Release (CTR), and 1 Cedar Stand.) Each will be described below. In 2011 & 2012, most of the sub compartments were inventoried using Continuous Forest Inventory (CFI) methods on 1/5<sup>th</sup> acre plots. In August of 2012 the timber was sold to Werner Logging of Jasper, IN according to our Biomass Timber Harvest protocols. The harvest initiated in September and was completed by the end of October 2012. Harvest data is presently being evaluated.

In addition to the harvest data, preliminary data was taken on down/dead woody debris (deadwood). Finally, preliminary data was taken on salamander and insect populations. As time progresses, additional data will be taken to better understand the impacts of traditional timber harvesting and biomass harvesting on the forest's ability to regenerate while transitioning through wildlife habitat stages.

**AREA NAME: Sub Compartment 7: Control, Biomass All, and Biomass 20%**

**RESOURCE DESCRIPTION:** This portion of Compartment 7 is the heart of the Biomass Harvest Study Area. It contains 3 repetitions of the three harvest treatments giving it statistical research value. Each of the repetitions for each treatment (9 units in total) were extensively inventoried with permanent CFI plots established in 2011&12.

All three treatment areas had pre-harvest vine control and invasive plant control completed prior to any harvesting.

The three treatments are:

**Control:** No timber harvesting.



G-1 = 7.5 ac. G-2 = 6.2 ac. G-3 = 7.0 acres. Total 20.7 acres

Present condition: This compartment contains mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2011-12 forest inventory, the stand is well stocked at 65 ft<sup>2</sup> (BA) per acre looking at trees 13.0 inches in DBH and greater. The stand contains 6,161 board feet (BF) per acre. More detailed inventory data is attached.

Recommendations: Install demonstration restoration practices where applicable. Allow to grow. Salvage timber as necessary. Manage for timber production. A professionally conducted timber harvest is possible in the 2015-2025 timeframe. TSI work may follow the harvest if needed.

**Biomass All:** All biomass greater than 4 inches DBH and containing 8 feet or more of a straight stem was to be harvested. Often the entire tree was cut and removed from the site.

B-1 = 7.1 ac. B-2 = 6.3 ac. B-3 = 8.8 acres. Total 22.3 acres

Previous Condition: This compartment contained mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2011-12 forest inventory, the stand was well stocked at 71 ft<sup>2</sup> (BA) per acre looking at trees 13.0 inches in DBH and greater. The stand contained 6,390 board feet (BF) per acre.

Present Condition: No trees remain on the site that are greater than 1 inch diameter or taller than 6 feet in height. The actual residual material remaining primarily consists of whole trees that were less than 4 inches DBH or material not suitable for pulp or lumber due to rot, very poor form, or species (ie. Black locust or cedar).

Recommendations: Install demonstration restoration practices where applicable. Install “Hot Pepper” Tree Plantation study on B-2. Allow to grow.

**Biomass 20%:** The harvest parameters were identical to the Biomass All treatment except that 20% of the treetops from 13 inch DBH and greater sawtimber trees were left on site.

C-1 = 11.0 ac. C-2 = 9.7 ac. C-3 = 7.4 acres. Total 28.1 acres

Previous Condition: This compartment contained mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2011-12 forest inventory, the stand was well stocked at 75 ft<sup>2</sup> (BA) per acre looking at trees 13.0 inches in DBH and greater. The stand contained 6,604 board feet (BF) per acre.

Present Condition: No trees remain on the site that are greater than 1 inch diameter or taller than 6 feet in height. The actual residual material remaining primarily consists of scattered treetops (20% of sawtimber treetops), whole trees that were less than 4 inches DBH, or material not suitable for pulp or lumber due to rot, very poor form, or species (ie. Black locust or cedar).

Recommendations: Install demonstration restoration practices where applicable. Allow to grow.

#### **AREA NAME: Sub- Compartment 7: Clearcut (11.4 acres)**

**RESOURCE DESCRIPTION:** This purposes of this Clearcut unit is to contrast a traditional clearcut / regeneration cut to the biomass harvesting on the adjacent sub compartments. Pre-harvest inventory, deadwood, salamander, and insect data were also taken in this stand. Pre-harvest vine control and invasive plant control was also conducted.

Previous Condition: This compartment contained mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2011-12 forest inventory, the stand was well stocked at 71 ft<sup>2</sup> (BA) per acre looking at trees 13.0 inches in DBH and greater. The stand contained 6,390 board feet (BF) per acre.

Present Condition: All merchantable timber down to 10 inch diameter inside the bark (DIB) was removed from the site. All tree tops and trees not containing merchantable sawlogs meeting the 10 inch DIB minimum remain on the site.

Recommendations: Complete the post-harvest TSI (early 2013) by felling or girdling all remaining standing trees greater than 1 DBH or exceeding 8 feet in height. Install demonstration restoration practices where applicable. Allow to grow. **P-H TSI was completed on this stand in early 2013.**

#### **AREA NAME: Sub-Compartment 7: Shelterwood (5.8 acres)**

**RESOURCE DESCRIPTION:** This purposes of this Shelterwood unit is to contrast a shelterwood harvest to the adjacent individual tree selection harvest. A stark contrast is

also made when looking to the north and west at the biomass harvest sub compartments. Pre-harvest inventory, deadwood, salamander, and insect data were also taken in this stand. Pre-harvest vine control, mid-story deadening, and invasive plant control was also conducted.

Previous Condition: This compartment contained over-mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2011-12 forest inventory, the stand was over stocked at 162 ft<sup>2</sup> (BA) per acre looking at trees 9.0 inches in DBH and greater. The stand contained 16,333 board feet (BF) per acre. (*confirm*)

Present Condition: The fall 2012 harvest conducted on this selectively marked stand removed 79 harvest trees containing ~18,701 BF plus an additional 21 culls. Along with the merchantable sawlogs, tree tops were allowed to be taken provided little or no damage to the remaining standing sawtimber trees occurred. The harvesters did a nice job leaving the stand in an ideal condition to continue to grow while (hopefully) oak and other quality hardwoods establish in the understory.

Recommendations: There is no need for post-harvest TSI on this stand right now. Install demonstration restoration practices where applicable. Allow to grow.

### **AREA NAME: Sub-Compartment 7: Selection (18.3 acres)**

**RESOURCE DESCRIPTION:** This purposes of this Selection unit is to contrast a individual tree selection harvest to the adjacent shelterwood harvest. A stark contrast is also made when looking to the north at the biomass harvest sub compartments. Pre-harvest vine control was completed while invasive plant control was initiated but not completed.

Previous Condition: This compartment contained mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. In 2005, pre-harvest variable plot inventory data was taken in this stand in conjunction with the rest of the mature stands within Compartment 7. According to this inventory, the stand was well stocked at ~106 ft<sup>2</sup> (BA) per acre looking at trees 3.0 inches in DBH and greater. The stand contained ~5,355 board feet (BF) per acre.

Present Condition: The fall 2012 harvest conducted on this selectively marked stand and the adjacent “Cedar” compartment removed 192 harvest trees containing ~43,024 BF plus an additional culls. Along with the merchantable sawlogs, some tree tops were allowed to be taken provided little or no damage to the remaining standing sawtimber trees occurred. The harvesters again did a nice job leaving the stand in an ideal condition to continue to grow.

Recommendations: Complete post-harvest TSI on this stand in 2013 along with completing the invasive plant control over as soon as possible. Improve the main skid trail (the old county road along Brush Creek) to provide long term access. Allow the stand to grow. Consider harvesting again in 2022-2027.

**AREA NAME: Sub-Compartment 7: Cedar (10.5 + 22.5 acres)**

**RESOURCE DESCRIPTION:** This compartment contains a mix of old field tree species dominated by cedar but includes a scattering of white, red, scarlet, chinkapin, and black oak, yellow poplar, aspen, ash, cherry, beech, sugar maple, hickory, elm, and black gum. In 2008, a variable plot forest inventory was completed on the cedar dominated stands of Compartment 7 totaling 33+/- acres. According to this inventory, the stand is over stocked at 101.7 ft<sup>2</sup> (BA) per acre looking at trees 3.0 inches in DBH and greater. The stand contains 3,164 board feet (BF) per acre. More detailed inventory data is attached.

**Present Condition:** The fall 2012 harvest included this selectively marked stand and the adjacent “Selective” compartment. Of the trees included in the volume summary, a relatively small amount of harvested hardwood trees are attributed to the 10.5 acre Cedar compartment. However, along with these scattered trees, the harvest operation removed a number of cull trees (ie. Aspen) from among the cedar trees while establishing access trails through the stand. The harvesters again did a nice job leaving the stand in an ideal condition to continue to grow.

**Recommendations:** Complete post-harvest TSI on this stand in 2013 along with completing the invasive plant control over all acreage as soon as possible. Maintain the main skid trails to provide long term access to the usable cedar trees. Continue to utilize the cedar trees for fence posts while slowly attempting to transition the stand toward higher quality timber species. **TSI is being completed as Cedar poles are harvested.**

**AREA NAME: Sub-Compartment 7: Crop Tree Release (CTR) (13.0 acres)**

**RESOURCE DESCRIPTION:** This compartment contains primarily pole sized old field hardwoods dominated by yellow poplar, red maple, aspen, and sweetgum but also includes red, white, and chinkapin oak, hickory, sugar maple, beech, sassafras, black gum, ash, and cedar. According to the 2011 forest inventory, the stand is well stocked at 85 ft<sup>2</sup> (BA) per acre looking at trees 3.0 inches in DBH and greater. The stand contains 2,076 board feet (BF) per acre. More detailed inventory data is attached.

**RECOMMENDATIONS:** This stand is in an ideal condition to have TSI completed in order to release the crop trees from excessive competition. Grape vine control has already been completed. TSI should be completed in 2013. The first timber harvest in this stand should be possible around 2025. **TSI was completed in this stand in early 2013.**

**AREA NAME:** 8 East (18 acres)

**RESOURCE DESCRIPTION:** This compartment contains hardwoods including yellow poplar, red and chinkapin oak, sugar maple, sweet gum, cherry, walnut, American beech. According to the 2006 forest inventory, the stand is well stocked at 101 ft<sup>2</sup> (BA) per acre looking at trees 3.0 inches in DBH and greater. The stand contains 2,213 BF per acre. More detailed inventory data is attached.

**RECOMMENDATIONS:** Invasive plants are a major problem in this stand. TSI would also benefit timber quality and growth. Therefore, invasive plant control and TSI should be completed in the next 5 years or so.

**AREA NAME:** 8 West (21.7 acres)

**RESOURCE DESCRIPTION:** This compartment contains mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2006 forest inventory, the stand is over stocked at 130 ft<sup>2</sup> BA per acre looking at trees 3.0 inches in DBH and greater. The stand contains 7,702 BF per acre. More detailed inventory data is attached.

**RECOMMENDATIONS:** Pre-harvest vine control and invasive plant control should be completed in the next 5 years. Following this work, a professionally conducted timber harvest is possible in the 2014-2021 timeframe. TSI work may follow the harvest if needed.

**AREA NAME:** Compartment 11 (52 acres)

**RESOURCE DESCRIPTION:** This compartment contains mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2006 forest inventory, the stand is well stocked at 86 ft<sup>2</sup> (BA) per acre looking at trees 3.0 inches in DBH and greater. The stand contains 7,749 board feet (BF) per acre. More detailed inventory data is attached. The stand today likely has a stocking of ~100 BA and a volume around 8,800 BF per acre.

**RECOMMENDATIONS:** A professionally conducted timber harvest is possible in the 2013-2020 timeframe. Prior to harvesting, a better point of access and log yarding area must be established. Also, grape vine control and invasive plant control should be completed before any harvesting. TSI work may follow the harvest if needed.

**AREA NAME:** Compartment 12 (50 acres)

**RESOURCE DESCRIPTION:** This compartment contains mature hardwoods including red, white, black, and chinkapin oak, yellow poplar, hickory, sugar maple, American beech, and ash along with cherry, walnut, black gum, and elm. According to the 2006 forest inventory, the stand is well stocked at 74 ft<sup>2</sup> (BA) per acre looking at trees 3.0 inches in DBH and greater. The stand contains 5,380 board feet (BF) per acre. More detailed inventory data is attached. The stand today likely has a stocking of 88-95 BA and a volume around 6,400 BF per acre.

**RECOMMENDATIONS:** A professionally conducted timber harvest is possible in the 2013-2020 timeframe. As with Compartment 11, a better point of access and log yarding area must be established. Also, grape vine control and invasive plant control should be completed before any harvesting. TSI work may follow the harvest if needed.

**AREA NAME:** Compartment 13 (~165 acres)

**RESOURCE DESCRIPTION:** This compartment contains mixed hardwoods. It is located on the south side of Brush Creek north of Compartment 12 and running northeast to the east property line. At present, no timber inventory data exist for this stand.

**RECOMMENDATIONS:** Complete a timber inventory of this compartment and subdivide into management units if needed. Timber management recommendations will follow the inventory.

**AREA NAME:** Compartment 14 (~60 acres)

**RESOURCE DESCRIPTION:** This compartment contains mixed hardwoods. It is located on the north side of Brush Creek south and east of Compartment 7 and running east to the east property line. At present, no timber inventory data exist for this stand.

**RECOMMENDATIONS:** Complete a timber inventory of this compartment and subdivide into management units if needed. Timber management recommendations will follow the inventory.

**AREA NAME:** Eastern Red Cedar (ERC) Stands (~20 acres)

**RESOURCE DESCRIPTION:** These miscellaneous stands are scattered about the SEPAC property and local area. They tend to be old pasture or field sites that are often severely eroded. They have low soil fertility and low site capabilities. Management options at present are minimal. At present, no timber inventory data exist for this stand. Wildlife habitat will likely be the long term objective on the stands.

**RECOMMENDATIONS:** A more thorough forest recon will be necessary on these sites to be evaluate their capabilities and management objectives.

**AREA NAME: White Pine (WHP) Stands (19.7 acres)**

**RESOURCE DESCRIPTION:** These scattered stands represent past efforts by property owners to reforest trees on abandoned agriculture land that had low fertility and was eroding. White pine (and other miscellaneous species) were often used to reforest these sites because they were readily available and would grow well on the site.

**RECOMMENDATIONS:** Due to the limited marketability of white pine in southern Indiana at present, these stands have very limited value. Therefore, other higher value stands will often take priority when it comes to utilizing limited management capabilities. For the time being, these stands will be allowed to continue to grow.

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**GREEN CERTIFICATION:** Green Certification through the Forest Stewardship Council requires additional oversight when harvesting timber on Certified lands. These requirements include:

- Insure that the timber harvest is consistent with the approved management plan.
- Insure that unique plants, animals and habitats are protected.
- Protect cultural sites, if found on the property.
- Notify the IDNR District Forester of the upcoming timber sale and attend a pre-harvest conference.
- Implement BMP's during and after the harvest.
- The District Forester will evaluate the property during and after the harvest to monitor compliance with Certification Standards.

SEPA Woodlands (North)									
Compartment #	Acres	Stand Type	Inventory Date	Vol/Acre	Basal Area	Past Mgt	Mgt Concern	Mgt Practice w/ Date	CFWL Program
1A	192.6	Oak-Hic	2011	11,274	135.2	2011-12 - Timber inventory 2011- IP control (incomplete) 2011- Vine control 2011- Timber salvage (minor)	Over mature timber IP control	Timber harvest 2013-2020 Control Invasives 2013-2015	No
1B	19.2	Mixed- Low Quality	None	-	-	None	Wildlife Habitat- wetland	??	No
1C	16.9	Mixed Hardwoods	None	-	-	None	TSI invasive control	Complete TSI 2013-2015 Control Invasives 2013-2020	No
2A	22.5	Yellow Pop. / walnut	2011	2888	90.8	Old field edge / pasture	Invasive plants- major Vine Control	Control Invasives 2013-2020 Cut and treat vines 2013-2020	No
2B	38	Oak-Hickory	2006	8789	137	None	Mature timber Invasive plants- minor Vine Control	Timber Harvest 2013-2020 Control prior to harvesting Before any harvesting	No
2C	64	Y. Pop. / Miscell	2006	3420	123	Old field / pasture	Invasive plants- moderate Excessive stocking/vines	Control as time allows TSI 2014-2015	No
3A	11.6	Mixed Hwds	2006	5116	73	None	Timber health and quality	Complete TSI 2015-2020	No
3B	15.9	Mixed Hwds	2006	2898	65	None	Timber health and quality	Complete TSI 2015-2021	No
3C	42.5	Y. Pop / Miscell	2011	2971	93	Old field / pasture	Invasive plants- moderate Excessive stocking/vines	Control as time allows TSI 2016-2017	No
4	57.1	Oak-Hickory	2011	11,229	128	None	Over mature timber Vine Control	Timber harvest 2013-2020 Before any harvesting	Yes
5	60.4	Oak-Hickory	2011	11,716	130	None	Over mature timber Vine Control	Timber harvest 2013-2020 Before any harvesting	Yes
6A	53.4	Oak-Hickory	2011	10789	117	Sal. Harvest 2011 Vine Control 2010	Mature Timber TSI needed IP- esp. west side	Timber harvest 2013-2020 Follow harvest with TSI Control before harvesting	Yes
6B	22.3	Oak-Hickory	2011	14365	147	None	Over mature timber Invasive plants Vine Control	Timber harvest 2013-2020 Control invasives before harvesting Before any harvesting	Yes
6C	13.3	Y. Pop / Miscell				None	Invasive plants- severe Excessive stocking/vines	Control invasives as time allows TSI following IP Control	Yes
7 CTR	13	Y. Pop / Gum / Miscell	2008	2076	108	Vine Control 2011-12 IP Control 2011-12 TSI Marked 2011	Biomass Study Area Monitor Crop tree release	P-H TSI 2013 Control invasives as needed TSI 2013	Yes
7B 1-3 (Biomass All)	22.3	Mixed Hwds	2012	6390	71	Vine Control 2011-12 IP Control 2011-12 Timber sale 2012	Biomass Study Area	P-H TSI 2013 Control invasives as needed	Yes
7C 1-3 (Biomass 20%)	28.1	Mixed Hwds	2012	6604	75	Vine Control 2011-12 IP Control 2011-12 Timber sale 2012	Biomass Study Area	P-H TSI 2013 Control invasives as needed	Yes
7G 1-3 (Control)	20.7	Mixed Hwds	2012	6161	65	Vine Control 2011-12 IP Control 2011-12	Biomass Study Area	Control invasives as needed Timber Harvest 2015-2025	Yes
7 (Clearcut)	11.4	Mixed Hwds	2012	8762	93	Vine Control 2011-12 IP Control 2011-12 Timber sale 2012	Biomass Study Area	P-H TSI 2013 Control invasives as needed	Yes
7 (Shelterwood)	5.8	Oak-Hickory	2012	16,333	162	Vine Control 2011-12 IP Control 2011-12 Timber sale 2012	Biomass Study Area	P-H TSI not needed Control invasives as needed Follow-up timber harvest 2017-2023	Yes
7 (Selection)	18.3	Mixed Hwds	2005	5355	107	Vine Control 2012- not complete IP Control 2012- not complete Timber sale 2012	Biomass Study Area	P-H TSI 2013 Complete IP control 2012-13 Timber Harvest 2022-2027	Yes
7 (Cedar Stand)	10.5	Cedar/ Y. Pop. / Miscell	2005	3164	122	Vine Control 2012- not complete IP Control 2012- not complete Timber sale 2012	Biomass Study Area Manage for Cedar posts	P-H TSI 2013 Complete IP control 2013-16 Harvest cedar posts as needed	Yes
8 East	18	Mixed Hwds	2006	2213	101	None	Invasive Plants Timber health and quality	Complete IP control 2016-2020 complete TSI 2016-2020	Yes
8B	21.7	Oak-Hickory	2006	7702	130	None	Mature Timber TSI needed IP control	Timber harvest 2013-2020 Follow harvest with TSI Control before harvesting	Yes
9	46.4	Oak-Hickory	2011	11,542	119	None	Mature Timber TSI needed IP control	Timber harvest 2013-2020 Follow harvest with TSI Control before harvesting	No
10A	28.4	Oak-Hickory	2011	12,972	155	None	Mature Timber TSI needed IP control	Timber harvest 2013-2020 Follow harvest with TSI Control before harvesting	No
10B	24.9	Mixed bot. land Hwds	None	-	-	None	Invasive Plants Timber health and quality	Complete IP control 2016-2020 complete TSI 2016-2020	No
11	52	Oak-Hickory	2011	7749	86	None	Mature Timber TSI needed IP control	Timber harvest 2013-2020 Follow harvest with TSI Control before harvesting	Yes
12	50	Oak-Hickory	2011	5380	74	None	Mature Timber TSI needed IP control	Timber harvest 2013-2020 Follow harvest with TSI Control before harvesting	Yes
13	165	Mixed Hwds	None	-	-	None	Inventory Data needed	complete inventory- 2013-2014 Develop management objectives	Yes
14	60	Mixed Hwds	None	-	-	None	Inventory Data needed	complete inventory- 2013-2014 Develop management objectives	Yes
Cedar (ERC) (numerous stands)	20	Cedar/ Y. Pop. / Miscell	None	-	-	None	Wildlife habitat IP Control	Recon stands Develop management objectives	Yes
White Pine (WHP) (numerous stands)	19.7	White Pine	None	-	-	None	Wildlife habitat IP Control	Recon stands Develop management objectives	Yes

Unclassified woodlands = 522.9 acres plus additional unlabeled stands.



## ACKNOWLEDGEMENTS

I have reviewed the attached Stewardship Plan and agree with its recommendations for reaching my management objectives. I also agree to follow this plan as written, unless circumstances arise that amendments need to be made. The administrating State District Forester must agree upon any amendments in the plan.

Furthermore, if this area were to be enrolled in the Classified Forest & Wildlands Program, its status for the Indiana Classified Forest Certified Group has been determined to be:

- Eligible
- Ineligible

Landowner's Name: Trustees of Purdue University

County: Jennings

Landowner's Acceptance: \_\_\_\_\_  
*(Signature)*

Date Signed: \_\_\_\_\_

Plan Preparer: \_\_\_\_\_

District Forester: \_\_\_\_\_  
*(Signature)*

Date Signed: \_\_\_\_\_

Please sign this page and return it to:  
Rob McGriff, District Forester  
905 E County Road 350 N  
North Vernon, IN 47265

## MANAGEMENT ACTIVITY TRACKING LOG

SCHEDULED YEAR	AREA NAME or NUMBER	PROJECT DESCRIPTION	ACRES	IMPORTANCE	DATE COMPLETED	ACRES COMPLETED	CHEMICALS USED	COMMENTS	NON-NATIVE PLANTS/SEEDS USED

**If planning an activity not on this list, please contact your District Forester.**