

**Ferdinand State Forest  
Compartment 08, Tract 03  
RESOURCE MANAGEMENT GUIDE**

**Location**

This tract is located in Perry County, Section 14, Township 4 South, Range 3 West, approximately 1.8 miles northeast of Bristow, 4.2 miles south of Possum Junction.

**General Description**

Compartment 8, tract 3 consists of approximately 78 acres. The tract contains both mixed hardwoods and pine. The hardwood stratum covers approximately 70 acres, and the pine stratum covers approximately 8 acres.

**History**

This tract was purchased in 1950. A timber harvest had occurred prior to purchase in 1949, but some good timber was reported to exist at the time of purchase. A fire was reported to have occurred in 1947 covering 6 acres. In 1978, 200 yellow-poplar seedlings were planted along cemetery road to replace Shortleaf pine that died from beetle infestation. A timber sale containing 95,144 board feet occurred in 1990. TSI was conducted in 1988 and 1992.

**Landscape Context**

Surrounding landscape is a mix of forested and agricultural uses. Farming is commonplace within the richer soils in the broad valleys and ridgetops. There is a small town within 2 miles, but this is mainly residential and is not expanding much. There is scattered rural development across the landscape.

**Topography, Geology and Hydrology**

The tract consists of primarily south and east facing slopes. Topography is moderate to moderately steeply sloping. Bedrock in the area consists of sandstone, and some outcroppings of this are visible along the slopes in the tract.

**Soils**

Adyeville-Wellston-Deuchars silt loams (AbvD2 eroded, AbvD3 severely eroded)  
This soil complex varies from moderately well drained to somewhat excessively drained and is located on sideslopes in uplands. Slopes are 8 to 20 percent. In terms of forest management, the soil complex is listed as well suited to hand planting and moderately suited to mechanical planting. It is moderately suited to harvesting equipment with a limitation of low strength, and the complex has a severe erosion hazard on roads and trails due to slope. The soil complex has a site index of 85 for Red oak.

Adyeville-Tipsaw-Ebal complex (AccG)

This soil complex varies from moderately well drained to somewhat excessively drained and is located on sideslopes in uplands. Slopes are 20 to 50 percent. In terms of forest management, the soil complex is listed as moderately suited to hand planting and poorly

suiting to mechanical planting. It is poorly to moderately suited to harvesting equipment due to slope and low strength, and the complex has a severe erosion hazard on roads and trails due to slope. The soil complex has a site index of 75 for Black oak.

#### Apalonia silt loam (AgrC2)

This soil is moderately well drained and is located on sideslopes in uplands. Slopes are 6 to 12 percent. In terms of forest management, the soil is listed as well suited to hand planting and moderately suited to mechanical planting. It is moderately suited to harvesting equipment due to slope and low strength, and the soil has a severe erosion hazard on roads and trails due to slope. The soil has a site index of 60 for White oak.

#### Ebal-Deuchars-Kitterman complex (EabD2 eroded, EabD3 severely eroded)

This soil complex is moderately well drained and is located on sideslopes and uplands. Slopes are 6 to 12 percent. . In terms of forest management, the soil complex is listed as moderately suited to hand planting and poorly suited to mechanical planting. It is poorly to moderately suited to harvesting equipment due to slope and low strength, and the complex has a severe erosion hazard on roads and trails due to slope. The soil complex has a site index ranging from 65 (Kitterman) to 80 (Ebal) for Black oak and 90 (Deuchars) for Red oak.

#### Gatchel loam (GacAW)

This soil is somewhat excessively drained and is located on floodplains. Slopes are 0 to 2 percent. In terms of forest management, the soil is listed as well suited to hand or mechanical planting. It is moderately suited to harvesting equipment with a limitation due to low strength, and the soil has a slight erosion hazard on roads and trails. Site index is not indicated for this soil.

### **Access**

Access to the tract is excellent. Highway 145 touches the southeast corner of this tract and provides access. From highway 145, a gravel lane accesses the Beard Cemetery in the lower center of the tract. A gated firelane continues from here to the west through the remainder of the tract.

### **Boundary**

Tract boundaries are also property boundaries, except for the southern boundary. The tract boundary here is the drainage which adjoins compartment 8 tract 4. A cornerstone is located at the northwest corner. The east line has some evidence of a roadbed running along the line. The north line follows a tree line. Nothing was observed on the west line. Line reconnaissance was performed with a Garmin GPS unit to determine line location and general location of corners.

### **Wildlife**

In terms of Indiana Bat habitat, the inventory determined there were a total of 1492 live trees of 11"+ DBH and 243 trees of 20"+ DBH of preferred species. These both exceed the live tree requirements of 702 trees of 11"+ DBH and 234 trees of 20"+ DBH. This means that 790 live trees of 11"+DBH and 9 live trees of 9"+ DBH are available for

removal in a harvest. However, the inventory determined that there were a total of 101 snag trees of 9"+ DBH and 12 snag trees of 19"+ DBH of preferred species. These numbers are less than the required 468 snags of 9"+ DBH and 78 snags of 19"+ DBH. This means that cutting of live trees up to the determined removal limit should not cause harm to Indiana bats, but we should not cut any snags within the tract. It is standard policy to avoid cutting snags, and in fact post harvest TSI could increase the number of snags for habitat.

### **Communities**

No rare, threatened, or endangered plants or animals were identified within this tract. Vine honeysuckle was observed growing in the understory of some of the pine areas. Regen in this area would likely be Yellow poplar and control of the honeysuckle should not be necessary. There were a few Multiflora rose observed in one location in the eastern portion of the tract. Fortunately this tract is relatively free of exotic/invasive species as well as grapevines.

### **Recreation**

Recreation uses in this tract would include hunting, hiking, etc. The maintained firelane in this tract is a corridor to facilitate these uses. This tract also receives visitation due to the cemetery located in it.

### **Cultural**

The tract contains Beard Cemetery. This is open to visitation and has an ungated gravel lane accessing it from highway 145. Other cultural resources may be present on the tract but their location is protected. Adverse impacts to significant cultural resources will be avoided during any management or construction projects.

## **Tract Subdivision Description and Silvicultural Prescription**

### **Hardwood**

Approximately 70 acres (90%) of the tract consists of commercial hardwoods. The inventory data estimates the hardwood stratum contains 6,630 bd. ft. per acre of sawtimber volume, a total of 465,130 bd. ft. Harvest volume was estimated to be 2,380 bd. Ft. per acre, a total of 167,000 bd. Ft. Residual volume was estimated to be 4,250 bd. Ft. per acre, a total of 298,130 bd. Ft. The stocking guide (on file in the Property office) illustrates that the current number of trees and basal area in this stratum corresponds to a 75% stocking. The proposed harvest would reduce this stocking to 58%, which is almost exactly on the B-line of the chart. This is bordering on being understocked. One inventory point in the hardwood stratum was designated as an opening, which would have caused a decrease for the stratum wide stocking numbers.

Black oak and White oak are the predominant sawtimber species in the tract; together they represent nearly 55% of the sawtimber volume in the hardwood stratum. Other sawtimber species include Yellow poplar, Red oak, Pignut hickory, Shagbark hickory, Sweetgum, and Sugar maple. In general, this tract has a species composition that is moving toward Sugar maple rather than oak-hickory. This is typical of many Indiana

oak-hickory stands. The east facing slope on the eastern side of the tract is especially heavy in Sugar maple. Other areas of the tract tend to have more pole sized advanced oak regeneration. The hardwood areas should be managed to promote more oak regeneration if possible. There are some areas of advance oak regeneration that would benefit from TSI. Other areas, typically in the Adyeville-Tipsaw-Ebal soil complex, may have potential for oak regeneration if understory TSI was conducted. However, this soil has a site index of 75 for Black oak, and this may be on the high side for competitive regeneration. There is one area east of the cemetery that was planted in pine, but blowdown and succession has caused a transition to Sweetgum and Yellow poplar. Quality is generally low, and an opening was prescribed to get a higher quality regeneration back. Yellow poplar is already present on the site, and the soil complex generally has a high site index for oak. This suggests that regeneration will probably have a high content of Yellow poplar.

### **Pine**

Approximately 8 acres (10%) of the tract consists of planted pine. The inventory data estimates the pine stratum contains 14,150 bd. ft. per acre of sawtimber volume, a total of 110,370 bd. ft. Harvest volume was estimated to be 11,290 bd. ft. per acre, a total of 88,030 bd. ft. Residual volume was estimated to be 2,860 bd. ft. per acre, a total of 22,340 bd. ft.

Most of the pine in this tract consists of White pine, but Virginia pine is also present to a lesser extent. The White pine has done much better in this tract than the Virginia, which is the standard situation in this region. One area of two to three acres that was previously pine has suffered significant blowdown in the past. This area is located in the vicinity of the center of the tract and already has hardwood regeneration coming in. Other areas of primarily White pine are fairly large and contiguous, especially near the southeast entry point to the tract. While pine is not native to the area, it provides both wildlife as well as aesthetic benefits. Management should be geared toward growing native hardwoods in place of pine where desirable, but also maintaining existing healthy pine stands to some extent.

### **Summary Tract Silvicultural Prescription and Proposed Activities**

Both a pine and hardwood harvest is recommended for this tract. Inventory data shows that there is sufficient stocking in the tract to support a timber harvest. Inventory estimated 2,380 bd. Ft. per acre, a total of 167,000 bd. ft for the hardwood stratum. For the pine, inventory estimated 11,290 bd. ft. per acre, a total of 88,030 bd. ft. Total tract harvest estimation would be 255,030 bd. ft. The pine harvest identified in the inventory is made up entirely of group selection openings. The estimates are based upon removing some of the pine that is either in decline, has suffered blowdown, or has good potential regeneration in the understory. Other pine, such as along the entrance lane, was left for wildlife and aesthetic purposes. In terms of hardwoods, there is a necessity here for individual tree selection of existing species where appropriate for thinning and to remove lower quality or damaged stems. Also, a group selection was identified for one inventory point in order to promote higher quality regeneration in an old pine blowdown area. There are opportunities here for oak management, both release of pole sized timber as

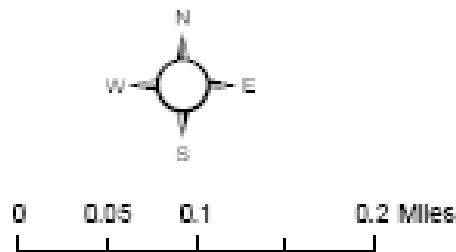
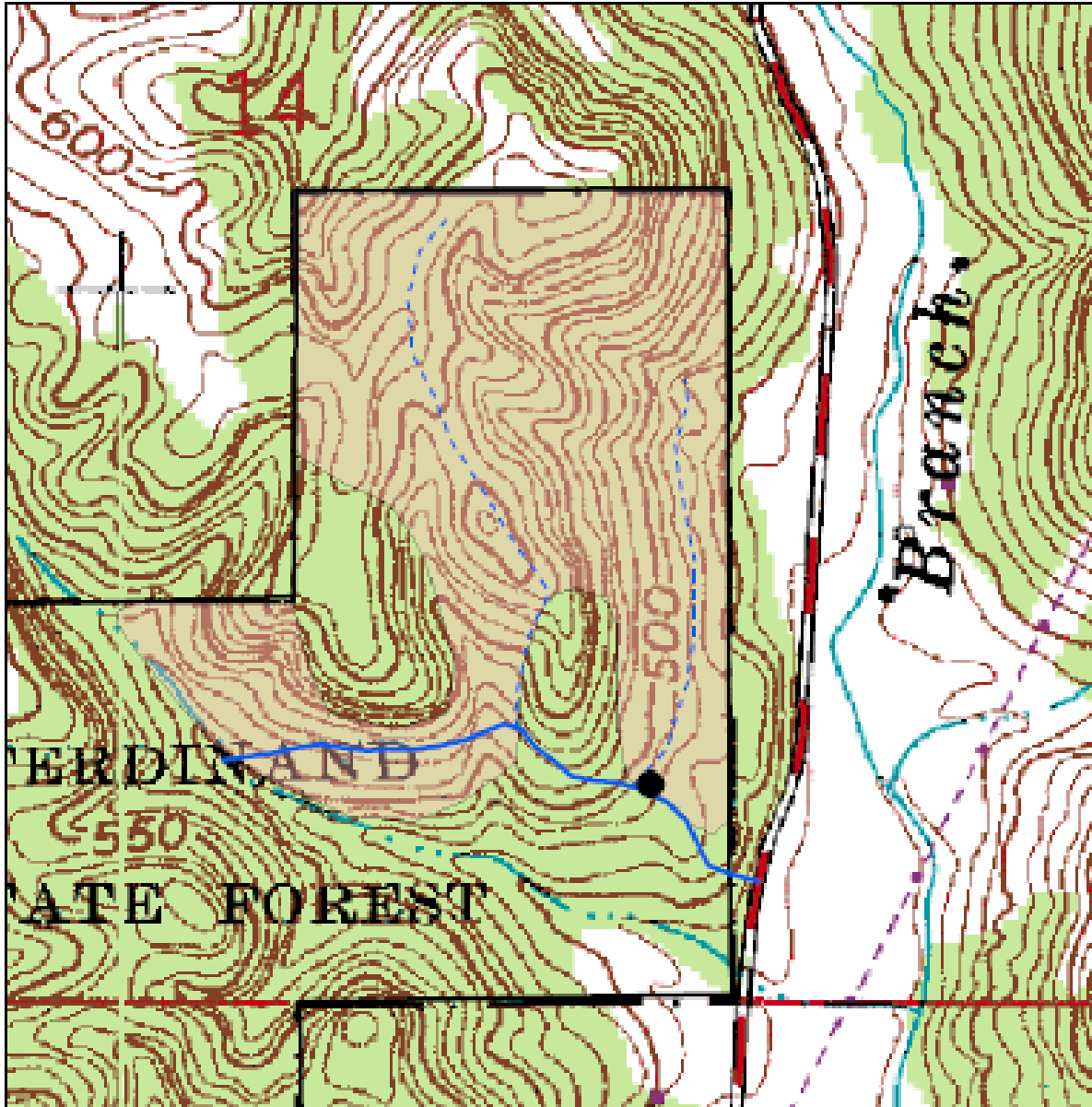
well as oak regeneration. Harvest could be scheduled as soon as 2009. Post harvest TSI should follow. The next inventory should be scheduled for 2023.

INVENTORY SUMMARY			
Commercial Forest Acreage:	70.00	Average Site Index:	76
Non-Commercial Forest:	8.00	Average Annual Growth:	0
Recreation Use Acreage:	0.00		
Permanent Openings:	0.00	BA (Trees > 10"):	68.90
Acreage in Other Uses:	0.00	BA (Trees < 10"):	21.80
TOTAL AREA:	78.00	Total BA / Acre	90.70

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# Ferdinand/Pike State Forest Compartment 8 Tract 3



- Possible Yarding Area
- - - Possible Skid Trail
- Firelane
- ▭ Property Boundary
- Possible Harvest Area