Indiana Department of Natural Resources
Division of Forestry
**DRAFT**

# RESOURCE MANAGEMENT GUIDE
## Ferdinand-Pike State Forest

### Location
This tract is located in Sections 29, 32 & 35, T4S, R3W in Clark Township of Perry County. It is found on the Bristow Quad. It is approximately 2 miles southwest of the town of Bristow.

### General Description
This tract is 133 acres of which, approximately 52 acres is pine and 81 acres are hardwoods. This is the southwestern most tract at Ferdinand State Forest.

### History
This tract is made up of four different purchases. The first was from George and Mabel Leona Vanhoosier of Perry County. This was a sixty acre purchase in Section 32 made in February 1953. The second came from James and Edith Ann Elverd of Perry County in June 1953 and consisted of eight acres in Section 29 and 40 acres in Section 40. The third purchase was 20 acres in Section 29 from Victor & Frieda Huff of Perry county in July 1953. Finally, the fourth purchase of 10 acres was from George E. & Mabel L. Vanhoosier of Perry County in December 1953 was in Section 33.

In terms of resource management, the first recorded cruise was by Bill Hahn in 1973. At that time Hahn indicated the tract has about 50 acres of hardwood timber, with the ridgetops planted to pine as well as some of the bottoms. Hahn also indicates a good deal of poplar along the edges of the pine. He recommends a timber harvest in 15-20 years with TSI to follow. Hahn also indicates that the boundaries are a major issue for this tract as little evidence exists and that they are very irregular.
A temporary easement was given to Hoosier Energy Rural Electric Cooperative, Inc. in March of 1987 to access, maintain and repair transmission line.
A Resource Management Plan was completed in 1991 by Doug Brown. Brown indicates 88 acres of commercial forest and 50 acres of pine. The tract had a total volume of 404,433 board feet and a basal area of 95.9. The harvest volume reached about 1,319 board feet per acre. Brown also commented on the problematic boundaries which included a survey request. Grapevine TSI was prescribed and was completed over 138 acres. Vines were cut and treated with Tordon in May and December of 1991. A timber harvest over approximately 38 acres, was sold in October 1992 and contained 44,996 board feet to Heim Brothers. The volume was made up of primarily black oak, white oak and yellow poplar. The harvest was an improvement cut to reduce high stand density as well as to remove damaged and mature stems. The sale was primarily in the northeast corner of the tract. Post harvest TSI was prescribed as well as the pruning and thinning of the white pine.

**Landscape Context**
While this tract is directly surrounded by forest, agricultural land acreage dominates just 1.5 to the east and west due mainly because of the Anderson River which runs on both sides of the tract and Crooks Hollow Creek on the west side. The small town of Bristow is 2 miles to the northeast.

**Topography, Geology & Hydrology**
This tract is made up of ridgefingers, slopes and intermittent stream bottoms. The topography seems to be average for forestland in Perry county. The tract does contain some sandstone outcroppings along a few short but steep sections of topography in this tract. The tract is located in the Anderson River watershed and drains to the river within approximately 1.5 miles of leaving the tract boundary. Only a single mapped intermittent stream is located within the tract.

**Soils**
This tract contains four soil types: two Adyeville-Wellston-Deuchars silt loams, an Adyeville-Tipsaw-Ebal complex, and a Gatchel loam.

*Adyeville-Wellston-Deuchars silt loam* (AbvD2, AbvD3) is found on 8-20 % slopes and is eroded. Both soils have an average site index of 85.
The Adyeville soils are somewhat excessively drained, have a watertable at a depth greater than 40 inches and are on sideslopes on uplands. The surface layer is silt loam and has moderately low or moderate organic matter content. Permeability is moderate in the most restrictive layer above the bedrock. Available water capacity is low. Bedrock is at a depth of 20-40 inches.

The Wellston soils are well drained, have a watertable at a depth greater than 40 inches and are on sideslopes on uplands. Slopes are 8 to 20 percent. The surface layer is silt loam, has moderately low or moderate organic matter content. Permeablity is moderate in the most restrictive layer above 60 inches. Available water capacity is moderate. Bedrock is at a depth of 40 to 60 inches.

The Deuchars soils are moderately well drained, have a seasonal high water table at 2.0 to 3.0 feet and are on sideslopes on uplands. Slopes are 8-20 percent. The surface layer is silt loam has moderately low or moderate organic matter content. Permeability is slow in the most restrictive layer above 60 inches. Available water capacity is moderate. Bedrock is at a depth of 60-80 inches.

*Adyeville-Tipsaw-Ebel complex***,** (AccG) is found on 20-50% slopes and is very rocky. This soil is found on 65 acres and surrounds the drainages and covers some of the lower slopes. The soil has an average site index of 75.

The Adyeville soils are somewhat excessively drained, have a watertable at a depth greater than 40 inches and are on sideslopes on uplands. Slopes are 20-50%. The surface layer is very fine sandy loam has moderate or high organic matter content. Permeability

is moderate in the most restrictive layer above 60 inches. Available water capacity is low. Bedrock is at a depth of 20-40 inches.

The Tipsaw soils are somewhat excessively drained, have a watertable at a depth of greater than 40 inches and are on sideslopes on uplands. Slopes are 20-50%. The surface layer is very fine sandy loam has moderate or high organic matter content. Permeability is moderate in the most restrictive layer above 60 inches. Available water capacity is low. Bedrock is at a depth of 20-40 inches.

The Ebal soils are moderately well drained, have a seasonal high watertable at 2 to 3 feet and are on sideslopes on uplands. Slopes are 20 to 30 percent. The surface layer is silt loam has moderate or high organic matter content. Permeablity is very slow in the most restrictive layer above bedrock. Available water capacity is moderate. Bedrock is at a depth of 50-80 inches.

*Gatchel loam,* (GacAW): This soil is found along the drainage in the southern 20 acres. This is a somewhat excessively drained soil that has a watertable at a depth of greater than 40 inches and is on floodplains. Slopes are 0 to 2 percent. The surface layer is loam has moderate to moderately low organic matter content. Permeability is slow in the most restrictive layer above 60 inches. Available water capacity is moderate. This soil is occasionally flooded usually for very brief durations. The soil does not have a site index listed.

**Access**

Access to this tract is provided by either South Oak Ridge Road road along the eastern boundary of the tract or from Oakridge Church Road which touches the northwestern corner of the tract. Oakridge Church Road has been used for access to the tract in the past, however the actual location of the road is somewhat unclear due to trash from the neighbor and dense vegetation from lack of use. Numerous territorial dogs associated with the neighbor also make this access less desirable for regular use. Since this roadbed has been utilized for management in the past, it would be a good idea to do some equipment work in this area to construct a small parking area, gate, etc to reinforce our historical access through this area. This could also be done at the same time as any resource management related equipment work. On the eastern access, there is room for cars to pull off on the side of the road if they wish to park and walk-in to the tract. Limited equipment access would be possible from the east, but a majority of the tract is isolated from the east side by a significant drainage.

**Boundary**

This tract has one of the more complicated boundaries of any Ferdinand/Pike tract. An attached map illustrates boundary evidence that has been located during this and previous inventories. No corner evidence could be found on the southernmost 20 acres. This parcel could benefit from survey work. The easternmost 10 acre parcel has evidence at every corner. The two southern corners of the "main block" of the property have corner stones. The northern two corners have no noted evidence, however an old roadbed was found to follow the section line along the northwest corner of the property. There may

have been corner evidence in the roadbed at one time in the past. There is another old eroded roadbed which the northern boundary of the property follows. Someone has placed T-posts along the northern edge of this roadbed. There are also T-posts placed along the line from the southeast corner of the "main block" north to the southwest corner of the 10 acre parcel.

There is still an unresolved trespass issue with the Bauer neighbor. Also in the easternmost ten acre parcel, a neighboring landowner is using a road to access private property to the east.

**Wildlife**
Wildlife seen while in the tract included deer, squirrel, chipmunk, Eastern Box turtle, Cardinal, Downy woodpecker, a nuthatch, and a Turkey vulture.

In terms of wildlife habitat, the inventory results indicated that snags and legacy trees numbers look pretty good for this tract. Legacy trees are live trees of selected species that could support Indiana Bat populations. There were 819 more trees than the desired maintenance level for 11+ DBH and 34 more than the desired maintenance level of 20+ DBH.

All but the 19+ DBH snags exceeded optimal levels. This deficiency should be supplemented by 19" DBH snag creation during post harvest TSI if possible. There were 1466 trees above optimal level for 5+" DBH snags and 144 above optimal level for 9+" DBH snags. There were5 trees above maintenance level for 19+" DBH snags, but 62 less than the desired optimal level.

**Communities**
A Natural Heritage Database review was obtained for this tract. If rare, threatened or endangered species were identified for this area, the activities prescribed in this guide will be conducted in a manner that will not threaten the viability of those species.

**Recreation**
Currently there appears to be little recreational use of this tract. There are no developed recreational trails or facilities within this tract. There is evidence of an old tree stand as well as several old ATV trails. It appears that none of these have been used in recent years. There is some sort of primitive shelter or blind on the north boundary of the property, probably constructed by the neighbor living at the end of Oakridge Church Road. This was probably intended for hunting. The most likely potential recreational uses for this tract would be hunting or hiking.

**Cultural**
Cultural resources may be present on this tract but their location is protected. Adverse impacts to significant cultural resources will be avoided during any management or construction activities.

## RESOURCE MANAGEMENT GUIDE

TM 901, 902, 903, 904

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|---|---|---|---|
| **State Forest:** | Ferdinand | **Forester:** | J. Winner |
| **Compartment:** | 7 | **Date:** | 9/1/2011 |
| **Tract:** | 8 | | |

### INVENTORY SUMMARY

| | | | |
|---|---|---|---|
| **Commercial Forest Acreage:** | 133.00 | **Average Site Index:** | 80 |
| **Non-Commercial Forest:** | 0.00 | **Average Annual Growth:** | 0 |
| **Recreation Use Acreage:** | 0.00 | | |
| **Permanent Openings:** | 0.00 | **BA (Trees > 10"):** | 67.00 |
| **Acreage in Other Uses:** | 0.00 | **BA (Trees < 10"):** | 39.30 |
| **TOTAL AREA:** | 133.00 | **Total BA / Acre** | 106.30 |

### (Estimated Tract Volumes for Commercial Forest Area - Bd. Ft., Doyle Rule)

| Species | Growing Stock | Harvest Stock | Total Volume |
|---|---|---|---|
| SHP | 9830 | 6210 | 16040 |
| SUM | 7710 | 11430 | 19140 |
| SWG | 0 | 5330 | 5330 |
| VIP | 17740 | 26400 | 44140 |
| WHA | 0 | 10130 | 10130 |
| WHO | 119080 | 23760 | 142840 |
| YEP | 51790 | 49830 | 101620 |
| AMB | 8120 | 10880 | 19000 |
| SYC | 2780 | 1600 | 4380 |
| BIH | 4870 | 0 | 4870 |
| BLC | 1370 | 4960 | 6330 |
| BLO | 46400 | 34590 | 80990 |
| BLW | 1270 | 0 | 1270 |
| WHP | 49230 | 278380 | 327610 |
| LAA | 14090 | 6930 | 21020 |
| REO | 27830 | 21260 | 49090 |
| PER | 1420 | 1600 | 3020 |
| PIH | 23590 | 6190 | 29780 |
| REM | 0 | 2740 | 2740 |
| REP | 2540 | 3190 | 5730 |
| SCO | 13210 | 10290 | 23500 |
| SHH | 2680 | 0 | 2680 |
| **TRACT TOTALS:** | 405550 | 515700 | 921250 |

| | | | |
|---|---|---|---|
| **TRACT TOTALS:** | 405550.00 | 515700.00 | 921250.00 |
| **PER ACRE TOTALS:** | 3049.25 | 3877.44 | 6926.69 |

**Tract Subdivision and Silvicultural Prescription**

The 81 acre hardwood stratum is approximately 61% of the total tract acreage, with the remaining 52 acres in the pine stratum. The inventory estimates 6,660 Bd Ft. per acre of combined harvest and leave volume for 537,820 Bd Ft. of total sawtimber volume in the stratum. Harvest volume selected was 2,767 Bd. Ft. per acre, 223,420 Bd. Ft. total. Residual volume was 3,894 Bd. Ft. per acre, 314,410 Bd. Ft. total. Attached stocking guide illustrates that the current number of trees and basal area in this stratum corresponds to a 94% stocking. The trees selected for harvest in the inventory would reduce this stocking to 69%, which maintains the stand above the B-line. White oak is the most dominant in terms of species composition with 136,140 Bd. Ft. total, approximately 25% of the total stratum volume. Yellow poplar is the next most dominant species with 91,080 Bd. Ft. Black oak, Eastern white pine, and Red oak are also common species. Generally there is some nice oak timber that could be thinned and opportunities for release of desirable hardwoods where they are mixed with pine.

The remaining 52 acres of the tract (39% of tract total) are classified in the pine stratum. Inventory identified 383,420 total volume with 7,338 Bf. Ft. per acre. 292,300 Bd. Ft. were identified as harvest volume and 91,130 Bd. Ft. were identified as leave volume. Eastern white pine accounts for a vast majority of the volume with 275,500 Bd. Ft. of stratum total. Virginia pine, Red pine, and Shortleaf pine were also identified in the inventory. There is some blowdown throughout the pine, although the White pine was generally the least damaged at the time of inventory. The pine stratum is scattered throughout the tract. It should be noted that the identified volumes probably identify a higher amount of harvest volume than would be reasonably accessible to harvesting equipment. The inventory did not account for access issues in terms of harvest and leave estimates. Pine stands present in the far southern 20 acre parcel as well as in the southeast portion of the main block would be difficult to access with equipment unless permission was obtained to cross a neighboring landowner. The rest of the pine is located northwest and west portions of the main block and could be accessed using Oakridge Church Road. Even if the accessible pine were harvested, the residual pine should provide for sufficient habitat diversity in the tract.

Based on the inventory and field observations, a harvest is recommended in this tract. As stated previously, there is much opportunity for selective thinning of the hardwoods and crop tree release with the goal of improving the overall vigor of the stand. There are instances identified where higher quality trees could be released from competing pine or aspen. Black oak and Yellow poplar both had a significant percentage of standing volume selected for harvest. They appeared to be showing some dieback that has also been seen in other areas of the forest. Several pine plots had openings prescribed. This will allow for the salvage of some pine from constant windthrow hazards and provide for natural hardwood regeneration to replace the planted pine. Natural hardwood regeneration in openings will eventually help correct the deficiency of 19+" snags of desired hardwood species. Some of the White pine will also be left in place for wildlife habitat and aesthetics. The cultural site and topography will both need to be taken into account during any timber management. Post harvest TSI will need to be completed after

any harvesting activity. Additional 19+" snags should also be created during the TSI where possible.

**SPECIFIC PRACTICES FOR ACCOMPLISHMENT**

**(tree planting, TSI, harvest, special product sales, wildlife habitat work, erosion control, unique areas, recreation, etc.)**

| Year Planned | Practice | Year Accomplished |
|---|---|---|
| 2012 | Equipment Work to improve access to tract from Oakridge Church road | |
| 2012 | Mark timber sale | |
| 2013 | Post harvest TSI | |
| 2026 | Re-Inventory | |

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