Ferdinand State Forest
Compartment 01, Tract 06
Forester's Narrative

Location
Tract 06 is located in Sections 5, 6, 7 & 8 in T3S, R3W. It is located about 6.5 miles north-east of the town of Ferdinand and about 4 miles south-west of St. Anthony. The tract is in the main block of Ferdinand State Forest.

General Description
This tract covers approximately 156 acres with 13 acres of pine and 143 acres of hardwood forest.

History
This tract is made up of four different acquisitions.

From Mary and William Smith, 45 acres of a 79.2 acre purchase in August of 1939. From Susan Horney 83 acres of a 108 acre purchase in December of 1940. From Sylvester and Mildred Flieg, 21 acres of a 40 acre purchase in November of 1941. From Lysander Trent 2.5 acres of a 120 acres purchased in November of 1939. Finally, from Thomas Huff, approximately 4 acres.

Management History

The first comprehensive management plan was completed in May of 1975 by forester Ben Hubbard. At this time, the tract had about 2,518 board feet per acre with the bulk of the volume in black oak. A timber sale was prescribed to remove overmature and defective stems. This timber sale was completed in January of 1976 and contained 327,456 board feet over 140 acres. The largest part of the volume was black oak (116,604 board feet), scarlet oak (42,358 board feet), red oak (38,369 board feet) and yellow poplar (38,123 board feet).

The west boundary line was surveyed in 1986 by Jacobi and Toombs, Inc. of Clarksville, Indiana. The Branchville labor line completed a grapevine TSI in 1989 and the tract was inventoried in March of 1990 by Janet Eger. At this point, the tract had 7,014 board feet per acre with the largest part of the volume in black oak, yellow poplar and white oak. Total basal area was 104.19. A harvest was prescribed for 1991 over 144 acres.

This harvest was sold in May of 1991 and contained 180,202 board feet. Yellow poplar (78,375 board feet), black oak (61,304 board feet) and scarlet oak (17,499 board feet) made up 87% of the harvest volume. The sale covered 127 acres.

In June of 2005, exotic and invasive species were treated along the road. Species targeted included multiflora rose and autumn olive. These were deadened in June of 2005 using cut stump and treated with Pathway and Roundup Ultra Max.

Soils

Gilpin Silt Loam (GlD2) is found on 12-18% slopes and is eroded. It is on sideslopes in uplands. It is a well-drained soil with a water table at greater than 40 inches. It has moderately low organic matter content. Permeability is moderate above 60 inches and available water capacity is low. Bedrock is at 20-40 inches. This soil is found on 37 acres on the mid to upper slopes around the drainage and the upper slopes and part of the ridgetop on the west side.

Gilpin Silt Loam (GID3) is found on 12-18% slopes and is severely eroded. . It is a well-drained soil with a water table at more than 40 inches. It is found on side slopes in uplands. It has moderately low organic matter and its permeability is moderate. It has a low available water capacity and bedrock is found at 20-40 inches. It is found on 5 acres contained in a small patch in the south-east corner and northwest facing slopes along the tract's north boundary line.

Gilpin Silt Loam (GlE) is found on 18-25% slopes. This soil is well drained and the water table is found at greater than 40 inches. It is found on sideslopes. It has moderately low organic matter and permeability is moderate. Its available water capacity is low. Bedrock is found at 20-40 inches. This soil is found on 3.6 acres in one small patch on the mid to upper north facing slopes in the north-central part of the tract.

Gilpin Silt Loam (GlE3) is found on 18-25% slopes and is severely eroded. The soil is well drained and has a water table at a level greater than 40 inches. It is found on side slopes and uplands. It has moderately low organic matter and permeability is moderate. Available water capacity is low and bedrock is found at a depth of 20-40 inches. It is found only on about .1 of an acre in a very small area in the extreme south-east corner of the tract.

Gilpin-Berks (GoF) is found on 20-50% slopes. The Gilpin portion is well-drained and the water table is found at more than 40 inches. It is found on side slopes. It has moderately low organic matter and permeability is moderate. It has low available water capacity and bedrock is found at 20-40 inches. The Berks portion is a well-drained soil with a water table at greater than 40 inches. It also is found on sideslopes, has moderately low organic matter and moderate permeability. Bedrock is found at 20-40 inches. This soil makes up the largest portion of the tract with 65 acres and covers the majority of the lower to mid slopes and surrounds the drainage.

Wellston Silt Loam (WeC2) is found on 6-12% slopes and is eroded. It is a well-drained soil and has a water table at more than 40 inches. It is found on side slopes. It has moderately low organic matter and permeability is moderate. Its available water capacity is moderate. Bedrock is found at 40-72 inches. It makes up 16 acres and is found in scattered patches on the lower to mid slopes as well as a ridge finger.

Zanesville Silt Loam (ZnC2) is found on 6-12% slopes and is eroded. It is a moderately well drained soil with a seasonally high water table at 2-3 feet. It has moderately low organic matter and permeability is very slow. It has moderate available water capacity. Bedrock is found at 50-90 inches. This soil makes up about 13 acres and is scattered around the ridge tops, with the biggest patch on the south-west side of the tract.

Zanesville Silt Loam (ZnC3) is found on 6-12% slopes and is severely eroded. It is moderately well drained and a seasonal high water table at 1.5 to 2.5 feet. It has moderately low organic matter and permeability is very slow. The available water capacity is moderate. Bedrock is found at 50-90 inches. It makes up about 6.5 acres found in a single patch in the northeast corner of the tract.

Landscape Context

The surrounding area of this tract is predominately hardwood forest and agricultural use. Residential use is primarily rural homes scattered around the landscape. The nearest town is located about four miles north west of the tract.

Topography, Geology and Hydrology

This tract has a mixture of slopes and some ridge tops as well as a drainage. Slopes face nearly every direction, and vary in steepness. Hydrology includes a drainage that arcs through the central part of the tract with several off shoots. There is also a drainage that extends in from the west.

Access

Access to this tract is good with a gravel forest road making up the southern boundary. A firelane/hiking trail wanders through the west and east sides of the tract. These allow good access for management activities. The drainage is largely uncrossable, access via either firelane or trail is possible.

Boundary

There are stones on the south-east corner, the south-east section corner of Section 6. Stones are also located on the west side on each corner of the inset. The entire east line was surveyed in 1986.

Wildlife

Wildlife noted in this tract includes turkey, raccoon, songbirds, squirrels, crows and deer. Habitat characteristics of the tract include numerous down trees, a wildlife pond, low brushy cover, pine and hardwood types, den trees and an intermittent stream. The natural heritage database shows one species, *Wilsonia citrina*, (Hooded Warbler) is located in the neighboring tract to the south. *Wilsonia citrina* prefers forests with some shrubby understory especially along streams and ravine edges. It inhabits young and mature

forests. A dense shrub layer and scant ground cover is preferred. This species will nest in wooded areas as small as 12 acres if they are near a larger acreage of forestland. Since selective harvesting and small group selection increases the shrub layer, harvesting may be beneficial to increasing habitat if implemented in this tract. Although this is a species of special concern in Indiana, it has been found to be common and increasing in some areas.

Indiana Bat Strategy
The Indiana Division of Forestry recognized the potential to enhance the Indiana bat habitat on its lands by implementing comprehensive management principles. These management principles include obtaining data on size, species, and numbers of snag trees. Snag trees and some specific species are an integral part of the Indiana bat policy as they are prime roosting sites for maternal colonies.
The only guideline this tract met was in the 11" dbh class where it exceeded the number of trees necessary. The remaining requirements were not met and fall well below the needed amount. Large desired species should be preferred where possible and snags should be retained and created during management activities. The Indiana bat habitat guidelines report is stored in the property office.

Communities

No known endangered, threatened or rare species were found within the boundaries. Exotics have been found on the southern perimeter of the tract. Exotic species include autumn olive, multiflora rose. Control work was completed in June of 2005 where individuals were sprayed or cut and sprayed.

Recreation

Recreation within this tract includes Kyana Trail, Firelane 5 and Firelane 6. All three get heavy use since they are on the main block of the property. Kyana Trail is both hiking and a mountain bike trail. Hunting is also a popular activity in this tract as noted by the several deer stands located within the tract.

Cultural Features

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

Pine

This tract has approximately 13 acres of standing pine. The largest block of pine is found in the north-east corner of the tract and makes up approximately 9 acres. This pine is

white pine and still very dense, sawtimber sized trees. The average diameter is around 20". There is very scattered yellow poplar coming in, in what gaps have been created. The understory is made up predominately of American beech, while regeneration includes dogwood as well as beech. Virginia pine makes up the smaller acreages on the south end of the tract. These individuals are mostly pole-sized. About half of the trees are laying on the ground, but the canopy is still fairly dense. There are not many hardwoods mixed in with the pine at all. The understory is dominated by sugar maple, while the regeneration is composed of American beech and sugar maple.

Due to the small acreage and low stocking of the Virginia pine areas, a harvest is not recommended at this time. Incidental trees could possibly be taken if warranted during any hardwood area harvesting. The white pine does have some potential for harvest but its isolated nature and relatively small acreage do not allow for a pine harvest. Harvesting of these trees could be possible if it is connected to the hardwood portion of any future sale, however, the drainage could pose some issues with crossing and BMPs.

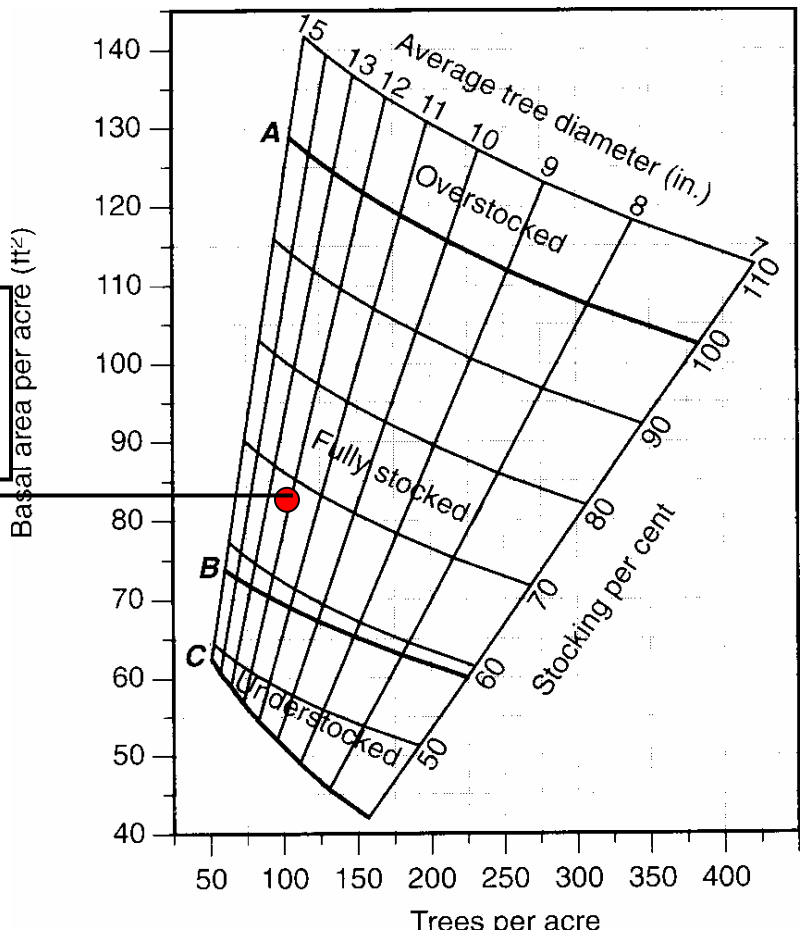
Hardwoods

Hardwoods make up the remainder of the tract and contain a mix of oak-hickory and yellow poplar. Oak-hickory covers approximately 93 acres. Sixty-eight acres are found on the east and west facing slopes on the west side of the tract. Twenty-five acres cover the south-west facing slopes, a ridgetop and around the drainage on the west central part of the tract. Black oak makes up about 262,230 board feet (1,833.7 bf/acre) of the hardwood area and approximately 131,380 board feet of the prescribed harvest volume. White oak makes up approximately 172,370 board feet (1,205 bf/acre) and only about 40,140 board feet of the prescribed harvest volume. Yellow Poplar makes up the lion's share of the volume with 340,280 board feet with 254,010 board feet prescribed for harvest. The white oak in this tract varies from small, fair quality sawtimber to larger sawtimber that have such defects as epicormic branching, low forking and crowding the smaller, nicer trees. The larger black oak in this stand have some butt damage, are overmature, have poor form and are crowding smaller, better quality white oak . In some areas yellow poplar has begun to crowd the black oak and actually would help open up the black oak if they were to be removed. Red oak in this stand is marginal; it is not a dominate species in the oaks and those that are in the tract vary in form, quality and size. Yellow poplar also dominates this tract both as the dominate timber type as well as mixed in with the oak-hickory. There are definitely a good deal of poorly formed stems and tops as well as some with blown out tops. Not all areas of yellow poplar are ready for harvest, some areas such as those around the pine areas are smaller trees that have begun to emerge since the pine has begun to die out. In some areas the tops are not very full and others have damage enough to cause hollow bases.

Average diameters in this hardwood portion range from 16 inches for white oak to 22 inches for black oak.

Stocking in this tract falls in nearly 70%, which is fully stocked. Upon harvesting as prescribed, the stocking will fall to around 54 %.

Current Basal Area: 83.8
Trees per Acre: 98
68% Stocking



Silvicultural Prescription

This tract has approximately 80 acres of hardwood forest ready for an improvement harvest. The goal will be to remove overmature, poorly formed and poor quality yellow poplar, black oak , red oak and white oak. The harvest area falls mainly on the south-west and west ½ of the tract. Access is excellent in this area as a firelane extends into the portion of this tract. Special care should be taken to layout skid trails to use side slope routes around it rather than going straight up slope in these areas. Log yards may be located within the tract just inside the southern boundary or if desired across the gravel road utilizing yards from a previous harvest in 0201. Harvest volume is estimated from this inventory to be around 2400 board feet per acre or approximately 192,000 board feet.

Grapevines do not seem to be a problem in this tract.

Inventory 2022

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Compartment 01, Tract 06
Sections 5, 6, 7 & 8, T3S, R3W
St. Anthony Quad.

Prescribed Harvest Area
80 acres 2400 bf / acre

June 2007