Indiana Department of Natural Resources - Division of Forestry

Ferdinand State Forest | Comp. 2, Tract 4
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Forester's Narrative

Location: Compartment 02, Tract 04 is located approximately a half mile due north of the property office. It is found in sections 7, 8, 17 & 18 T3S, R3W in Jefferson Township in Dubois County.

General Description: This tract is predominately hardwood forest with dominate species including: The tract comprises 138 acres with 18 acres of Pine and 120 acres of hardwood forest.

Boundary: This tract is bordered on three sides by Forest property. Only about ½ mile is made up by private property. The northern boundary is comprised of Firelane 1, the west is the forest road and the south is made up of a major drainage running southeast towards Fossil Lake.

History: This property is mostly comprised of a 1934 purchase from Frank and Genevieve Seng and Henry and Agnes Tretter of Dubois County. Only about ten acres on the south east corner was obtained from Louis Hulsman and Angelina Hulsman in 1934.

Janet Eger first inventoried this tract in 1979. At that time, approximately 26 acres was pine and 112 were considered commercial forest. The tract totaled about 4500 board feet per acre. Harvests were prescribed separately for the east and west sides. The west side was harvested in 1986. Approximately 214, 020 board feet was removed. This harvest encompassed everything on the west side of the firelane to the west boundary of the tract. The east side of the tract was harvested in 1989 and was comprised of approximately 51,548 board feet. In both areas, the bulk of the harvested volume was black oak and scarlet oak. Skid trails for both of these sales are still obvious. Care was taken to maintain aesthetic buffers and buffers for the lake and watershed. Fire damage was evident.

Landscape Context: The dominate land use surrounding this tract is predominately hardwood forest. The nearest agricultural and residential (single family dwelling) is about ½ mile away. Recreation use (campground) is about .4 mile due south of the tract.

Topography, Geology and Hydrology:

TOPOGRAPHY: This tract has three ridgetops, mainly east and west facing slopes a single major drainage and several minor drainages. The first ridgetop

follows the western boundary of the tract, while another forms the northern boundary and the third lies on the east side of the tract, running due north and south. An intermittent stream bisects the tract with a single side drainage running northwest and four running to the east, northeast. The ridgetops and slopes on the west side are not especially steep and can easily be logged. The slopes on the east side are a bit steeper, especially around the heads of the drainages, but these areas can easily be accessed due to the ridgetops that contain access roads.

GEOLOGY: This tract has a few areas where there are some rock outcroppings in the heads of the drainages on the east side of the tract. They are mostly underground with very little ledge, but do create a deep chasm. They are avoidable insomuch as harvest activities are concerned.

HYDROLOGY: While no major bodies of water lie within the tract, an intermittent stream cuts through the center of the tract, this stream flows south into Fossil Lake which lies in neighboring tract 0205. There are several drainages that also flow into this stream. The stream is crossable on the southern portion of the tract; in fact the hiking trail already does so. The wildlife pond that sits on the north-east side of the tract is in fair condtition. No activity is prescribed at this time.

Soils: This tract has six soil types within its boarders.

Gilpin-Berks complex (GoF) makes up about 68% of the soil type of this tract. It is a moderately steep to very steep. Gilpin and Berks soils that is moderately deep and well-drained. It is found surrounding the main drainage and spurs going down the center of the tract. It is composed of about 50% Gilpin and 35% Berks soil types. This soil has rippable sandstone and shale bedrock at 28" and there are some areas where this bedrock is exposed. It has low available water capacity and is moderately permeable. Its surface runoff is very rapid. It has moderate organic matter and is friable. The complex has a capability subclass of VIIe, Gilpin has a woodland suitability of 2r and Berks has a woodland suitability of 3f. Its site index is 80.

Gilpin Silt Loam (GlD2) makes up about 30 acres of the tract primarily on the south facing slopes on the east side of the tract. It is typically found on 12-18% slopes and is eroded. It has low available water capacity and is moderately permeable. The surface has rapid runoff, moderate organic matter and is friable. It has a capability subclass of IVe, a woodland suitability of 2r and a site index of 80.

Wellston silt loam (WeC2) is found on 20 acres of this tract and on 6-12% slopes and is eroded. It is a moderately sloping soil and is deep and well-drained. It has a high available water capacity and is moderately permeable. It has a medium surface runoff, moderate organic matter content and is friable. It has a capability subclass of IIIe and a woodland suitability of 2o and a site index of 71.

Zanesville silt loam (ZnC2), is typically found on about 6-12% slopes. It is found on about 16 acres mainly on the upper slopes near the gravel road and on the ridge fingers extending into the tract on the west and northeast sides of the

tract. It is deep and well drained. It also has a firm and brittle fragipan at 24-32 inches. It has a moderate water capacity and is slowly permeable, while surface runoff is medium. It has moderate organic matter content and is friable. It has a capability subclass of IIIe and a woodland suitability of 3o. It has a site index of 68.

Burnside silt loam (Bu) is a nearly level soil and is deep and well drained. It is found on about 6 acres on the south-west side of the tract along the drainage. It has low available water capacity and is moderately permeable. It has moderate organic matter content and is friable. There are some areas of rock fragments. It has a capability subclass of IIs, a woodland suitability of 1o and a site index of 0.

Gilpin silt loam (GlD3) is found on 12-18% slopes, is a strongly sloping soil and is moderately deep and well-drained. It is only found on about 2.5 acres on the east side of the tract. This soil will typically have rock outcroppings in some areas. It has a low available water capacity and is moderately permeable. Surface runoff is very rapid and the surface layer has low organic matter content and is friable. It has a capability subclass of VIe, a woodland suitability of 2r and a site index of 80.

Access: This tract has excellent primary access. The tract's west border is made up of the county road. In addition, Firelane 1 makes up the majority of the northern boundary and also bisects through the center of the tract. A bicycle/hiking trail also runs southwest from one end of Firelane 1 to the other.

Secondary access should not be an issue as most of the major drainages can be either avoided or can be crosses using existing crossings. Skid trails from a previous harvest are still evident and could be reused.

Boundary: This tract is bordered on three sides by state forest property. Only the lower south-east corner is bordered by private property. The northern boundary is Firelane 1, the western border is the forest road and the south is the north-west drainage extending from Fossil Lake. The private property line has had a request to be run and will be completed at a later date.

Wildlife: This tract contains the typical wildlife and habitat types of other tracts in this area. Deer, turkey, raccoons and other Midwestern wildlife species are common within this tract. Sign noted within this tract included deer trails, broken turkey eggs, rabbit and raccoon scat and various song birds. Frogs were also seen and heard around the intermittent stream. Wildlife impacts by humans are most likely common in this tract due to the high recreational usage due to the hiking/biking trail that runs through the tract. Hunting pressure is most likely moderate to high as this area is on the main block of the property, close to the recreation area and has excellent access.

The biggest part of the tract is covered with hardwood forest comprised mainly of oak and hickory species, two species valued by wildlife as a food source. A small amount of pine also exists on the west side of the tract and provides an alternate cover type for some species. This area is small and in

some areas the pine is dying out, converting to hardwoods, with dense understory. Some areas especially on the south facing slopes on the west side of the tract are heavy with green brier. This provides excellent cover for small mammals as well as deer and turkey.

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 inventory determined there were a total of 5 snags per acre – 9 inches dbh to 19 inches dbh and 1.0 snag per acre for 19-inch dbh and above. These meet the guideline of 5 snags per acre 9-19 inches dbh plus 1 per acre – 19 inches dbh.

In addition to the snag requirements the bat policy calls for a minimum of 3 live trees/acre <20 inches dbh and an additional 6 live trees per acre <11 inches. These should be of a species having characteristics favorable to the Indiana bat. For preferred species the numbers were 17.8 trees per acre for leave trees 11-20 inches and 3.6 trees/acre for leave trees 20 inches and over.

A Natural Heritage Database search has been conducted for this area to identify any rare, threatened or endangered species. If any were identified for this area all management activities will be conducted with their needs considered.

Communities: Plat communities are typical of a hardwood forest in this area. The species included are greenbrier, spicebush, jewelweed, ferns, poison ivy and hardwood saplings.

Forest Condition: This tract is mostly mature to overmature oak, including black oak, red oak and white oak. Chestnut oak occurs only to a small extent on the south facing slopes on the west side. Mixed hardwoods can be found sporadically along the main drainage and some of the side drainages. Pine makes up only about 18 acres of the tract's total acreage and it is found along the forest road on the west side of the tract.

This stand is a fully stocked stand at 98.5 feet per acre. It is at a 91% stocking level with a mead tree diameter of 8.4. Harvesting would bring the leave stand down to 75.8, a fully stocked stand at 73% with a mead tree diameter of 7.7. The commercial portion of this tract (118 acres) has a stand structure typical of forests at this stage. With the larger numbers in the lower diameter classes eventually taper down as the diameter increases. This stand does differ in that there are a higher number of trees in the 16-28+ diameter classes. Harvesting at the inventory rate will maintain these size classes at a moderate level.

Recreation: This tract has high recreation usage as it is in the main block of the property and very close to the campground, as well as Fossil and the Forest Lake. Hiking and biking on the firetrails is common.

Cultural: If any cultural resources exist on this tract, they will be protected from any adverse management activities.

Tract Subdivision Description and Prescription:
For purpose of this inventory, the tract was divided into four subdivisions: Oak-Hickory, Mixed-Hardwoods, Chestnut Oak, and Pine.

Oak-Hickory- This stand is found over the largest portion of the tract, totaling about 90 acres. The biggest part of the acreage falls on the south and west facing slopes on the east side of the tract. A smaller portion falls on the east facing slopes below the pine on the west side of the tract. In this stand the bulk of the volume is split between white oak and black oak. Black oak contributes about 2,324 board feet per acre or about 35% of the tracts total volume. The largest portion of the tract's harvest volume also comes from black oak (55%). The average diameter for the leave stand will come in at around 16" with the harvest trees measuring in at an average of 22". Most of the black oak in this stand is large, mature to overmature individuals. Since there is such a heavy component of nice white oak in this stand harvesting will help to release the better quality and longer lived white oak. In some areas there are also signs of damage and some are also poorly formed. White oak also contributes about 35% of the stands total volume with about 2,336 board feet per acre. White oak will make up less of any harvest volumes due to its lower overall size and better quality. There are some areas that have poorer form and that can be thinned from the stand. In most cases, the white oak should be favored by releasing it by removing the black and red oak. Red oak is not a major contributor to this stand with only about 612 board feet per acre and comprising 13% of the harvest volume. Although it is not a dominate species in this tract those individuals that are within the boundaries are typically mature to overmature and are poorer in quality and form than white oak. Basal areas in the majority of these plots were typically very high usually around 100 to 120 bd ft per acre.

Mixed Hardwoods- This timber type follows side drainage and parts of the intermittent stream that cuts through the center of the tract. Oak is not non-existent from this area, there just seems to be more species variation within these areas. These areas typically have more yellow poplar, sycamore and sugar maple. The largest amount of non- oak species is typically around the edges of the pine planted areas on the west side of the tract. Black oak, red oak and red maple dominate the harvest selections for these areas. Typically these areas are showing signs of decline in these species or are competing with better quality white oak and yellow poplar. The proximity of this timber type to the intermittent

stream will need to be considered when a harvest is marked in this tract. The appropriate buffers and crossing considerations will be needed.

Chestnut Oak- This is a very small component of this tract, making up only about 8 acres of the stand's acreage. The stand's total volume is estimated at about 384 board feet per acre and the stand has an average diameter of about 18 inches for all species. Chestnut oak makes up over 95% of the stands total volume. The species is mostly around 18 inches. The area looks to be fairly ignored during past management due to its proximity to the road and also the old firetower observer's cabin. In many areas the chestnut oak is showing mortality and the basal area is high in these areas. The white oak is smaller than the chestnut oak and the black oak is fair in quality and form. Due to the historical aesthetic concerns this area can only most likely be TSIed to release the white and black oak or encourage better quality chestnut oak.

Pine-The amount of pine in this tract is fairly low, occurring in a very small area on the ridgetop around the waterhole and in a larger, 18 acre piece on the west side along the forest road. The pine surrounding the pond is dominated by white pine with good size. Most of the red pine is dead and either standing or lying on the ground. Hardwoods are beginning to creep in consisting of black oak, white ash and yellow poplar. The pine on the west ridgetop is also dominated by white pine with an average diameter of around 18 inches. The red pine is mostly dead or quickly dying out. There are some hardwoods beginning to creep into the gaps created by the dying pine including black oak, white ash and yellow poplar. Most of these individuals are in the small to medium sawtimber classes.

Silvicultural Prescription

This tract is ready for a hardwood timber harvest over approximately 83 acres; primarily on the east side of the tract. This single tree selection harvest will include primarily black oak, red oak and a small amount of white oak. Individuals selected should include mature, overmature and poor quality stems in order to release better quality white oak and black oak. The harvest will remove about 2500 board feet per acre or an estimated 207,500 board feet total. Several previously used yarding areas are located within this tract.
Grapevines were not an issue on this tract.

The harvest area should avoid the pond and pine area to a good degree and care should be taken around the rock outcroppings on the heads of the drainages.

Post Harvest TSI should follow as well as an inventory in 2020.

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