Indiana Department of Natural Resources - Division of Forestry

Pike State Forest | Comp. 10, Tract 2
G. Herbaugh | April 20, 2005

FORESTER'S NARRATIVE

Location: Tract 02 of Compartment 10 is located in Section 1, T2S, R7W of Marion Township in Pike County. It is approximately ¼ of a mile south of Spraggan's Church and directly south of the pipeline. It is found on the Augusta Quad.

General Description

This 66-acre tract is primarily oak-hickory with some small areas of yellow poplar where pine was planted. Previously the tract contained about 2 acres of pine, and currently over half of that has transitioned into hardwoods either by natural die off or by TSI completed in 1980.

History

This tract was acquired in 1937 from Robert and Hazel Hueby as part of a 400-acre purchase. In 2004 the purchase of 247 acres of the Ellis estate necessitated the redrawing of boundary lines in this compartment. The redrawing affected this tract very little, changing the south line from following the section line to following the drainages just south of the section line.

The tract was first cruised in 1971 by Rick Burgeson. In his report he recommended planting yellow poplar in the pine portions of the tract and indicated an above average management potential.

In 1980, Charlie Keller completed a Virginia pine TSI on about 3 acres bordering Fire Lane 17 to the east. The objective was to thin the basal area of the pine to encourage growth of the yellow poplar present in the stand and increase hardwood regeneration.

Janet Eger then inventoried the tract in 1982. In her plan, Janet noted fire, vine and windfall damage. Scarce regeneration was also noted. Grapevine TSI was completed on 52 acres to the west and south of FL 18 in 1986. An Improvement harvest on 70 acres removing 74,755 board feet was completed in 1986. Post Harvest TSI was completed in 1987.

Landscape Context

This tract is surrounded mainly by hardwood forest. The Patoka River lies to the south west of the tract and is surrounded by open fields in some locations. Open corridors are created by both gaslines and railroad tracks. A gas pipeline creates the northern boundary of the tract and another lies about a quarter of a mile west of the tract. Train tracks lie about .5 of a mile south of the tract. Residential homes are dotted throughout this section of the landscape, but on the whole the area is fairly remote. Spraggan's church and cemetery is found about ¼ mile north of the tract.

Topography, Geology and Hydrology

This tract is made up two major ridgetops. The first lies on the west side of the tract and creates the boundary on this side. The east facing slopes make up about half of the western portion of the tract. These become very steep as they near the drainage and erosion has formed gullies extensively along the length of the area. The second ridgetop cuts through the northeast portion of the tract. The west facing slopes extending from this ridgetop are much less steep and are showing less erosion damage. The drainage jutting into the slopes near the corner is fairly deep. Rock outcroppings can be noted on the northern part of these slopes especially on the west drainage fork.

The drainage running through western portion of the tract is a "blue line" intermittent stream.

Soils

This tract is comprised of six soil types. Three of these are Gilpin loams, two are Zanesville silt loams and one is a Wellston silt Loam.

Gilpin-Berks Loam (GoF) is found on 25-50% slopes, is moderately deep and well drained. The Gilpin portion of the soil has rippable shale bedrock at 37 inches and the Berks portion has rippable sandstone bedrock at 22 inches. Rock outcrops can be found on lower parts of the sideslopes. Surface runoff is very rapid. The site index for this soil type is 80.

Gilpin silt loam (GnE) is found on 15-30% slopes is moderately deep and well drained. This soil has fractured sandstone bedrock at 35 inches. It has low available water capacity and surface runoff is rapid. It has a site index of 80.

Gilpin silt loam (GnE3) is found on 15-25% slopes and is severely eroded. It is a moderately deep, well-drained soil on narrow sideslopes. It has sandstone bedrock at 29 inches. This type is also found on some gullied land. It has a low available water capacity. It has a site index of 80.

Wellston silt loam (WeE) is found on 15-30% slopes is deep, well drained soil on side slopes. It has sandstone bedrock at 60 inches. Permeability is moderate and available capacity is high. Surface runoff is rapid. It has a site index of 71.

Zanesville silt loam (ZaB) is found on 2-6% slopes is moderately well drained on ridgetops and uplands. It has Sandstone bedrock at a depth of 78 inches. It has moderate available water capacity. A firm and brittle fragipan exists at 24-32 inches. The soil also has a perched seasonal high water table. It has a site index of 68.

Zanesville silt loam (ZaC3) occurs on 6-12% slopes and is severely eroded. It is a deep and moderately well drained soil. It has a substratum at a depth of 60 inches and has moderate available water capacity. It has a slowly permeable fragipan at 2 feet and a perched seasonal high water table. . Organic matter content is low. It has a site index of 60.

Access

Primary vehicle access to this tract is excellent. Firelane 17 runs along the western ridgetop from county road 300S. Firelane 17 also extends off of county road 300S and makes up the western boundary of the tract. Secondary access for harvest activities is problematic in some areas. The west facing slopes on the west half of the tract are split by

a side drainage running east west from the main drainage. This drainage is fairly deep and equipment crossing at the top of the ridge would be problematic. It may be possible to cross near the bottom of the drainage, however the other side drainages will need to be crossed near the top of the slopes. The east facing slopes are accessible, but care will need to be taken in sale layout as this side is severely gullied and eroded. Yarding could be done either at the pine area on firelane 17 or the opening on firelane 18.

Boundary

This tract is bounded on the north by gas pipeline. It is bordered on west by firelane 17. The southern boundary follows a side drainage. A single private property owner borders the east side of the tract: Priscilla Fromme.

Wildlife

Wildlife evidence in this tract included deer trails, turkey scratching and various songbirds. The tract offers good potential for a wide variety of wildlife species, as it is part of a large portion of wooded acreage. The pipeline running along the north side also creates a permanent opening for species of this type. The stream running through the tract provides a water source and food source for amphibian consumers. Mast tree species abound in the tract with oak and hickory being the major component of the hardwood species. In the understory exists a great amount of pawpaw, which is commonly eaten by opossums, squirrels, raccoons, foxes, etc.

Hunting pressure may be high as well since access by the public is readily available. Several deer stands were noted within the tract.

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 1.4 snags per acre – 9 inches dbh to 19 inches dbh and .1 snags per acre for 19-inch dbh and above. These fall under 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 15.5 trees per acre for 11-20 inches and 4.6 trees/acre for 20 inches and over.

A Natural Heritage Database search has been conducted for any rare, threatened or endangered species. Any management activities will be conducted with the needs of these species considered.

Recreation

The main legal recreation within this tract is most likely hunting as several tree stands were noted within the tract. However, horse tracks were also noted on firelane 17.

Cultural

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 Description and Prescription

This tract is primarily oak with the 38 of the tract's 66 acres being comprised of oak species. The remainder of the tract is divided up as follows: 12 acres of yellow poplar, 10 acres of mixed hardwoods and a 6 acres of pine.

The oak component largely dominates the east and west facing slopes on the west side of the tract. On the east side, it lies only in the slopes surrounding the ridge finger, primarily in the southeast corner of the eastern half of the tract. The trees here are large sawtimber size with about 31% being white oak, 26% being black oak and 21% being red oak. Quality in this stand is good. Understory species include sugar maple, some hickory, beech as well as some areas where there is white and black oak. Oak volume totals 4,876 board feet per acre, (white oak: 1932/acre, black oak: 1647/acre, red oak: 1297/acre). The stand is fully stocked at 94 bd ft / acre. This stand is ready for a harvest with approximately 2100 board feet per acre available for harvest. The majority of this would be Red Oak (858 bd ft/acre), with black oak (705 bd ft/ acre) and white oak (268 bd ft /acre) rounding off the top three species. Selection criteria would include quality, maturity status and potential impact on the remaining stems. This harvest will help to increase the quality and growth of the remaining better quality white oak, black oak and red oak as currently there are several areas where it is obvious that the previous harvest did not go quite far enough to stimulate growth of that cycle's leave stand.

Yellow Poplar makes up about 95%. The stand falls on the ridge top in the center of the tract and the trees are typically in the low to mid 20s dbh. In most of the area, there are stems that are low forking and have poor form as well as some better quality with potential for improvement. In other areas, pine still remains and should be removed to help continue the transition. Stocking is high in this division, averaging a basal area of 106 board feet per acre. Harvest is possible in this area and should be directed toward removing the remaining white pine, the poorly formed yellow poplar and hickory. This process will help release the existing white oak and red oak and better quality yellow poplar. In some areas oak reproduction was noted on the forest floor, but most of the regeneration was sugar maple, beech and hickory.

Mixed Hardwoods lie in the northeast corner and the southwest corner of the tract. These are mainly areas that line the drainages in both of these areas. For the northeast corner the stand is on the edge of the harvest area and some individuals could be included with the harvest. However, harvesting in this area will be limited somewhat by steep slopes that will create complications in logging. The trees located at the top of the slope could be harvested. In this area, there is a mix of yellow poplar and black oak, but very little white oak. The black oak is mature to overmature . There are some individuals that are low

forked and also some that have bad stumps. This stand would benefit from a thinning of poorer quality black oak and yellow poplar.

Pine in this tract is very limited, comprising only 6 acres. This stand is found along Firelane 17 about mid way through the tract. Here most of the pine is lying on the ground, with only a few individuals standing. Most of the area is very open and is converting on its own to hardwoods. Yellow poplar makes up the majority of the sawlog sized trees with an average dbh of 18. Sweetgum and Virginia Pine make up the remainder of the dominant sawlog sized trees. Pole sized trees are more numerous and dominant species include: Virginia Pine, Sweetgum, Red Pine and Blackgum. Average diameter for the pole-sized species is around 8 inches dbh. If the harvest area comes close to this area, removal of existing pine would help speed up the conversion of the area. This area would also be a good location for a logyard.

SILVICULTURAL PRESCRIPTION

This tract is ready for harvest. The harvest will cover approximately 33 of the tract's 66 acres. The harvest will remove approximately 2000 board feet per acre for a total of 66000 board feet. The harvesting of individuals that release the better quality white oak, yellow poplar, black oak and red oak is recommended. A possible opening is located on the east side of Firelane 18 on the southern ridgefinger and may be extended northward to the next ridgefinger. The west facing slopes in the southern part of the tract will need considerable planning of skid trails as the drainages that cut these slopes are quite steep in some locations and would be difficult to cross. The use of pole fords may be necessary. Primary access is excellent for this tract. Impacts on soils should be carefully monitored due to the erosive nature of the soils in this area any negative impacts will be mitigated by the use of proper BMPs. No hiking or horse trails will be impacted by this harvest. This harvest should occur in 2007.

The Tract should be reinventoried in 2020.

To submit a comment on this document, click on the following link:
http://www.in.gov/surveytool/public/survey.php?name=dnr_forestry

You **must** indicate the State Forest Name, Compartment Number and Tract Number in the "Subject or file reference" line to ensure that your comment receives appropriate consideration. Comments received within 30 days of posting will be considered.