Pike State Forest
Management Guide - Compartment 11, Tract 02
Forester's Narrative
2008

Location

Tract 2 of Compartment 11 is located in Sections 2 and 11, T2S, R7W in Marion Township of Pike County. It is in the main block of Pike State Forest, due north of the property's service building. The nearest municipality is in the town of Winslow, Indiana.

General Description

This tract is 85 acres of a mix of pine and hardwood forest. Pine stands make up approximately 24 acres while hardwoods make up about 59 acres. This tract also contains the horseman's campground.

History

Acquisition

This tract was made up of three acquisitions. The first was from Mahlon and Malinda Brown in 1934. This acquisition totaled around 265 acres. The second acquisition was from Arizona Corn, Gaskel Corn, and Dewit Corn in 1934. The parcel acquired around 270 acres. The last one was through Texas Eastern Transmission which acquired about 40 acres in 1982. TET also had an easement agreement containing 3.94 acres for access to the pipelines.

Management

The earliest recorded management on this tract was a timber sale on April 10, 1969, which was purchased by Whittington & West. The sale totaled 42 acres within Compartment 3 Tracts 2 & 3. The rate to be paid was 50 cents per ton. An inventory was done on March 11, 1971 by Rick Burgeson on Compartment 3 Tract 2 which totaled 70 acres. The inventory averaged 938 board feet per acre, totaling 11,446 board feet. It was said that potential improvement for hardwoods was limited due to the recent harvest in 1969. Janet Eger followed up with another inventory on September 23, 1982 on Compartment 3 Tract 8 which totaled 120,974.9 board feet, on 40 acres with 35 acres being commercial and 5 being non-commercial pine. Janet Eger again on January 9, 1990, performed an inventory on Compartment 3 Tract 2 containing 70 total acres, 35 acres of commercial forest, 24 acres of pine forest and 3 acres of Recreation within a horse camp. The tract contained 148,128.3 total board feet. On January 1, 1990 Janet Eger prescribed a Grapevine TSI, however no record of completion has been found. January 29, 1991 a pine sale was done on Compartment 3 Tract 2 totaling 28,280 board feet. The reason for harvest was to salvage remaining stems due to pine mortality from wind damage. There was one opening in the pine stand which was 1.7 acres. The last known management was a TSI completed by Doug Brown on October 6, 2005. This was an opening thinning over 1.7 acres to release YEP, BLC, and a few oaks from YEP, SYC, REB, and AMB. Vines were mentioned as being very bad, already contributing to nearly 25% of the opening being laid over by them.

Landscape Context
This area is a mix of ridgetops, slopes and bottomland floodplains of the Patoka River. The majority of the land use around this tract is forested land, with some cropland nearby as well as some reclaimed mine ground. The nearest municipality is about 3 miles away to the North West. A gas pipeline also lies directly to the north of the tract.

Topography, Geology and Hydrology
This tract consists of ridge tops, slopes and flat bottomlands. Several small drainages also extend into the tract. The Patoka River lies to the north and east of the tract and its tributaries flow around the tract as well.

Soils
This tract has 10 soil types. They are Gilpin silt loam, Steff silt loam, Wellston silt loam, Zanesville silt loam (ZaB), Zanesville silt loam (ZaC3), Belknap silt loam (Bg), Gilpin silt loam (GnE3), Gilpin-Berks loams (GoF), Pekin silt loam (PcB), and Zanesville silt loam (ZaD3).

Gilpin silt loam (GnE) contains slopes ranging from 15-30% slopes. They are strongly sloping to steep usually found on side slopes in uplands. This soil is moderately deep and well drained. The subsoil is about 29 inches thick. At 35 inches it contains fractured sandstone bedrock. The water capacity is relatively low with rapid runoff rates. The main concern with this soil is equipment limitation and the high risk for erosion.

Steff silt loam (Sf) contains level soils that are moderately well drained. The soil is deep and is found on floodplains. It generally floods for brief periods during winter and spring. The available water capacity is high with runoff at a slow rate. This soil has a seasonal high water table between 1.5 and 3.0 feet during winter and spring. The main concerns for this soil type are plant competition and the wetness making access to this area difficult.

Wellston silt loam (WeE) contains slopes ranging from 15-30% slopes. This soil is strongly sloping to steep. WeE is found on side slopes in upland areas. Sandstone bedrock is found at about 60 inches in depth. Water capacity for this soil is high and the permeability for this soil is moderate. Surface runoff is rapid for this site primarily due to the steepness of the slopes. The main concerns for going in on this site are the high risk for erosion, plant competition and equipment limitation.

Zanesville silt loam (ZaB) typically has a 2-6% slope. This soil type is found on gently sloping soils that are deep and well drained. Generally ZaB is found on ridgetops in upland regions. Sandstone bedrock is found at 78 inches in depth. Available water capacity is moderate with permeability is also moderate above the fragipan. Once water reaches the fragipan it goes from moderate permeability to slow. Surface runoff is medium on this soil type. A perched water table is above the fragipan in winter and early spring. The main concern for this soil is the major risk of erosion.

Zanesville silt loam (ZaC3) has a 6-12% slope. This soil is a moderately sloping deep soil and is moderately well drained. This soil is also found on side slopes in upland regions. The substratum goes to a depth of 60 inches and is dark brown and yellowish brown silt loam. The water capacity for this soil is moderate and the permeability is moderate above the fragipan. However, within the fragipan the permeability is slower. The soil tends to be wet in early spring and becomes droughty by late summer. This site is well suited for trees; however the main management concern is the seedling mortality on the site.

Belknap silt loam (Bg) is a nearly level soil, that is deep and poorly drained. It can be flooded for brief or long periods during winter and spring. The substratum goes to a depth of 60 inches. The available water capacity is high and surface runoff is slow. This soil has a seasonal high water table about 1 to 3 feet in winter and spring. The main management concern is for the competition of other plant species.

Gilpin silt loam (GnE3) has a 15 to 25 percent slope, which is severely erodible. This moderately steep narrow slope found in the uplands that is well drained. Sandstone bedrock is at a depth of 29 inches. In some areas the Bedrock ranges from 15 to 20 inches and 40 to 50 inches. The available water capacity for this soil is low, permeability is moderate. The surface runoff is rapid, and the main concern with this soil is equipment is highly limited due to erosion hazard and plant competition.

Gilpin-Berks loam (GoF), has very steep slopes from 25-50%. These are moderately deep well drained soils that are typically found on narrow side slopes in uplands. Rippable shale bedrock is at a depth of 37 inches, and Rippable sandstone bedrock is at a depth of about 22 inches. The water capacity is low in Gilpin soils and especially low in Berks soils. Moderate permeability surface runoff is very rapid on both soils. The main concerns when looking at management are equipment limitations, high risk of erosion, and seedling mortality.

Pekin silt loam (PcB), usually has around 2-6% slopes. These soils tend to be gently sloping, deep soils that are moderately well drained. The subsoil is about 48 inches thick; the substratum runs about 60 inches in depth. The available water capacity is moderate as well as the permeability until it reaches the fragipan then it becomes very slow. Surface runoff is medium. The main management concern is plant competition.

Zanesville silt loam (ZaD3), has average slopes anywhere from 12-18%, which are severly eroded. It is moderately well drained and deep, typically found on narrow side slopes. The substratum goes to a depth of 60 inches. The water capacity is moderate, and the permeability is moderate and turns to slow in the fragipan. Surface runoff tends to be very rapid. There is a perched seasonal high water table in or just above the fragipan at about 2 feet. The main concern for management is the high risk for erosion, limited access with equipment, and high mortality rates for seedlings.

Access

Access to this tract is very good. Firelane 12 creates some of the western boundary with a horsetrail extending north to meet the county gravel road that makes up the northern boundary. Firelane 12 needs work done to it, before it will be able to support logging equipment. Internal access is also very good as ridge fingers extend eastward into the tract.

Boundary

The boundaries for this tract are well established. To the west is the horse campground, as well as a firelane that runs the entire west edge of the tract, this boundary runs along a ridgetop that runs north and south. The north boundary is marked by an old county road, with private land bordering the north side of the county road. To the east, the boundary is marked by a drainage, which runs north and south and then turns east towards the county road creating the northern third of the east boundary.

Wildlife

This tract has adequate features for holding lots of wildlife. There are plenty of mast crops for animals as well as shelter, and water. Several deer were observed within this tract as well as turkeys, squirrels, woodpeckers, and a variety of songbirds throughout the tract. There were also sightings of owls, and owl calls along the creek bottom. Hunting pressure seemed to be very prominent within the tract. While inventorying during turkey hunting season many hunters as well as shots were observed within the tract. The amount of litter within the tract was also an indicator that hunting pressure was high. Litter ranged from bottles and wrappers to old shot shells and markers for hunters to follow into the forest.

Indiana Bat Strategy

The Indiana Bat Habitat has four classifications of trees for Indiana bats, 11" plus, 20" plus for live trees, 9" plus, and 19" plus DBH for snags. There are also several species types that are considered useful for the Indiana Bat, Shagbark Hickory, Bitternut Hickory, Shellbark Hickory, Northern Red Oak, Post Oak, White Oak, Black Locust, Sugar Maple, Silver Maple, White Ash, Green Ash, Slippery Elm, American Elm, and Eastern Cottonwood. The live tree class overall was low throughout the entire tract. The 11" class requires 762 trees for this tract, however only 543 were counted. The 20" class was also below the requirements of 254, with just 155. For the snag class the overall number of trees was below the recommended value. The 9" plus class had 426 trees but needed 508, and 19" had 31 when needing 85. To meet habitat guidelines, going in and creating snags would be a way to get the numbers up for this tract, possibly by TSI after the harvest, as well as not harvesting as many trees that fall into the desirable species list.

Communities

A Natural Heritage Database search was conducted prior to completion of this plan. If rare, threatened or endangered species are found in or near this tract, management activities will be conducted in a manner that will not interfere with their viability.

Recreation

This tract is at the center of recreational activity at Pike State Forest. The horseman's camp lies along the south west border of the tract. Horse trails intersect the area in the northern and southern half of the tract. Hunting outside the safety zone is prominent. Other forest recreation uses potentially include: hiking, mushroom hunting, wildlife viewing.

Cultural

If cultural resources are found on this tract, management activities will be conducted in a manner that will ensure their protection.

Tract Subdivision Description and Silvicultural Prescription

Pine

There is one main pine stand located within this tract, totaling 24 acres. The stand is located in the northeast section of the tract which consists of White Pine. The White Pine within this stand totals 417,980 board feet. The basal area within this stand averaged around 250, so a thinning harvest could be done to lower basal area and help the oak regeneration in certain areas by creating openings. However this is subject to whether there is any type of market for pine. There are two other sections of pine located within the stand, which primarily consist of Virginia and shortleaf pine, however these stands have several yellow-poplar trees scattered throughout the stand causing them to be classified as hardwoods due to the basal area of pine to hardwoods.

Hardwoods

The hardwoods portion of the tract encompasses approximately 59 acres. The primary species includes Yellow-Poplar with 180,470 board feet, 57,670 board feet of Pignut Hickory, 52,600 board feet of White Pine, 43,990 board feet of White Oak and 20,860 board feet of Black Oak. The Yellow-Poplar is spread throughout the entire tract; however most of the larger poplar looks very poor, with lots of dieback probably a direct result of drought stress. The two main oak species being Black Oak and White Oak are fairly prominent along the East facing slopes, generally coming off of the small fingers that project out of the ridges that run north and south along the entire west boundary. Most of the Black Oak is mature or overmature and should be taken out. The White Oak has both large trees and small to medium trees. In these areas only select trees should be taken out due to both poor form and quality or to release better quality trees. Hickory was also a very prominent species throughout the tract with the majority of the trees being found on the east facing slopes mixed in with the oaks. There were several large hickories throughout the tract, although most of them had poor form and/or were low forking.

Silvicultural Prescription

Management for this tract should include a vine TSI over the entire tract in 2008. This tract could have a timber sale consisting of mostly selective harvest, except for the Yellow-Poplar which is in poor condition due to drought stress throughout the tract. A thinning within the mixed hardwoods and pine would combine for about 210,370 bd.ft. There could also be a pine harvest in the future with the Basal Area consistently being over 200. The Pine stand has lots of large sawtimber given there was a market for pine. After the original harvest there will still be over 400,000 bd.ft of pine within the stand.

The tract should be re-inventoried in 2023.

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