Indiana Department of Natural Resources - Division of Forestry

Resource Management Guide

Ferdinand State Forest – Pike Unit
Compartment 11 Tract 03

Pike State Forest March 17, 2010
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Site Index: 79

Location: E ½ NW ¼ Section 11 T2S R7W, Patoka Township, Pike County, IN. This tract lies about 3 miles SE of Winslow, IN.

General Description: This tract is 50 acres. The majority of the tract is covered by closed canopy deciduous forests. There are also areas of pure pine stands present as well. The eastern border of the tract is marked by County Rd 650.

History:
This land was purchased from Mahlon and Melinda Brown in 1935.

There was a timber harvest done on the hardwood portion of this tract in May of 1969. There is virtually no record of this harvest so there is little other information available regarding it.

A tornado came through this area in May of 1996. It damaged some of the timber on this tract. The areas impacted were two areas of White Pine in the central portion of the tract. The damage consisted of root wadding and some broken tops. A salvage harvest was not done on the western portion of damage due to access issues from the erodible soils that are present. The damaged trees along County Rd. 650 weren't salvaged because they were considered too small or unmerchantable.

A small timber harvest of overmature White Pine was done in October of 1997. The total harvest covered 3.3 acres and was spread over tracts 1103 and 1101. It was located in the northern portion of the tract right along the section line between sections 11 and 2.

Vine TSI was done in February of 2007.

Landscape Context:
This track is located within the interior of compartment 11. It is surrounded by state land on all sides. The local use of land is for timber production and recreation. There are a fair number of recreational uses on and around this tract. Horse back riding trails, camping, and hiking are all available either on tract or on the neighboring tracts.

Topography, Geology and Hydrology: There is a stream in a drainage that is located along the western border of this tract. The soils on this tract are moderately well drained.

There is a fragipan present over parts of the tract and it is located at a depth in the soil of about 2 feet. This will restrict some species of trees.

Soils:

Gilpin Silt Loam (GnE), 15-30% slopes- This is a strongly sloping to steep, moderately deep and well drained soil on side slopes in uplands. The subsoil is 29" thick and fractured sandstone bedrock occurs at 35 inches. The soil's available water capacity is low, permeability is moderate and surface runoff is rapid. Organic matter content in the surface layer is moderate. Erosion is a major hazard. The soil's land capability is VIe, the woodland ordination symbol is 4R and the site index is 80.

Zanesville Silt Loam (ZaB), 2-6% slopes- This soil is found on gently sloping, deep, and moderately well drained soil on ridgetops in uplands. Sandstone bedrock is found at 78 inches. The soil has moderate available water capacity and permeability is moderate above the fragipan and slow in the fragipan. Surface runoff is medium. There is a firm and brittle fragipan at 24-32 inches and a perched seasonal high water table is in or above this fragipan during winter and early spring. Organic matter content is moderately low. Erosion is the major hazard for this soil. The soil has a land capability classification of IIe, a woodland ordination symbol of 4A and a site index of 68.

Zanesville Silt Loam (ZaC3) 6-12% slopes, severely eroded- This soil is found on moderately sloping, deep and moderately well drained soils. The Available water capacity is moderate. Permeability is moderate above the fragipan and slow in the fragipan. Surface runoff is moderate in cultivated areas. There is a slowly permeable fragipan at a depth of about 2 feet. The perched seasonal high water table is above the fragipan during winter and early spring. Organic matter content is low. The land capability class is IVe, it has a woodland ordination symbol of 3D and a site index of 60.

Zanesville Silt Loam (ZaD3), 12-18% slopes, severely eroded.-This is a strongly sloping, deep and moderately well drained soil on narrow sideslopes. The available water capacity is moderate. There is a slowly permeable, brittle fragipan at 2 feet restricts roots and downward movement of water. Surface runoff is very rapid. There is a perched seasonal high water table in or above the fragipan in winter and early spring. Organic matter content is low. Erosion is a hazard. The land capability classification is VIe, it has a woodland ordination symbol is 3D and a site index of 60.

Steff Silt Loam (Sf), frequently flooded- This is a nearly level, deep, moderately well drained soil on flood plains. The soil is flooded for brief periods in winter and spring. This soil has high available water capacity, permeability is moderate and surface runoff is slow. There is a seasonal high water table at a depth of 1 ½ to 3 feet during winter and spring. Organic matter in this soil is moderate. Plant competition is the main concern. Land capability unit is IIw, it has a woodland ordinance of 4A and a site index of 80.

Hosmer Silt Loam (HoB2), 2-6% slopes- This is a gently sloping deep, well drained soil found on broad convex ridgetops and long side slopes. The available water capacity is moderate. Permeability is moderate above the fragipan and very slow in the fragipan.

Surface runoff is medium. A very firm and brittle fragipan is found at 20 to 32 inches. A perched seasonal high water table is in or above the fragipan during the late winter and early spring. Organic matter is moderately low in the surface layer. The soil is in land capability class is IIe, is in woodland ordination symbol of 4A and in Site index 75.

Access: Access is very good to this tract. From State Rd. 64 head northeast on Co. Rd. 650 E. Go past the fire tower and to the southern portion of the horse camp that lies along Co Rd 650. Here you will be on the eastern border of the tract. A horseback riding trail bisects the tract creating an access point to the interior. Further access to the interior of the tract is by foot.

Boundary: The eastern boundary of this tract is County Road 650. The western boundary is marked by a drainage. The southern boundary is the horse camp.

Wildlife: This tract supports wildlife that is typical of the area. Animals witnessed were crows, squirrels, and song birds.

A search of the Natural Heritage Database was dated 3/23/2010. If any endangered, threatened, or rare species were noted, the plan of activities for this tract took those into consideration.

Current policy on managing for the federally endangered Indiana bat requires a certain component of snags and live trees of specific sizes and species. This tract does not meet the live tree target in the 20"+ size class. To reach this requirement 58 additional trees need to reach 20"+; this can be done by selecting trees that are close to this size and leaveing them to mature. This tract meets the snag requirements in the 5"+, 9"+ and 19"+ size classes.

Communities:
Pine: These stands consist of almost pure eastern white pine with some Virginia pine mixed in. These pine stands are located in the northeast corner, center, and southern tip of the tract. The vast majority of these stands are overstocked with some mortality and windthrow present. The majority of the trees are large sawtimber sized trees. There is very little pine in the understory anywhere on this tract.

Mixed Hardwoods: Most of this covertype has a yellow poplar component. Here there is a mixture of species that include American beech, sugar maple, hickory, and ash all mixed with the yellow poplar that is present. The understories of these stands are dominated by American beech and sugar maple saplings but also present are yellow poplar and ash. These stands are located on the northwest boundary and on the central and southern portions of the tract.

Yellow Poplar: This stand is located in the northern half of the tract and follows the western boundary a little ways. Yellow poplar is the dominate overstory species as well as present in the understory. Also present in the understory is American beech, sugar

maple, and ash. Many of the overstory trees are large sawtimber trees and some are declining due to over maturity and drought stress. The overall form of the trees is good.

Oak/Hickory: This covers the remainder of the tract. It is present in the central portion of the tract. White oak, pignut hickory, and black oak are dominant in the overstory. Overall most of the trees have good form with the exception of a few. There are some that have poor form or are declining. Additionally, there are some root-wadded trees present as well. The trees range from pole to large sawtimber size. American beech, pignut hickory, sugar maple, and white oak are present in the understory.

Honeysuckle and Montiflora rose is present on this tract. It was noted along the horse trails.

Recreation: This tract has a large number of recreation opportunities present on or within a short distances from it. A horseback riding trail bisects the tract. The horse campground lies just west of this tract, one tract over. A portion of the horse camp lies on the very southern tip of this tract.

A fire tower, additional horseback riding trails, and hiking trails are all located within a mile of this tract. There is evidence of illegal ATV use on this tract. One well used ATV trail was found and a number of very minimally used trails were found. Additional recreation opportunities on this tract are hiking, bird watching, and non-timber forest product harvesting.

Cultural: Cultural resources are to be protected on State Forests. If any resources were noted on this tract the plan of activities took them into consideration

Tract Subdivision Description and Silvicultural Prescription:

Pine: The pine stands are almost exclusively comprised of eastern white pine with a few Virginia pine scattered in the stand. Almost all of the pine on this tract is severely overstocked. When trying to put the data into the Gingrich Stocking Chart the pine stands were so far overstocked it became very difficult to extrapolate the actual stocking percent. A rough estimate is over 200% stocked – so far above the A line that it is of the chart. Within the pine stands there is some mortality as well as some blowdown areas. The majority of the pine stands can be cut to create regenerational openings. Roughly 280,000 board feet of white pine could be harvested from about 15 acres. After the projected harvest the stand will be stocked right above the B line at 60% stocked – fully stocked. The pine is located in two mains stands on the northern half of the tract (refer to the cover type and harvest area maps included with this plan). Most of the trees are medium to large sawtimber sized and very tall with good form. Because the stands of pine are so dense there is very little understory present. The area should be planted with desirable tree species after the harvest where adequate seedling stocking is not present. The horseback riding trail goes through portions of the pine stands so aesthetics should be maintained in these areas if at all possible.

All of the hardwoods on this tract will be managed together. The overall stocking for these areas is about 103%, right above the A line (overstocked). One thing in common with this entire area is that there is a yellow poplar component present. This is by far the most dominate tree present. White oak, white pine, pignut hickory and black oak are also present but not as prevalent. There are some small pockets of relatively higher quality white oak (or white oak with the potential for higher quality) present on the tract. In many areas the timber type is in the process of converting to beech/maple stands. While in some areas this is the best timber that can be grown; in other areas the oak/hickory should be encouraged to regenerate/mature in order utilize the land to its highest value. There are many large sawtimber sized yellow poplar that are declining due to either drought stress or overmaturity. A timber harvest would benefit this stand. Declining, overmature, and poorly formed trees can be taken out of the stand to release the crop trees. Roughly 147,000 board feet can be taken from around 25 acres. After the harvest the stand will be about 62% stocked; right above the B line or fully stocked. The harvest area is over the majority of the tract. The horse camp area and an area around the drainage on the west side of the tract are not included (refer to maps included with this plan).

The harvest area would take place over the majority of the tract. Aesthetic should be maintained whenever possible along the horseback riding trail. No harvesting should take place in or around the horse camp on the southern end of the tract. Logistically it would make sense to coincide this harvest along with harvests planned in neighboring tracts. The vine TSI that was previously done on this tract was effective and vines are not a problem at this point.

Summary Tract Silvicultural Prescription and Proposed Activities:

2012: Timber Harvest – Cut a total of 427,000 board feet over 40 acres.

2013: Post Harvest TSI.

2013: Seedling planting in pine area as needed

2014: TSI Planting Area (three consecutive years)

2022: Evaluate hardwood regeneration over entire harvest area

2032: Inventory

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