Indiana Department of Natural Resources - Division of Forestry

Management Plan

Ferdinand State Forest	Comp. 7, Tract 5
G. Herbaugh	6/25/2001

LOCATION:

NE ¼, SE ¼, Section 3, T4S, R3W. Approximately 3 ½ miles west of Sassafras or about 2 ½ mile east of Adyeville.

ACCESS:

This tract has excellent primary access. A county road runs along the southern boundary. However, there is limited access to the tract past this as there is a large drainage that also runs along the southern border. The banks of this intermittent creek are very steep and crossing would be difficult. The west side would be a possible location for crossing. This is where the tract was entered for a timber sale in 1974. Skid trails can still be located from this sale.

PINE:

Pine makes up approximately 13 acres of this tract. It is found in a block in the north-east quarter of the tract. When the land was purchased by the state, this area was planted to Red, Virginia and White Pine. Currently, however, much of the red and nearly all of the Virginia Pine have dropped out of the stand. What remains is large White Pine with a component of red pine mixed in. The red pine is small, averaging 7" dbh. Red Pine also made up the most snag trees in this area. While it is unknown what volume of pine the stand held in the previous inventory, it has been reduced in recent years. An opening in the north-central portion of the pine is nearly void of standing pine. This area is now composed mainly of large yellow poplar and smaller hickory with dense underbrush of blackberries.

The entire acreage had TSI completed in 1992. The area was described as a stagnate Virginia pine stand and white pine stand, that were thinned to release the poplar and ash. While much of the pine treated was successful there are numerous individuals that survived the treatment; these are mainly the larger white pine.

HARDWOODS:

This tract is made up of about 31 acres of hardwoods. There are areas of oak-hickory, hickory, sugar maple and other mixed hardwoods.

This tract is mainly small to medium sawtimber with very few overmature to mature individuals. Those that do have a larger diameter typically fall around the drainages, especially on the west side of the tract. This ma also be due to a previous harvest excluding the area, but this is difficult to determine from the harvest map from 1974. However this area was also the site of a timber trespass in 1988.

These south-facing slopes have remained fairly unproductive over the years. Many of those that should have benefited from the previous harvest are stagnate. Many individuals have poor tops, crooked and shorter.

The largest acreage is in oak-hickory with a total of approximately 20 acres. This timber type covers the ridgetops and side slopes of the western side of the tract. Most of the trees are small to medium oak-hickory with very few overmature trees. The white oak in this stand while fairly decent form is mostly in the 10-16" (average diameter 16") size classes. It makes up about 56% of the total sawtimber volume with 1,799 board feet per acre.

Black Oak makes up a comparatively small amount of the total volume with 19%. It also averages 16" dbh, but only has about 620.7 board feet per acre.

The remaining hardwood composition is mostly sugar maple, pignut hickory and northern red oak, however these make up only a very small amount of the total volume and species composition.

Yellow Poplar is fairly uncommon on this tract, but where it does occur seems to be doing fairly well. It is most prominent on the ridgetops where pine was removed or has died out. It does not make up a great percentage. Yellow Poplar and sugar maple do seem to be a bit larger on the whole, but is one of the lower Trees per acre species. The hickories are generally in the smaller diameter classes.

This hardwood area has some rock outcroppings, but these wouldn't hinder a harvest is if one is desired as alternate routes would be easily located.

The ridgetop in the northwest corner of the tract is much more dense in the understory indicating a possible greater use as agricultural (i.e. grazing) rock piles indicate usage as well. This area is also heavy to vines and greenbrier.

Regeneration throughout consists mainly of maple, ash with only minor amounts of white oak and yellow poplar.

SOILS

This tract is made up of six different soil types.

The first is Gilpin-Wellston Association (GmF) which is found on 25-35% slopes and has a site index of 80-90. It has a capability group of Vie-1 and a Woodland Group of 12. It is found on long, steep slopes in uplands. The Gilpin part of the association is a moderately deep soil and makes up about 45% of the association. The Wellston portion of the soil is a deep and moderately deep soil that was developed in loess and is found on north slopes of 25-35% and other slopes on 25-30%. Muskingum channery silt loam, stony phase is moderately deep over bedrock. It makes up about 20% of the association with about 20% containing channery fragments. There are limestone outcrops scattered throughout the association. Runoff and erosion are the major hazards.

Tilsit silt loam is found on 2-6% slopes, is eroded and is found along drainageways and on sides of broad ridgetops. It has lost 4-8" of its surface layer through erosion. There are also a few seepy areas. Erosion is the main concern on this tract. This soil is deep, moderately well drained, nearly level and gently sloping soils. It has low organic matter and has low supplies of phosphorous and potassium. TiB2 has low available moisture capacity is medium and permeability is low. Surface runoff is slow or medium.

There are two soils that are Wellston soils. These soils are found on short breaks at the heads of draws and on side slopes below ridgetops. Surface runoff is medium. Erosion is a main hazard.

Wellston silt loam, WID is found on 12-18% slopes. These soils are moderately deep and well drained, gently sloping to moderately steep. Organic matter is low and natural fertility is low. The available moisture capacity is medium or rapid. Capability unit is IVe-3, Woodland Group of 10 and a Site index of 90-100.

Wellston-Gilpin-Muskingum association is found on 18-25% slopes, mainly on long slopes in uplands. The Wellston portion is a deep and moderately deep soil that makes up about 55% of the association. It is found mainly on northerly exposures and on slope ranges of 18-21%. Gilpin is a moderately deep soil make up of 25% of the association developed in material weathered from sandstone, shellstone and shale. Channery fragments make up less than 20%.

Muskingum channery silt loam is a moderately deep soil over bedrock and makes up about 10% of the asociation. It is found on slope ranges of 21-25%. Channery fragments makeup about 20-40% of the subsoil. Runoff and eroison hazards are the major limits. The capability unit is the Vie-1, Woodland Group 12 and a Site Index of 80-90.

Zanesville silt loam (ZaC2) is found on 6-12% slopes that are eroded. It occurs on side slopes below ridgetops and on foot slopes. Surface runoff is medium and erosion is the main hazard. Drought damage is likely. The capability unit is IIIe-7, Woodland group 9 and a site index of 90-100.

Zanesville silt loam is 6-12% slopes, severely eroded. It is found on side slopes below ridgetops and on foot slopes. Surface runoff is rapid. There are few small gullies and erosion is a main hazard. Drought damage is likely when rainfall is below normal or poorly distributed. It has a capability unit of IVe-7, Woodland group9 and a site index of 90-100.

ROADS/ACCESS

Primary access to this tract is very good. A gravel county road runs along the southern boundary of the tract. Secondary access may be a bit trickier since there is a homesite on the southeast side near the road. If at any point this tract is to be harvested, careful determination of where the logyard is to go will need to done. Skid trails from previous harvests are still locatable and should be used for this type of management activity. Most are placed reasonably well and should provide good access to the harvestable areas of the tract.

BOUNDARY

The boundaries on this tract are fairly well defined. The southeast corner is marked with a sign on a pole-sized tree. The only concern here is that the tree is beginning to look in poor health and the sign should be located onto a post. Fencing follows the line north to a corner stone and an orange county survey marker. Fencing follows the line to the west, although it tends to wander off and onto the line. A stone can be found on the northwest corner, but it does not appear to be the corner stone as it is a good distance from what is considered to be the line. From here the line running south to the county road is a bit shaky. Blue flagging stakes were placed in 1988 after a timber trespass. The line seems fairly accurate.

WILDLIFE

Wildlife in this tract is typical of most of Perry County. Deer, turkey and other indigenous fauna are present. This tract is also borders a field on the east side, this coupled with the mixed timber type of the stand provides a variable habitat for numerous species. Mast seems to be plentiful. Hickory nut cuttings by squirrels were found throughout the tract. Lizards were also noted in the tract. A yearling deer skeleton was found near the drainage on the southern drainage. Black berries were abundant in the openings of the pine areas along with greenbrier. This tract also had its fair share of down trees. There is also a significant deer trail on the south east corner through the homesite.

INDIANA BAT STRATEGY

This area was also sampled for the ratio of snag trees and large diameter trees that are preferred as roosting habitat for the Indiana Bat. This will help to better manage the area in order to enhance the habitat for the Indiana Bat. Guidelines call for 3 live trees per acre 20+ inches dbh and 6 live trees per acre 11+ inches dbh for those species with the characteristics that the Indiana Bat desires. For this tract there were a total of .2 trees per acre in the 20+ inch dbh classes and 27.8 trees per acre in the 11 + dbh classes. This tract falls short in the 20 + inch requirements as stated by the IBS.

Snag tree guidelines call for 5 snags per acre 9 inches dbh and an additional 1 snag per acre with a dbh of 19+ inches. This tract had a total of .8 snags per acre in the 9+ inch classes and a total of .4 snags per acre for those 19 inches and up. This does not meet the guidelines as stated by the IBS. In order to increase the number of snag trees, any trees damaged by harvesting activities should be left standing and should be created during TSI.

WILDLIFE REVIEW

As stated in State Forest Procedures, a Wildlife Review and Natural Heritage Database Search was also performed. See attached Report.

HISTORY

This tract was part of an 80-acre acquisition from Robert Leinenbach and Evelyn Leinenbach and William F and Frosta Lehmkuhler of Perry County. The entire purchase was about 80 acres. At that time, about 25% of the tract was Red Oak, 20% was White Oak and Hickory rounded out the top three at 15%.

There was a timber sale in January of 1974 marked and harvested with Compartment 07, Tract 04. The largest part of the volume was black oak (25,400 bd.ft.) White oak (18,700 bd.ft.) and chestnut oak (14,700 bd. ft.).

TSI was completed over about 10 acres in January of 1990 and was intended to release better Yellow Poplar stems and also thin the stands of pine (VIP, WHP, REP). The White Pine in the tract were also pruned to 12 feet and grapevines were killed.

A timber trespass in 1988 removed some “exceptionally nice trees” including 20 White Oak, 5-Black Oak, 1 Red Oak, 1 White Ash, 2 Sugar Maple, and 1 hickory, totaling 30 trees in all.

SPECIAL FEATURES

- ◆ A CFI plot is also located within the tract on the west side, just below the pine stand and above the drainage.
- ◆ The old county road also lies on the state, paralleling the current county road.
- ◆ There is also a rock outcrop near the center of the tract.

SILVICULTURAL PRESCRIPTION

At this time, this tract is not ready for a commercial hardwood harvest. The stems are still fairly small. TSI may be a viable option for this tract to try and stimulate the better quality trees. It is doubtful this stand will ever show great productivity, but with TSI the stand may be able to improve. Grapevines are very numerous, especially in the northwest corner of the tract and should be removed by TSI.

Since much of the pine areas were cut in the early 1990s, they are beginning to transition to a hardwood forest, however slowly. These areas should be left to do so.

ADDENDUM

COMPARTMENT 07 TRACT 05

In November, 2010 it was decided that it would be beneficial to walk through 0705 to reassess the recommendations made in the previously written management plan (6/25/2001). This coincided with the marking of tract 0704 for a timber sale. The previously written plan for 0705 stated that 0.0 board feet was recommended to be harvested.

When looking at the tract it was noted that there is an area in the northeast corner that consists mainly of large sawtimber yellow poplar that is significantly stressed and in decline. These trees should be harvested before their value is lost to mortality. It is likely that this area will return to yellow poplar but it is also likely that the future stand will be much healthier. Additionally in the southeast corner of the tract there is an area of large sawtimber white pine that has stagnated with evidence of some mortality. Originally this land was planted with white pine, red pine, and Virginia pine. At this time the main species left is white pine as the red and Virginia pine has mostly dropped out of the stand. The remaining pine should be harvested. There is some oak regeneration present in the understory of the pine. By taking the pine, it will give these oak saplings a chance to become crop trees. It is likely that there will also be yellow poplar and mixed hardwood regeneration in this area as well but with TSI it is hoped that the oak can be encouraged to maturity.

On the rest of the tract the oak stands have the volume to support a harvest that will work to release the crop trees. Overmature and/or poorly formed trees can be taken not only to thin the crop trees to but to release any competitive oak that is present in the understory.

The current recommendation is to have a timber harvest in this tract (0705) in conjunction with the tract immediately to the south of it (0704). It is hard to predict a volume that will be taken because, as stated previously, the last management guide had a recommendation of 0.0 board feet that could be taken over the entirety of the tract.

Amanda Bradshaw-Burks, Intermittent Forester
February 1, 2011

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