

Resource Management Guide

Harrison-Crawford State Forest
Christine Martin

Compartment: 3 **Tract: 3**
Date: 2/15/2008

Acres Commercial forest: 70

Basal Area \geq 14 inches DBH: 77

Acres Noncommercial Forest: 0

Basal Area < 14 inches DBH: 28

Acres Permanent Openings: 0

Basal Area Culls: .6

Acres Other: 0

Total Basal Area: 110

Acres Total: 70

Number Trees/Acre: 369

Average Site Index: 70

Stocking Level : overstocked (110%)

Calculated annual Growth (bd. ft.): 256

Location

This tract is located in T3S R1E S27. The tract is most closely located to the carefree interchange located off of Interstate 64 in Crawford County.

General Description

There are four different stand types on this tract of land. There is the oak-hickory that is 49 acres. It is located mainly on the hillsides of the tract. There also is an oak-hickory larger trees section. This section includes 7 acres, which is located in the "horn" of the tract. The third stand type is mixed hardwoods, which follows the drainage that runs south to the north in the middle of the tract. The last stand type is the White Pine plantation on the ridge top on the east side of the tract.

History

This 70 acre tract was acquired in 1947 from Elliot.

A review of the planting records indicates that 6,350 Eastern White Pine were planted on the eastern ridge top in 1955.

There was a timber sale conducted on this tract in 1987. There were 66 acres marked and approximately 126,000 board feet removed. The top three species removed were white, black, and scarlet oaks.

Landscape Context

This tract is bordered by private land on all sides. The east side of this tract is bordered by a field. Parts of the north and the southwest sides are also bordered by fields. The rest of the land is bordered by privately owned forest land.

Topography, Geology, and Hydrology

There is a drainage that runs from the south to the north, through the middle of this tract. The drainage empties into Jaby Creek. Jaby creek then in turn empties into Turkey Fork drainage. Because of the drainage this tract is comprised of eastern and western slopes.

Soils

Adyeville Very Fine Sandy Loam (AbqE2, AciE)

The Adyeville series consists of moderately deep, somewhat excessively drained soils. Surface Horizon is 9 inches thick. The subsurface horizon then grades into 8 inches of silt loam then with the remaining 60 inches turns into a loam texture type soil. The bedrock consists of moderately cemented sandstone with some siltstone, and shale. The permeability is moderately rapid. The mean annual precipitation is about 43 inches and the mean annual temperature is about 54 degrees F.

Degree Slope: 8-60%

Woodland suitability group: 3o10

Site Index: 70

Growth Range potential: 200

Management Concerns: Runoff and erosion

Apalonia Silt Loam (AgrA, AgrB, AgrC2, AgrC3)

The Apalonia series consists of very deep, moderately well drained soils forms in loess and the underlying residuum from shale with limestone and siltstone. They are moderately deep or shallow to a fragipan. The surface horizon is a silt loam 8 inches thick. The first 8 inches of the subsoil is a silty clay loam. The next 33 inches is a silt loam. The next 11 inches is a clay then it turns into a clay loam for 9 inches. The last 21 inches of the subsoil is a loam. The bedrock is a weakly cemented shale with moderately and strongly cemented sandstone The mean annual precipitation is about 43 inches and the mean annual temperature is about 54 degrees F.

Degree Slope: 0-12%

Woodland suitability group: 3d9

Site Index: 60

Growth Range potential: 258

Management Concerns: runoff and erosion

Corydon Stony Silt (CqyG)

The Corydon series consists of shallow, well drained soils that formed in as much as 8 inches of loess and in the underlying limestone residuum. The Corydon soils are on hills underlain with limestone. The surface horizon is 8 inches of a silt loam. The subsoil is 9 inches of clay. The bottom of the profile is unweathered bedrock. Mean annual precipitation is about 44 inches, and mean annual air temperature is about 54 degrees F.

Degree Slope: 20-60%

Woodland suitability group: 1o8

Site Index: 64

Growth Range potential: 258

Management Concerns: runoff and erosion

Tipsaw Very Fine Sandy Loam (TbIG)

The Tipsaw series consists of moderately deep, somewhat excessively drained soils. They formed in loamy residuum from sandstone with shale and siltstone. The surface is a dark

grey very fine sandy loam about 2 inches thick. The subsurface horizon is also a very fine sandy loam about 3 inches thick. The subsoil is 15 inches is a fine sand loam and the last 20 inches is a loam. The bedrock consist of a weakly cemented and moderately cemented sandstone with shale, siltstone. The mean annual precipitation is about 43 inches, and mean annual temperature is about 54 degrees F. Permeability is moderate or moderately rapid

Degree Slope: 20-70%

Woodland Suitability: 3r12

Site Index: 70

Growth Range potential: 342

Management Concerns: runoff and erosion

Wellston Silt Loam (WhfC2, WhfD2, WhfD3)

The Wellston series consists of deep, or very deep, well drained soils formed in silty material from loess and from fine-grained sandstone or siltstone and with bedrock at depths of 40 to 72 inches. These soils have moderate permeability. The surface horizon is a silt loam which is 2 inches thick. The subsurface horizon is a silt loam about 8 inches thick. The first portion of the subsoil consists of 11 inches of a silt loam, the next portion consist of 4 inches of a silty clay loam. The last portion of the subsoil is one inch of a clay. The stratum is 9 inches of loam. The bedrock which is at 45 inches form the surface is an acid fine-grained sandstone. Mean annual precipitation is about 40 inches, and mean annual temperature is about 53 degrees F. Well drained. Runoff is medium to rapid.

Degree Slope: 0-50%

Woodland suitability group: 3o10

Site Index: 80

Growth Range potential: 342

Management Concerns: runoff and erosion

Access

The access to this site is via Two Bit Road. Two Bit Road travels north east off of Mansfield road which travels north off of state highway 66.

Boundary

The North West boundary follows Two Bit Road. On the North line there are scraps of old barbed wire fence, which makes up the line. At the base of the north eastern line lays a corner stone. The south eastern line follows a field. The south line starts to follow a field and then heads in the forested land, and then pops out again following a field. The western line follows a field with a barbed wire fence. The south western line also follows a field with a barbed wire fence.

Wildlife

The wildlife is typical of what you would expect to find in a wooded area of Crawford County.

The Natural Heritage Database Review showed that there were not rare and endangered species found in or near this tract.

Indiana Bat

Timber harvest activities may have both positive and negative effects on the Indiana bat. While undetected but occupied roost trees could be cut during spring, summer or fall, the probability of disturbance or direct injury or death to bats is extremely small. Timber harvest could create conditions that are beneficial to Indiana bats. Roads and/or skid trails provide improved canopy foraging conditions by reducing clutter. Roosting habitat could also be improved by reducing clutter around roost trees. Edges of log landings and regeneration openings could provide roost trees with improved solar exposure, thus improving microclimate/thermal conditions for roosting areas. This would improve reproductive success and fitness, contributing to local population stability or increase. In cases of maternity trees this could provide conditions that increase growth and activity rates of young bats, leading to reduced time for parental care.

Suitable roost trees such as large diameter snags or live trees with loose or exfoliating bark will be retained in sufficient numbers to provide continuing roosting habitat for the Indiana bat

According to the inventory of this tract there are a sufficient number of live trees per acre to support a timber harvest and still meet the requirements for the Indiana Bat Habitat Guideline. The inventory shows that there are an insufficient number of snags on this tract required for the bat. If it is decided that there should be more snag trees for the bat, a post-harvest TSI could generate the snags needed. This could be done by girdling the cull trees, especially the ones with the desirable bark characteristics.

Recreation

Because of the isolation of this tract there are no recreation trails. There is some evidence that this tract is being used for hunting.

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 Subdivision Description and Silvicultural Prescription

Oak-Hickory

There are 49 acres in this stand type. The northern section of this stand type is sparser than the southern section. There is also a lot of sugar maple regeneration throughout the stand. These sugar maples vary in size from the small, 2 inch DBH to larger size about 12 inches DBH. The dominant over story species in this stand is white oak. The over story trees are medium saw timber (16-22 inches DBH). In the southern section of the oak-hickory stand type are a lot more pole sized white oak trees (4-10 inches DBH). The basal area (BA) is hovering around 100. There could be 60990 board feet taken out of the stand when harvested.

Oak- Hickory large Trees

This stand is comprised of 7 acres. There are a lot of sugar maples in the under story of various sizes. The over story has a lot of mature to over mature oaks. The main tree species are white oak and pignut hickory. These mature oaks have large crowns, that are over shading a lot of the under story. The basal area in this stand is 95. If you were to do a normal thinning there would be about 3400 board feet removed. The total footage for the stand is 40410.

Mixed Hardwoods

This stand follows the drainage in this tract. There are some other species such as sycamore that are found here and not in any other part of the tract. The sycamore found here are poor formed with unbalanced crowns. The basal area in this stand is 87. The amount of footage that can be removed is about 6770.

White Pine

As stated earlier in the history section these were speculated to be planted around 1955. In 1986 these pines had a timber stand improvement thinning (TSI). The average size for these pines is 14-16 DBH. The crowns for these pines are small and closed in. the regeneration coming up through the pines is mainly red maple, but there are a few oaks. The basal area in this stand is 184. The footage that could be removed is 36320.

Summary Tract Silvicultural Prescription and Proposed Activities

Oak-Hickory

In the southern part of this stand there are many pole sized White oak trees that could use a release. There are also some poor formed oaks that should also be removed. In this section there should be a light thinning to release the white oak poles. In the northern part there are more sugar maple poles than oaks. The north section could have a light improvement thinning performed on it. There are a couple of poorly formed oaks and sugar maples that should be removed to improve the stand as a whole. This improvement thinning also could be done in a way to encourage the oak regeneration that is there. Also this stand could be scarified when harvested to encourage more oak seedlings to get established. I would suggest an improvement thinning to occur in 2014. This stand could use some more growth, and in 5 years the stand should be ready for a harvest.

Oak- Hickory large Trees

The trees in this area are mature to over mature. These trees are ready to come out. The entire over story should be taken out. This will shed a lot of light to the forest floor, which is currently being shaded out by the large mature trees. A lot of light is good for the shade intolerant species such as yellow poplar. When these large trees are harvested it will make a lot of disturbance to the residual stand. There will also be a lot of soil disturbance. This will help with the encouragement of other trees that need bare mineral soil to get started, like oaks and yellow poplar. In this opening there will be a variety of species coming up and it will be good for stand diversity and wildlife. The wildlife will forage and find cover in the slash. After the stand is harvested in there will need to be

some timber stand improvement (TSI) to remove the residual trees to give a maximum release to the under story trees, and the new regeneration. This stand will not be harvested until the oak-hickory stand is harvestable. This will not be until 2014.

Mixed Hardwoods

This area would be a light improvement thinning. This stand could use a harvest in here to clear out the poor formed trees and smaller crowns. This stand will also be harvested in 2014. This will give the stand some time to grow.

White Pine

These pines could use another timber stand improvement thinning. The crowns of the pines are close together and smaller than they should be. These pines could be released.

Proposed Activities Listing

TSI pines- 2008, double girdle about 1/3 of the basal area

Timber sale- 2014, a sale in the oak-hickory and the mixed hardwoods down to about 80 sq. Ft/acre basal area. In the oak-hickory large trees perform a regeneration opening.

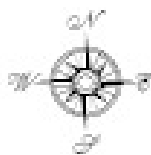
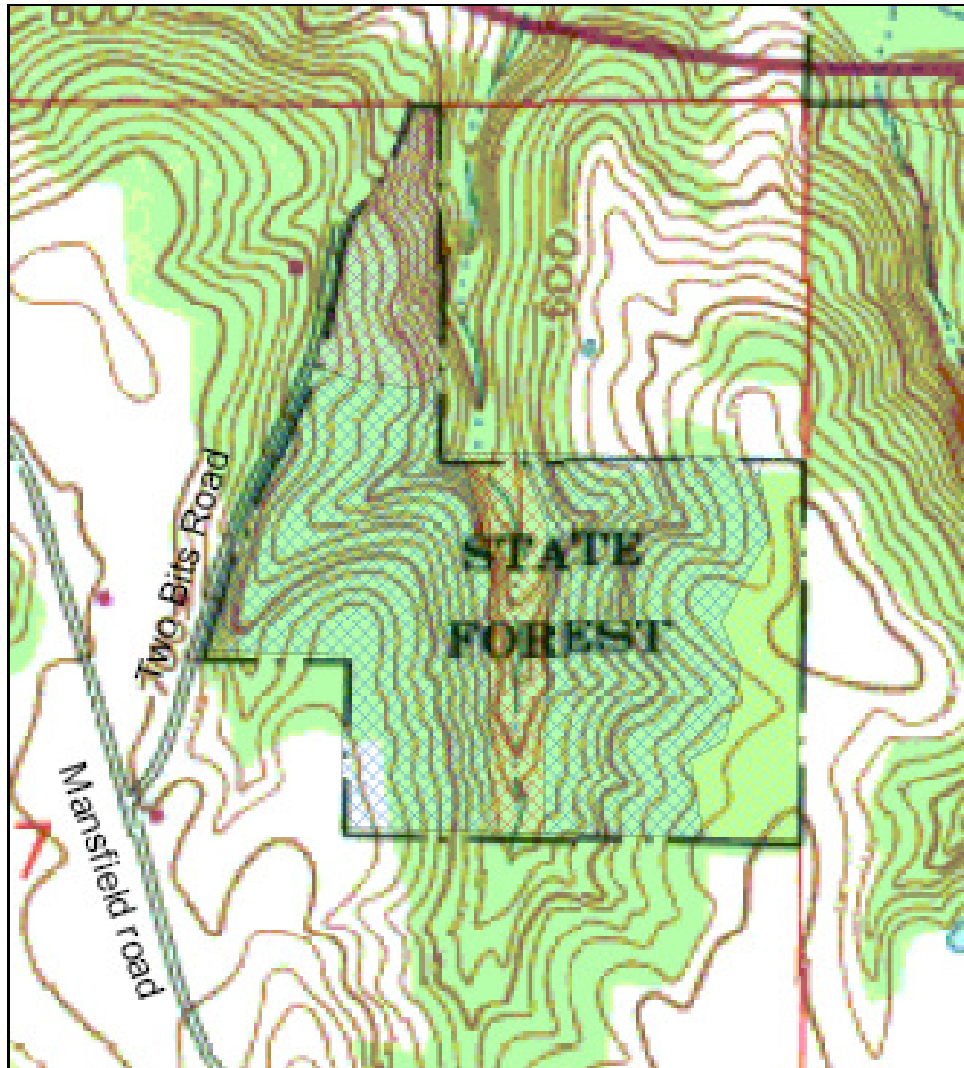
Check the opening to see what types of regeneration coming up- 2015 or 1 year after the harvest.

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Compartment 3 Tract 3 T3S R1E S27 Stand Map



Stand Types	
	Mixed Hardwoods
	Oak Hickory
	Oak Hickory-Ig
	White Pine

