Resource Management Guide

Harrison-Crawford State Forest **Compartment: 6** **Tract: 6**
Christine Martin **Date: 4/10**

Location

This tract is located in Harrison County Indiana, Sec 18, T3S, R3E. This tract is found at the intersection of Moberly Road and Harrison Springs Road.

General Description

There are three separate stands to this tract. The first is the cedar which is located in the southern portion of this tract. This cedar area was once farmland. This land has been gullied from the previous farming practices and lack of concern for erosion control. The second stand type is a mixed hardwoods stand which is found north of Moberly Road. This stand is rocky and has a mixture of different tree species on it. The last stand is the Oak-Hickory which is found on the ridgetop.

History

This land was acquired in the 1940's.

There was a timber trespass discovered in 1984 on the northwestern part of this tract. There were 25 trees in total taken from this tract. The trees taken were 17 white oak and 8 black walnut.

Landscape Context

This tract is surrounded by private property. The majority of the private property is used for pasture and hay fields. There is a fair amount of land that is in forest cover. There is ample amount of contiguous forest closure to provide wildlife corridors for travel.

Topography, Geology, and Hydrology

This tract is comprised of a ridge, a south west facing slope, and relatively flat ground at the bottom of the slope. This flat ground was farmed at one time and has some gullies associated with it. The slope is very rocky in sections and has poor quality timber growing on it.

There is one intermittent stream that cut the through the northwest corner of the property. This intermittent stream flows directly into the Blue River.

Soils

Corydon Stony Silt Loam (CoF) Shallow, moderately steep to very steep, well-drained, stony soils on uplands. Surface layer is about 3 inches. Subsurface is about 6 inches thick. Subsoil about 9 inches thick. The depth to hard limestone bedrock is about 18 inches. High in organic matter and low in natural fertility. Runoff is rapid or very rapid. Soil type is characterized by limestone outcrops, with as much as 15% on benches which are deeper than 20 inches to bedrock.
Degree Slope: 20-60 %
Woodland Suitability Group: 3d7
Site Index: 65-75 (Upland oaks)
Growth range potential (Upland oaks): 155-220
Management concerns: Runoff and erosion

Crider Silt Loam (CrB2, CrC2, CsB3, CsC3, CtC2) Deep, gently sloping and moderately sloping well-drained soils on uplands. Surface layer is dark-brown silt loam about 8 inches thick. Subsoil is about 62 inches thick. Moderate in content of organic matter and in natural fertility. Available water capacity is high and permeability is moderate. Typically, these soils are eroded. Runoff is medium to rapid.
Degree Slope: 2-12%
Woodland Suitability Group: 1o1
Site Index: 85-95 (Upland Oaks)
Growth range potential (Upland oaks): 300-375 bd.ft./acre/year
Management Concerns: Runoff and erosion

Gullied Land (Gu) On uplands in areas that are mostly 3-15 acres in size but in places are as large as 40 acres. Underlain at a depth of 2-6 feet by bedrock of limestone, shale, or sandstone. Bedrock is exposed in the bottoms of gullies in many places. Most of the land is barren, but in places shrubs, weeds, and wild grasses are growing.
Woodland Suitability Group: 4r3
Site Index: 72-85
Growth range potential (Shortleaf and Virginia pine): 100-300 bd.ft./acre/year
Management Concerns: Runoff and erosion.

Hagerstown Silt Loam (HaC2, HaD2, HgC3, HgD3, HgE3) Deep, moderately sloping to moderately steep, well-drained soils on uplands. Surface layer is dark yellowish brown silt loam about 6 inches thick. The subsoil is about 46 inches thick. The depth to limestone is about 52 inches. Characteristically, this soil is eroded to severely eroded. Moderate in content of organic matter and medium in natural fertility. Available water capacity is moderate or high, and permeability is moderate. Runoff is rapid to very rapid.
Degree Slope: 6-25 %
Woodland Suitability Group: 1o1 or 1r2
Site Index: 85-95 (Upland Oaks)
Growth range potential (Upland oaks): 300-375 bd.ft. /acre/year
Management Concerns: Runoff and erosion

Haymond Silt Loam (HcgAH, Hm, Ho)
The Haymond series consists of very deep, well drained, soils that formed in silty alluvium. These soils are on flood plains and flood-plain steps. Slope ranges from 0 to 3 percent. Mean annual air temperature is about 55 degrees F, and mean annual precipitation is about 42 inches. The surface horizon is a brown silt loam plow layer that extends approximately 10 inches. The first subsurface horizon is a dark yellowish brown silt loam that extends to 25 inches. The second subsurface horizon is a yellowish brown silt loam that extends until 44 inches. The stratum is a massive yellowish brown fine sandy loam.

Wellston Silt Loam (WeC2, WeC3, WeD2, WeD3) Moderately deep and deep, moderately sloping and strongly sloping, well draineds soils on uplands. Surface layer is about 9 inches thick and yellowish-brown. The subsoil is about 31 inches thick. Depth to hard sandstone bedrock is about 40 inches. Moderate in content of organic matter and low in natural fertility. Available water capacity is moderate or high, and permeability is moderate. Runoff ranges from medium to very rapid.
Degree Slope: 6-18 %
Woodland Suitability Group: 3o10
Site Index: 70-80 (Upland oaks)
Growth range potential (Upland oaks): 185-260 bd.ft./acre/year
Management Concerns: Runoff and erosion

Access

There is good access to this tract. Moberly Road cuts through the middle of this tract. Harrison Springs Road forms part of the eastern boundary of this tract. There is a buried phone cable on the west side of the road which runs the length of Harrison Springs Road.

There is illegal ATV activity on this tract. There is a trail that leads through state land to neighbor's property. This illegal trail is found south of Moberly Road.

Boundary

This tract is completely surrounded by private property.

There is an old fence post found on the southeastern corner just off Harrison Springs Road. The boundary line then follows the road north. The road dead ends at Moberly Road and the boundary line continues north. There is not much evidence of old line found on this section of the line. There is a cattle fence that starts 200ft south of the north east corner. There are remnants of fence found on the diagonal line that runs to the northwest. There are some signs found in the woods from the north line after is straightens out. There is a carsonite post found on the North West corner of this tract. There is also blue paint that leads south from the corner to Moberly Road. South of the road there is old fence line that runs to the southwest corner. There is an old fence line intersection at the corner. There is also old fence that runs to the east from this corner. The south middle corner is also an intersection of fence line. This fence line runs south to a pin placed from Primavera. There is some fence line on the southern boundary but it is believed that this

fence does not follow the boundary line. The boundary line is to the north of the fence on the ground.

There is an apparent trespass located on the northwest side of this tract. There is a driveway placed in on the west side of Moberly Road which continues for 100 feet until it reaches private land. This gravel driveway has been there for some time and is unclear when it was built.

Wildlife

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.

Ecological resource guide discussions

The proposed management activities in this tract are a timber harvest, road building, and timber stand improvement. These are the activities that can alter the habitat present for the wildlife.

The harvest will affect the understory vegetation in the short term. Trees are removed thereby letting more sunlight hit the forest floor, creating more understory vegetation growth. As time passes the trees in the overstory will grow and overtake these holes in the canopy so therefore there is a decrease of light hitting the forest floor. The decreased light creates a decrease in understory vegetation growth. Approximately 5 years after the harvest the vegetation is what it was before the harvest took place.

The harvest will also provide more habitat for some wildlife. There will be more coarse woody debris on the ground after the harvest. This large amount of down material is great habitat for wildlife.

If there is a harvest in the cedar it will alter in forest continuity. There will be a removal of the cedar overstory to let the oak take over. This will create a large opening for animals like grouse to take advantage of. In the future these oak seedlings will turn into mast producing mature trees and will provide another food source to the wildlife. The amount that will be removed will not adversely affect the wildlife because there will be plenty of habitat cover for the wildlife to take refuge in.

This harvest should not affect any travel corridors or drastically alter the cover types of the area. The method used in this harvest will be single tree selection. There may be areas of regeneration openings that may exceed 5 acres in size. These openings will not overall affect the continuity of the forest. These regeneration areas will provide habitat for wildlife.

The timber stand improvement should have minimal affect on overall forest continuity.

Recreation

There are not any recreational trails located on this property therefore this tract would be limited to hunting and foraging. There is strong evidence that this stand is used heavily for hunting. There were a couple of tree stands found while inventorying this tract.

Cultural

There were no historic sites observed on this tract.

Summary Tract Silvicultural Description, Prescription and Proposed Activities

Oak-Hickory

This stand is 25 acres in size. There are 104 square feet of basal area per acre in this stand. There are 129,640 total Doyle board feet in this stand.

This stand is located along the ridgetop. There are some medium sawtimber trees in this area. Some of these large trees are poor quality. These poor quality trees need to come out of the stand to promote better overall stand health. The main tree species are white oak, red oak, and white ash. The white ash should be selected against because of the oncoming threat of the emerald ash borer.

There is mainly sugar maple regeneration in this tract. There are many oak poles that are growing in the understory. These oak poles should be released with the harvest.

Mixed Hardwoods

This stand is comprised of 36 acres. There is in total 86 square feet of basal area per acre. There is a total of 119,170 Doyle board feet of which 8,300 Doyle board feet is harvestable.

This section is rocky ground. The further east on the tract the rockier the ground becomes. The west side of this stand is comprised of good sawtimber sized trees and the eastern side is small poor quality trees that grow on rock outcroppings. There are many ash trees that are growing throughout this stand. These ash trees should be removed in preparation for the oncoming emerald ash borer.

The rocky ground will be challenging for the skidders to climb over in the harvest. The west side would be the least rocky and would provide the best access to getting to the oak-hickory stand on top of the ridge.

Cedar
This stand is 39 acres in size. There are 94 square feet of basal area per acre. There are 141,830 total Doyle board feet in this stand of timber.

This stand is growing on old farm fields. There is a severe gully that cuts through half of this stand. There are many poplars that are growing on the sides of this gully. There is not much top soil left in this area.

In place there is a plethora of oak regeneration. The majority of the cedar stand has American beech growing in the understory. In the placed where the oak regeneration is found the cedar should be removed from the overstory to let the oak take over the stand. Once the cedars are removed the stand can convert to a mixed hardwoods stand type. This will help build soil on the site and provide a better food source to the wildlife.

The cedar should be harvested in sections for a couple reasons. The first reason is for the visual impact of the site. The first section will have time to grow up by the time the second section is to be harvested therefore decreasing the visual impact of a cedar removal harvest. The second is to decrease the wind throw potential. When the second section is harvested the first had time to grow roots to increase wind hardiness.

Proposed Activities Listing

Cedar harvest- 2011 (8 acres)
Cedar harvest- 2013 (10 acres)

Hardwood Harvest- 2017

Re-Inventory, and re-write plan- 2033

Acres Commercial forest:	62	Basal Area ≥ 14 inches DBH: 51.7sqfe/acre
Acres Noncommercial Forest:	38	Basal Area < 14 inches DBH: 40.1sqft/acre
Acres Permanent Openings:	0	Basal Area Culls: 2.6sqft/acre
Acres Other:	0	Total Basal Area: 94.4sqft/acre
Acres Total:	100	Number Trees/Acre: 314
Average Site Index: 83		Stocking Level : Fully stocked (90%)
Calculated annual Growth (bd. ft.): 282		

Species	Harvest	Leave	Total
White Oak	8,870	68,650	77,520
Northern Red Oak	5,160	66,510	71,670
White Ash	9,900	15,720	25,620
Pignut Hickory		19,830	19,830
Black Oak	2,670	15,410	18,080
Sugar Maple		13,120	13,120
Chinquapin Oak	1,450	10,860	12,310
Yellow Poplar		11,080	11,080
Shagbark Hickory		8,370	8,370
American Beech	1,650	2,430	4,080
Red Maple		1,360	1,360
Total Hardwood	**29,700**	**233,340**	**263,040**
Eastern Red Cedar	1,660	124,440	126,100
Virginia Pine		3,170	3,170
Total Softwood	**1,660**	**127,610**	**129,270**
Tract Total/acre	**313**	**3,610**	**3,923**

- **Table is estimated volume on the Doyle Board feet scale.**

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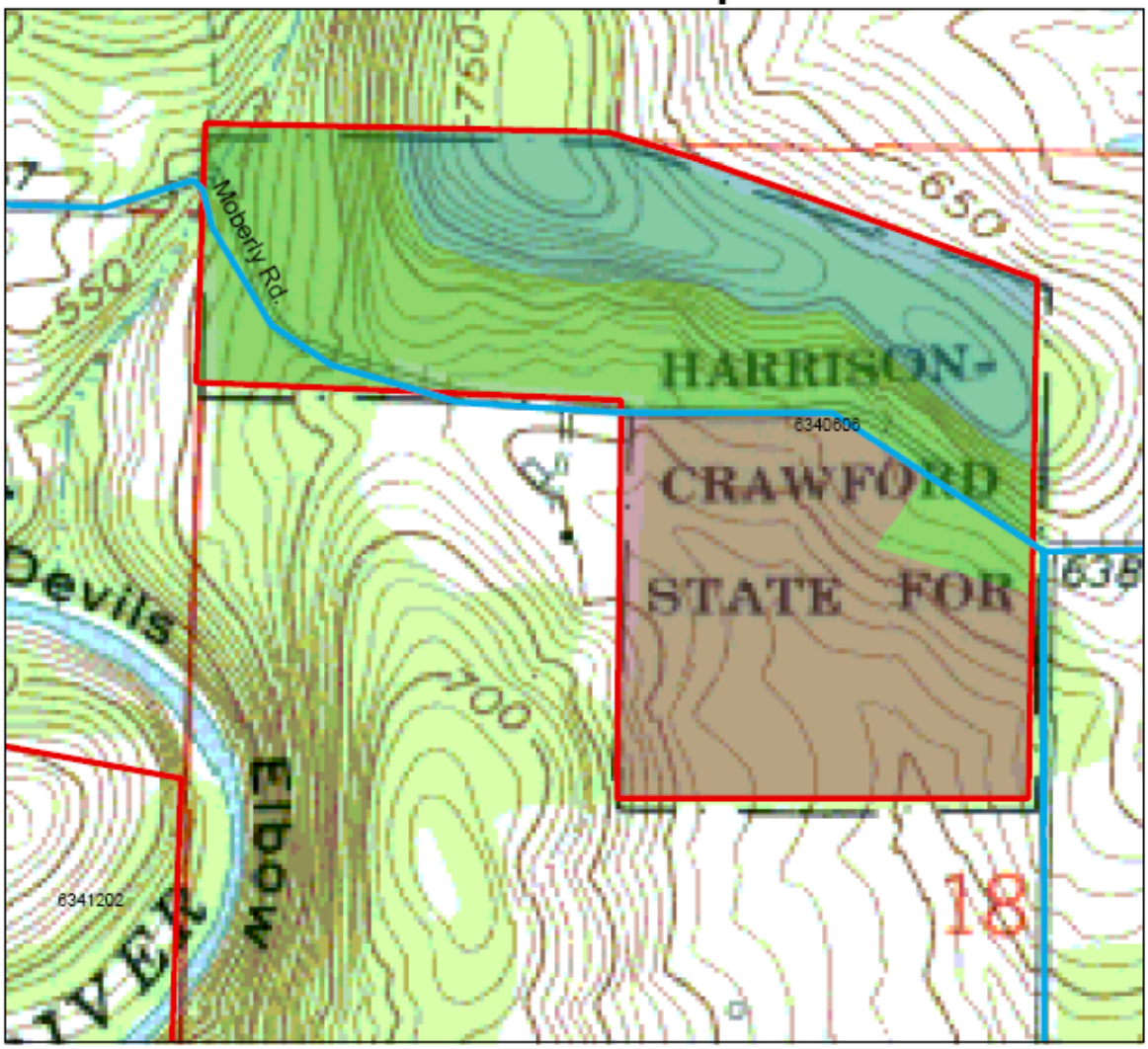
Compartment 6 Tract 6
Sec 18, T3S, R3E
Stand Map



stands

- Cedar
- Mixed Hardwoods
- Oak-Hickory

0.1 0.05 0 0.1 Miles