

RESOURCE MANAGEMENT GUIDE

State Forest: Greene-Sullivan Compartment: 5 Tract: 10
Forester: Phil Jones Date: 2/19/09
Management Cycle End Year: 2029 Management Cycle Length: 20 Years

Location

Compartment 5, Tract 10 is located in the east ½ of Section 36 – T7N – R8W of Sullivan County. It is approximately 2.5 miles north of the town of Pleasantville.

General Description

This tract is approximately 104.4 acres. The various land use components can be delineated as follows:

- Closed Canopy Forest – 92.7 ac
- Lakes – 5.5 ac
- Encroachment – 3.7 ac
- Horse Campground – 2.5 ac

Over half of the forested area is on non-surface mined ground. Spoil banks are located generally along the east side of the tract. Approximately 65% of the forest can be classified as an oak-hickory cover type. The remainder can be characterized as pockets of white pine and southern pine.

History

The tract was acquired from The Central Indiana Coal Company on December 2, 1949. No known records of the planting operation exist, but much of the current forest appears to have established around this time.

Boundary and Landscape Context

County road 500S forms the north boundary. South State Rd. 159 forms much of the west boundary. Private land borders the remainder of the west line. The south boundary is a firelane. The north corner of the east boundary is bordered by private ground. The center of the east line is bordered by the Reservoir 29 reclaimed gob pile field. Ladder Lake forms the remainder of the east line to the south. In general, the surrounding landscape consists of closed canopy forest interspersed with various open areas and strip mine pits to the north, south, and east. To the west, the landscape consists of reclaimed and open pit mine ground interspersed with small crop fields and woodlots.

Topography, Geology and Hydrology

In general, only the east edge of the tract has been strip mined. This area consists of a series long narrow, steep mounds of mine spoil (a mixture of soil, shale, sandstone, and some coal). There are two strip pits in the tract, ham and ladder lakes.

The majority of the tract is unmined. The topography is rolling with slopes range from 0 to 20%. The soils formed in loess and in the underlying Illinoian glacial till. The bedrock in this area typically occurs as a sequence of shale, sandstone, mudstone, limestone, and coal.

Soils

Map unit: AIB2 - Ava silt loam, 2 to 6 percent slopes, eroded

Component: Ava (100%)

The Ava component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: AIB3 - Ava silt loam, 2 to 6 percent slopes, severely eroded

Component: Ava (100%)

The Ava component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 15 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: CnB2 - Cincinnati silt loam, 2 to 6 percent slopes, eroded

Component: Cincinnati (100%)

The Cincinnati component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 22 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: CnC2 - Cincinnati silt loam, 6 to 12 percent slopes, eroded

Component: Cincinnati (100%)

The Cincinnati component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 22 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: CnC3 - Cincinnati silt loam, 6 to 12 percent slopes, severely eroded

Component: Cincinnati (100%)

The Cincinnati component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 22 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very

low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: CnD2 - Cincinnati silt loam, 12 to 18 percent slopes, eroded

Component: Cincinnati (100%)

The Cincinnati component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 22 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: CnD3 - Cincinnati silt loam, 12 to 18 percent slopes, severely eroded

Component: Cincinnati (100%)

The Cincinnati component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 22 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: HkE - Hickory silt loam, 18 to 25 percent slopes

Component: Hickory (100%)

The Hickory component makes up 100 percent of the map unit. Slopes are 18 to 25 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: HkF3 - Hickory silt loam, 18 to 35 percent slopes, severely eroded

Component: Hickory (100%)

The Hickory component makes up 100 percent of the map unit. Slopes are 18 to 35 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: HkG - Hickory silt loam, 35 to 50 percent slopes

Component: Hickory (100%)

The Hickory component makes up 100 percent of the map unit. Slopes are 35 to 50 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: Sn - Stendal silt loam

Component: Stendal (90%)

The Stendal component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of acid silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: VgA - Vigo silt loam, 0 to 2 percent slopes

Component: Vigo (90%)

The Vigo component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: VgB2 - Vigo silt loam, 2 to 4 percent slopes, eroded

Component: Vigo (90%)

The Vigo component makes up 90 percent of the map unit. Slopes are 2 to 4 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: St - Strip mines

Component: Strip mines (90%)

This component is on spoil piles. Slopes are 18 to 35 percent. The parent material consists of Loamy materials overlying graded shaly regolith. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Access

Currently, the tract can be accessed in two areas from State Rd. 159. In the center of the tract is a paved road that leads to the horsecamp. The other entry point is through a steel gate located on a rocked firelane, which forms the south border of the tract.

Wildlife Habitat Features

Wildlife habitat suitable for a wide variety of native species should be optimized throughout the tract in order to promote and maintain a high level of faunal diversity.

Cover/Habitat Overview

TABLE 1

Habitat/cover type	0%	0 < 1%	1-10%	11-50%	51-90%	>90%	Unknown
Closed-canopy deciduous/mixed forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pine/conifer plantations or natural stands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Early successional forest (≤ 20 years old)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shrub-scrub or old field	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grasslands/hayfield	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cropland, pastures, feedlots	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open water (lakes, ponds, rivers, streams, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Riparian areas	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developed areas	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: Reclaimed & Open Pit Mine Ground	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 1 shows the estimated proportion of each cover/habitat type within 1 mile of tract center. The area is primarily a mix of closed canopy deciduous forest, closed canopy pine forest, and reclaimed and open pit coal mine ground. The reclaimed mining areas consist primarily of tall fescue and sericea lespedeza with scattered brush. The rest of the area contains a few small crop fields, lakes, residential/developed areas, and a state and county roads. This diverse landscape has resulted in a large amount of maintained forest edge. The only cover types not represented in the habitat overview are grasslands and shrub-scrub/old fields. None of the proposed management activities will significantly alter the relative proportion and availability of habitat/cover types in the assessment area.

Structural Habitat Features

TABLE 2

Diameter (DBH) Distribution	Target Snag Density	
	Goal	C5T10
<i>Including</i> at least this many snags per acre $\geq 5''$:	4	18
<i>Including</i> at least this many snags per acre $\geq 9''$:	3	1.6
<i>Including</i> at least this many snags per acre $\geq 19''$:	0.5	0

TABLE 3

Diameter (DBH) Distribution	Preferred Roost Trees per Acre	
	Goal	C5T10
TOTAL minimum roost trees per acre $\geq 11''$:	9	21
<i>Including</i> at least this many roost trees $\geq 20''$:	3	1.3

Table 2 shows how this tract compares with the DoF guidelines for forest stand snag density. The data suggests that there is optimal snag density for trees $\geq 5''$. The target densities for trees $\geq 9''$ and $19''$ are slightly deficient. This is mostly due to the young age of the stand. The majority of the forested tract is around 40 to 50 years old, with pockets of oak a few decades older than this. When possible, larger trees may be killed during post harvest TSI operations. However, as the stand ages, the average tree diameter will increase and natural mortality will occur. This will most likely result in an optimal number of large diameter snags.

Table 3 shows how this tract compares to the Indiana Bat guidelines for preferred live roost trees. The inventory data suggests that optimal conditions exist for this habitat feature in the smaller size class, but are insufficient in the larger size class. Care will be taken during management operations to limit removal of preferred roost trees of larger diameters.

IDNR Natural Heritage Database Review

A NHDB review was conducted for this tract. There are records of three bird species of concern (Henslow's Sparrow, American Bittern, Northern Harrier) to the west of forest property and one mammal (American Badger) located directly east of the tract and within the forest property.

Habitat

The Henslow's Sparrow is listed as an endangered species in Indiana. An estimated several thousand individuals breed in 19 reclaimed coal mine grasslands in southwestern Indiana. It is an obligate grassland species that historically bred in tallgrass prairie habitat. They also breed in other grasslands, including hayfields, pastures, and meadows.

The Northern harrier is listed as an endangered species in Indiana. Only one observation exists for a state forest property. The lack of observations on state forests is due to the avoidance this species has for forested areas, preferring instead marshes, meadows, grasslands, old fields, pastures, and other open areas during the breeding season.

The American Badger is listed as a species of special concern in Indiana. This species generally prefers open areas, such as grasslands, prairies, and cultivated areas and it generally avoids forests and woodlands, accounting for only one observation on a state forest property.

American bitterns most often breed in shallow wetlands dominated by tall emergent vegetation, including cattail marshes, wet meadows, bogs, shrubby marshes, and occasionally hayfields. When compared to the Least Bittern, the American Bittern uses a wider variety of wetland types, less densely vegetated sites, shallower water depths, and exclusively freshwater habitats.

Management

The biggest threat to the listed species is the loss of habitat. None of the species listed in the review are forest dwelling species. Therefore, the proposed management activities should have no impact on these species or their habitat.

Exotic/Invasive Species

Species	Immediate Management Required	Monitoring/ Re-evaluation Recommended	Mapped?
Multiflora Rose	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Japanese Honeysuckle	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Bush Honeysuckle	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Autumn Olive	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

At least one or more of these species are prevalent on every forested tract on the property. Logistically it would be impossible to immediately treat every tract that is inventoried. Therefore, control efforts will not be made until the tract has been selected for active timber management. Treatment will primarily consist of basal bark chemical application on bush honeysuckle and autumn olive. Control of multiflora rose may be made but efforts to completely control this and Japanese honeysuckle would most likely be futile.

Recreation

This area is also a popular fishing location. There are two lakes, Ham and Ladder, and four boat ramps located in this tract. This site is also known to be a popular spot for hunters as evidenced by the deer stands found in the area.

The horsemen's camp is located in the center of this tract. There are four horse trails that lead out of this tract. Typically, horse trails are closed in timber sale areas and used as skid trails. Considering that this tract is the hub for horseback riding at Greene-Sullivan, special consideration and planning must be undertaken to assure that multiple use benefits are optimized. Therefore, harvesting and intensive TSI operations will be limited to the late fall and winter months. The tract will be closed to the public during this time.

Cultural

There were no cultural features found in the tract. An archeological clearance application will be submitted to the DNR Division of Historic Preservation and Archaeology prior to the implementation of activities associated with timber harvest operations.

Stand Descriptions and Silvicultural Prescriptions

Oak-Hickory – 60.7 ac

Current Condition

Oaks and shagbark hickory comprise 56% of the basal area in sawtimber and poletimber in the stand. Nearly half of the basal area in this cohort consists of mature to over mature black oak. A mixed hardwood component of primarily red maple, sassafras, ash, black cherry, sycamore, and sugar maple comprises 35% of the stand. A small component (8%) of pine was recorded during the inventory. This is due to inventory plots occurring in a transition area between hardwood and pine stands.

In the sub-merchantable size class, 67% of the stems are comprised of mixed hardwoods. The dominant species are dogwood, sassafras, elm, ash, and sugar maple. An oak-hickory component accounts for 18%, with shagbark hickory being the dominant species. White pine accounts for the remainder of the sub-merchantable size class. Again, this species was most likely captured in transition areas between hardwood and pine stands.

The stand has a current stocking of 125% with a basal area of 139 sq.ft./ac and 400 trees/ac. The average volume is 8,640 bd.ft./ac. The oak-hickory component accounts for approximately 70% of this volume.

Prescription

This stand is currently overstocked according to the stand density chart for upland hardwoods. A combination of regeneration and intermediate harvest methods is recommended for this stand. The marking should focus on implementing singletree and group selection openings to remove mature and over mature black oak. This should create large enough canopy gaps resulting in sufficient sunlight for mid canopy and understory release of desirable trees. An improvement cut should be carried out with a focus on removing inferior species, defective, or poorly formed trees competing with good growing stock. This should create adequate growing space for the remaining desirable, dominant and co-dominant trees.

Species composition may change somewhat as a result of the harvest. The mixed hardwood component will increase from 35% of the basal area in sawtimber and poletimber in the stand to 40%. The oak-hickory component could decrease from 56% to 50%. However, this is mostly due to the proposed removal of the over-mature black oak. Distribution of the remaining oaks in the red oak group will remain about the same. The total basal area of white oak and shagbark hickory may increase from 7 to 10% and 10 to 14%, respectively.

Overall, approximately 4,270 bd.ft./acre of sawtimber should be harvested. The remaining stocking percentage will be around 88%, with a basal area of 88 sq.ft./ac, and contain an average of 4,370 bd.ft./ac.

Pre harvest TSI operations should focus on vine removal, invasive control, and possibly underplanting and mid canopy removal of primarily maple. Post harvest TSI will consist of crop tree release, coppicing, cull removal, and follow up invasive control.

Southern Pine – 24 ac

Current Condition

The southern pine stand(s) is comprised of loblolly and Virginia pine. The loblolly pine is located at the south end of the tract. The Virginia pine areas are scattered throughout the tract. These pockets consist of stagnated, defective Virginia pine which is slowly dying out and converting into a mixed hardwood forest type. Pole and small sawtimber size black cherry, sassafras, red maple, and elm are commonly found in these areas.

Virginia and loblolly pine comprise 78% of the basal area in sawtimber and poletimber in the stand. A mixed hardwood component of primarily sassafras, American elm, black cherry, cottonwood, and ash comprise 19% of the stand. A small component (3%) of white pine makes up the rest of the stand.

Ash and sassafras account for the majority of the stems in the sub-merchantable size class. American elm, oaks, dogwood, and walnut make up the remainder of stems in this size class.

The stand has a current stocking of 122% with a basal area of 138 sq.ft/ac and 451 trees/ac. The average volume is 5,750 bd.ft./ac. The Virginia-loblolly component accounts for approximately 86% of this volume.

Prescription

This stand has multiple prescriptions. First, an intermediate harvest utilizing a combination of improvement cutting and low thinning is recommended for the loblolly pine area at the south end of the tract. The marking should focus on removing suppressed trees likely to drop out from competition, as well as the removal of defective, poorly formed trees. This should create additional growing space for the remaining trees.

The second prescription is for a regeneration cutting utilizing group selection in areas of Virginia pine. Areas to be targeted for regeneration openings should be no more than 5 to 10 acres and should not include the areas closest to the horsecamp. This should result in a release of the mixed hardwood trees growing in the understory.

Species composition should change significantly in the Virginia pine areas as a result of the harvest. These areas should convert into early successional hardwood stands. The species composition in the loblolly pine area will remain relatively unchanged. However, available growing space will increase and subsequently, significant increases in growth rate and total stand volume should be realized. Overall tree quality will improve as well.

Overall, approximately 4,434 bd.ft./acre of sawtimber should be harvested. The remaining stocking percentages are difficult to estimate because of the multiple areas and prescriptions for the stand.

Pre harvest TSI operations should focus on vine removal and exotic control. Post harvest TSI will consist of opening completion, coppicing, cull removal, and crop tree release.

White Pine – 8 ac

Current Condition

White pine comprises 83% of the basal area in sawtimber and poletimber in the stand. A mixed hardwood component of primarily black cherry, red maple, and sassafras comprises the remaining 17% of the stand.

American elm, ash and sassafras account for the majority of the stems in the sub-merchantable size class.

The stand has a current stocking of 85% with a basal area of 144 sq.ft/ac and 420 trees/ac. The average volume is 8,690 bd.ft./ac. White pine accounts for approximately 88% of this volume.

Prescription

An intermediate harvest with a combination of improvement cutting and free thinning is recommended for the white pine areas. This marking will be similar to the loblolly area and should focus on removing suppressed trees likely to drop out from competition, as well as the removal of defective, poorly formed trees. However, there will be a significant presence of black cherry and red maple sawtimber in this stand. Sound, good growing trees of these species should be retained over competing white pine. This combination should result in adequate growing space for the remaining desirable, dominant and co-dominant pine as well as a release of desirable hardwoods in the co-dominant and lower crown classes.

Tract Summary

Overall the proposed harvesting operation would produce an estimated total of 423,310 bd.ft or approximately 4,566 bd.ft./ac. An estimated 163,000 bd.ft. would come from oaks, 160,000 bd.ft from pine, and the remaining 100,000 bd.ft. from mainly red maple, ash, and sycamore. The proposed management activities could result in an average stocking of 88% in the oak-hickory stand. The white pine stand would shift into more of a mixed stand, which depending on the type of stand density chart used, could have a stocking percentage ranging from 55 – 75%. The southern pine stand(s) will be affected in two ways. Species composition should not change significantly in the loblolly pine area to the south. The marking and harvest operations in this area should leave the stand fully stocked. The regeneration harvest in the Virginia pine pockets should result in conversion to early successional hardwood stands.

As long as harvesting operations are not conducted during wet periods and skidding and hauling equipment remain in designated areas, there should not be any negative impacts to the soil or water quality. Furthermore, if a portable bridge or other structure is in place across the drainage area northeast of the campground, the hydrology will not be altered. Harvesting operations are to be conducted between November and March. Therefore, horseback riding and camping should not be adversely impacted during management activities due to the timing of the proposed harvest. Hunting and fishing are the only recreation activities that will be adversely affected by harvest operations. However, there are copious amounts of locations in the surrounding property that offer the same opportunities. Wildlife habitat should be enhanced as a result of the proposed harvesting and TSI operations. Additional sunlight penetrating the forest floor will stimulate the development of new ground flora, consequentially increasing nesting and foraging habitat.

Proposed Activities Listing

<u>Proposed Management Activity</u>	<u>Proposed Date</u>
TSI (Pre-Harvest)	2011 – 2014
Skid Trail / Log Yard Construction	2014 – 2015
Timber Marking	2014 - 2015
Harvest	2015 - 2017
Close Out	2016 - 2017
TSI (Post-Harvest)	2017 - 2019
Re-Inventory	2029

Attachments (on file in property office)

Attach the following items.

- Maps (Inventory, Soils, Stands, Disturbance, Archeology, Harvest)
- A stocking guide chart with the tract level, and each stand level stocking condition plotted and identified.
- Wildlife Habitat and Ecological Review
- TCruise reports

To submit a comment on this document, click on the following link:

http://www.in.gov/surveytool/public/survey.php?name=dnr_forestry

You **must** indicate “Greene-Sullivan C5 T10” in the “Subject or file reference” line to ensure that your comment receives appropriate consideration. Comments received within 30 days of posting will be considered.