RESOURCE MANAGEMENT GUIDE

State Forest: Greene-Sullivan Compartment: 6 Tract: 6
Forester: Sam Blake Date: 6/11/09
Management Cycle End Year: 2029 Management Cycle Length: 20 Years

Location

Compartment 6, Tract 6 is located in the NE quarter of the Section 1 – T6N – R8W of Sullivan County. It is approximately 1 mile north of the town of Pleasantville and 0.5 miles east of Bucktown.

General Description

This tract is approximately 113 acres. The various land use components can be delineated as follows:

Forest – 90 ac
Water –18 ac
Open Areas (*roads, horse trails, etc.)* – 5 ac

According to soil maps of the area, the entire tract was strip mined. Spoil banks run throughout most of the tract from the Southeast corner to the Northwest corner. The only cover type recorded during the cruise was a mixed cover type. The stand is made up primarily of cottonwood, white oak, red maple, black cherry, sycamore, white pine, and red pine.

History

The tract was acquired from Central Indiana Coal Company, Inc in January, 1950. The entire tract was strip mined. No known records of the planting operation exist, but most of the current stand appears to have been established 50 – 60 years ago.

Boundary and Landscape Context

Most of the northern boundary for this tract follows CR 600 S. The west boundary line follows the western side of lower long lake and its series of small ponds and water holes. The eastern tract boundary consists of the forest road that runs between Tree Lake and Stevens Lake. This road cuts to the Southwest meeting with the western boundary and resulting in no real southern boundary. The majority of the land immediately surrounding this tract consists of spoil banks and multiple lakes. To the west is developed land, the small town of Bucktown. To the east lies farming land once out of the Greene-Sullivan Forest.

Topography, Geology and Hydrology

The natural 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. This tract's area consists of long narrow, steep mounds of mine spoil (a mixture of soil, shale, sandstone, and some coal) which are located throughout the tract. Three named lakes are located within the tract's boundary, Bennett Lake, lower long lake, and Tree Lake. There are also several other small ponds or water holes in the southern portion of the tract. There are no streams located in this tract.

Soils

Map unit: St - Strip mines
Component: Strip mines (90%)
The Fairpoint component makes up 100 percent of the map unit. Slopes are 18 to 35 percent. This component is on spoil piles. 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

This tract has several accessible points even into the interior of the tract. The northern and eastern exterior of the tract can be accessed by CR 600 S to the north and the forest road to the east. Access to the west side boundary is really only accessible by walking from the east side. There is a horse trail running close to the western boundary. However, lower long lake cuts off access from the west. Walking in from the north can also be limited due to the lakes in the area. There is a horse trail that begins off of CR 600 S and allows travel between lower long lake and Bennett lake. This can be taken all the way to the southern edge of the tract. There is another horse trail that begins at the same point as the previous one but follows the northern and eastern edge of tree lake and then comes out on the forest road near the southern edge of tree lake.

Wildlife Habitat Features & Ecological Resource Review

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 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	☐	☐	☐	☒	☐	☐	☐
Pine/conifer plantations or natural stands	☐	☐	☒	☐	☐	☐	☐
Early successional forest (≤ 20 years old)	☒	☐	☐	☐	☐	☐	☐
Shrub-scrub or old field	☒	☐	☐	☐	☐	☐	☐
Grasslands/hayfield	☐	☐	☒	☐	☐	☐	☐
Cropland, pastures, feedlots	☐	☐	☒	☐	☐	☐	☐
Open water (lakes, ponds, rivers, streams, etc.)	☐	☐	☒	☐	☐	☐	☐
Riparian areas	☐	☐	☒	☐	☐	☐	☐
Developed areas	☐	☐	☒	☐	☐	☐	☐
Other	☒	☐	☐	☐	☐	☐	☐

Table 1 shows the estimated proportion of each cover/habitat type within 1 mile of tract center. The majority of the area is closed canopy deciduous forest with a significant amount of planted pine scattered throughout. The area contains a number of small

pastures, crop fields, lakes, residential/developed areas, 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 early successional forests and shrub-scrub/old fields. The only proposed management activity that may alter the relative proportion and availability of habitat/cover types in the assessment area would be the group selection harvest in the mixed pine stand. These scattered regeneration openings would total less than 5 acres and therefore not affect the already large amount of maintained forest edge. It would result in a small representation (<1%) of early successional forest in the assessment area.

Structural Habitat Features

TABLE 2

	Target Snag Density	
Diameter (DBH) Distribution	**Goal**	**C6T6**
Including at least this many snags per acre **≥ 5"**:	4	20
Including at least this many snags per acre **≥ 9"**:	3	6
Including at least this many snags per acre **≥ 19"**:	0.5	0

TABLE 3

	Preferred Roost Trees per Acre	
Diameter (DBH) Distribution	**Goal**	**C6T6**
TOTAL minimum roost trees per acre **≥11"**:	9	29
Including at least this many roost trees **≥ 20"**:	3	5

Table 2 shows how this tract compares with the DoF guidelines for forest stand snag density. The data suggests that the stand meets target goals in the maintenance level for all trees except those greater than 19 inches. Optimal levels for snags are also reached for trees in the first two size ranges. This is mostly due to the young age of the stand. The majority of the forest tract is only around 55 years old. However, approximately 30% of the stand BA consists of sycamore, white pine, and cottonwood that are ≥ 12" DBH. Snag creation should be implemented by targeting and girdling lower quality trees of these species and size. Special attention should be given as to not kill more than 1 cottonwood for every 2 acres. This would aversely affect the Indiana Bat guidelines for live roost trees.

Table 3 shows how this tract compares to the Indiana Bat guidelines for live roost trees. The inventory data suggests that the stand currently sustains maintenance level conditions for this habitat.

NOTE: At the time of the inventory, no data on tree cavities was taken, as they were not yet required by the state.

IDNR Natural Heritage Database Review

A NHDB review was conducted for this tract on May 26, 2009. The American badger was located inside of this tract in March of 2007. Also, about a mile away the Northern Crawfish Frog was also found in March of 2005. There are no other records within the tract of any significant areas or T & E species, specifically bald eagle, northern harrier, American bittern, or Henslow's sparrow.

Exotic/Invasive Species

	Management Actions (check all that apply)		
Species	**Immediate Management Required**	**Monitoring/ Re-evaluation Recommended**	**Mapped?**
Multiflora Rose	☐	☒	☐
Japanese Honeysuckle	☐	☒	☐
Ailanthus	☒	☐	☒
Autumn Olive	☐	☒	☐

Ailanthus may be treated late this summer to early fall. The remaining 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 autumn olive. Foliar control of multiflora rose may be made. However, control of these species will prove to be extremely costly and time consuming.

Recreation

Opportunities for recreation in this area include hunting, mushroom gathering, and access to Tree Lake for fishing. Also, there two horse trails that provide riding opportunities.

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

Mixed – 90 ac

Current Condition

This tract was inventoried in the summer of 2007. The majority of this stand consists of mixed hardwood species, with a 20 acre patch of pine in the northwest corner of the tract. The soil map for this area indicates that the entire tract was strip mined, which is evident from some small stripper hills that run southwest to northeast through the tract. There are three named lakes in the tract, Lower Long Lake, Bennett Lake, and Tree Lake.

According to the inventory the majority of the overstory is made up of white oak and cottonwood. White oak makes up 17% of the BA for sawtimber and cottonwood makes up 12 %. The rest of the canopy is filled in by various hardwood species and pines. The midstory consists of many hardwood species but red maple makes up the largest portion in pole size timber. The regeneration of this tract has many different species in the submerchantable class but is mostly made up of red elm and red maple, which consist of 40% of the BA.

The stand has a current stocking of 89%, with a BA if 103 and 218 trees/acre. The volume of this tract is 5,080 bdft/acre. White oak produces 30% of this volume and Cottonwood makes up 20%.

Prescription
The proposed harvest, when the stand was inventoried, would result in a stocking level below 60%. During the inventory, trees selected to be harvested seem to have been high. Undesirable species were marked heavy, as were desirable species. Nearly all available maples, oaks, and walnuts were marked to harvest. When actually marking the stand for harvest, a less heavy approach should be used.

Goals of the stand should be to reduce undesirable species like proposed. This will be accomplished by implementing a single tree selection removing less desirable sycamore and other species from the overstory. This will allow oaks in the overstory to be released for improved growth. Also, in areas of high quantities of undesirables and red pine, group selections can be applied to release advanced regeneration of maple and other species to improve species and forest composition.

Pre harvest TSI operations should focus on vine removal and invasive control. Post harvest TSI may consist of crop tree release, opening completion, coppicing, snag creation, cull removal, and follow up invasive control.

Tract Summary

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. Harvesting times should take into consideration the effect on recreation in the area. Wildlife habitat should be enhanced as a result of the proposed harvesting and TSI operations.

Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
TSI (Pre-Harvest)	2010 – 2012
Skid Trail / Log Yard Construction	2011 – 2012
Timber Marking	2011 - 2012
Harvest	2012 - 2013

Close Out	2012 - 2013
TSI (Post-Harvest)	2013 - 2014
Re-Inventory	2029

Attachments (on file in property office)

Attach the following items.

- Maps (Inventory, Soils, Stands, Archeology, Harvest)
- A stocking guide chart with the tract level, and each stand level stocking condition plotted and identified.
- Wildlife Habitat and Ecological Review
- T Cruise reports
  - Summary Reports (Individual & Combined Strata)
  - Harvest/Leave Summary Reports (Per Acre & Total)
  - Summary Value Report
  - Indiana Bat Habitat Guidelines

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