Indiana Department of Natural Resources
Division of Forestry
DRAFT

RESOURCE MANAGEMENT GUIDE 6330301

State Forest: Greene-Sullivan Compartment: 3 Tract: 1
Forester: Tom Moore Date: 12/20/2010
Management Cycle End Year: 2030 Management Cycle Length: 20 Years

Location

Compartment 3, Tract 1 is located in the S ½ of the NW ¼ of Section 29 – T7N – R7W of Greene County. It is approximately 2 miles east and 2 miles south from the Greene-Sullivan State Forest Office.

General Description

This tract is approximately 54.5 acres. The various land use components can be delineated as follows:

- Closed Canopy Forest – 46.5
- Lakes/Wetlands/Creeks– 8 ac

This tract is located north-northeast of the Wampler Campground. A portion of this area has been mined, but the majority of the tract was un-mined and because of this it remains generally flat. Wampler Lake is also within the western part of the tract. There are two streams that meander through the tract. The main stream is named Black Creek and is very easy to locate by viewing an aerial photo. The other stream name is unknown but it joins Black Creek in the south-eastern corner.

History

The tract was deeded over in April 1959 by the Maumee Collieries Company & a few private landowners. The strip mining of the side west of Black Creek started in the early 1950's. No know records exist of the planting operation, but based upon old aerial photography, planting on the western side of Black Creek occurred sometime between the late 1950's and the early 1960's. The eastern side of the tract was never mined and thus remained forested; because of this, it is uneven-aged.

Boundary and Landscape Context

In general, the landscape of the area consists of closed canopy forest. The landscape is fairly flat with some hills in the western portion of the tract. The western boundary of this tract is County Road 1500W. The southern boundary is County Road 50 S, which is the road that runs through the Wampler Campground. Beyond the eastern boundary is an

area owned by Fish & Wildlife called Goose Pond. It consists primarily of marsh and grasslands. The northern boundary is privately owned forest and grassland.

Topography, Geology and Hydrology

The majority of this tract has gone un-mined, thus it remains generally flat throughout the eastern portion with some small hills just west of Black Creek. The hills that are present are not typical of the strip mine hills in the Greene-Sullivan State Forest. Black Creek meanders through the tract; it enters the tract in the central part of the northern half of the tract and exits in the southeastern corner.

Soils

Forestland Productivity– Greene County, Indiana				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac	
Bo—Bonnie silt loam, frequently flooded				
Bonnie, drained	Pin oak	90	72	American sycamore, Baldcypress, Blackgum, Bur oak, Overcup oak, Pecan, Pin oak, Red maple, River birch, Shellbark hickory, Shumard's oak, Silver maple, Swamp white oak, Sweetgum
FcG—Fairpoint very parachannery loam, 35 to 90 percent slopes				
Fairpoint	—	—	—	—
St—Stendal silt loam, frequently flooded				
Stendal, drained	Pin oak	90	72	American sycamore, Baldcypress, Blackgum, Bur oak, Overcup oak, Pecan, Pin oak, Red maple, River birch, Shellbark hickory, Shingle oak, Shumard's oak, Silver maple, Swamp chestnut oak, Swamp white oak, Sweetgum
	Sweetgum	85	86	
W—Water				
Water	—	—	—	—

Access

This area can be accessed from the southern and south-eastern sides of the tract. County road 1500W can be taken to the Wampler Campground where the road curves left and becomes County road 50S. The tract can be easily accessed from Co. Road 50S. The area can also be accessed from Sassafras Road, which is on the eastern side of the tract. There are 2 issues getting into the interior of the tract. First, there is a steep drainage ditch along the eastern border, which causes problems for access. There are also a few

creeks and streams that meander through the tract. These stream channels are somewhat wide and can cause problems getting across to access the interior.

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	☐	☐	☐	☐	☒	☐	☐
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: Reclaimed Mine Land	☒	☐	☐	☐	☐	☐	☐

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. The remaining cover is made up of lakes, wetlands, and riparian areas. There is no cropland or early successional forest in this area. There is a fair amount of forest edge due to the fact that this tract is surrounded by private agricultural land, grasslands, and a road on the southern border. If a regeneration opening(s) is established as a result of harvest operations, then some early successional forest habitat may eventually be represented in the habitat overview. Other than this, none of the proposed management activities will significantly alter the relative proportion and availability of the other habitat/cover types in the assessment area.

Structural Habitat Features

TABLE 2

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees *					
11"+ DBH	419		1581	1163	
20"+ DBH	140		444	305	

Snags
(all species)

5"+ DBH	186	326	248	62	-77
9"+ DBH	140	279	51	-89	-228
19"+ DBH	23	47	15	-9	-32

Cavity Trees
(all species)

7"+ DBH	186	279	88	-98	-191
11"+ DBH	140	186	17	-123	-169
19"+ DBH	23	47	17	-7	-30

*** Species Include:** AME, BIH, BLL, COT, GRA, REO, POO, REE, SHH, ZSH, SIM, SUM, WHA, WHO

Table 2 shows the optimal level of trees needed for the best potential wildlife habitat. There is approximately 46.5 acres of closed canopy forest in total. The other 5 acres are made up of lakes.

TABLE 3

	Cavity Trees per Acre	
Diameter (DBH) Distribution	**Goal**	**C3T1**
Total minimum cavity trees per acre ≥**7"**:	4	.88
Including at least this many roost trees ≥ **11"**:	3	.17
Including at least this many roost trees ≥ **19"**:	1	.17

Table 3 shows how this tract compares to DoF guidelines for the forest cavity tree density. The data suggests that the tract is lacking the optimal number of cavity trees for wildlife in all size class. However, there are most likely more cavity trees than represented here in this table; this is due to a lack of visibility into the canopy, and the younger age of these trees coming in after mining or old fields.

TABLE 4

	Target Snag Density	
Diameter (DBH) Distribution	**Goal**	**C3T1**
Including at least this many snags per acre ≥ **5"**:	4	2.48
Including at least this many snags per acre ≥ **9"**:	3	.51
Including at least this many snags per acre ≥ **19"**:	0.5	.15

Table 4 shows how this tract compares with the DoF guidelines for forest snag density. The data suggests that maintenance level snag densities for all the size classes are currently not being met.

TABLE 5

	Preferred Roost Trees per Acre	
Diameter (DBH) Distribution	**Goal**	**C3T1**
Total minimum roost trees per acre **≥11"**:	9	15.81
Including at least this many roost trees **≥ 20"**:	3	4.44

Table 5 shows how this tract compares to the Indiana Bat guidelines for preferred live roost trees. The inventory data suggests that maintenance level conditions exist for this habitat feature for all size classes. The primary species present that represent roost trees are American elm, eastern cottonwood, and shagbark hickory.

The structural habitat features listed above will be considered during management operations. Efforts will be made to meet maintenance level guidelines for each habitat feature.

IDNR Natural Heritage Database Review

A Natural Heritage Database review was obtained for this tract. If rare, threatened or endangered species were identified for this area, the activities prescribed in this guide will be conducted in a manner that will not threaten the viability of those species.

Exotic/Invasive Species

Species	Immediate Management Required	Monitoring/ Re-evaluation Recommended	Mapped?
Ailanthus	☐	☒	☐
Autumn Olive	☐	☒	☐
Multiflora Rose	☒	☒	☐
Privet	☐	☒	☐

The only exotic invasive that was prominent within the tract was multiflora rose. Some autumn olive was observed during the inventory but they were fairly sparse and not of big concern at the moment. The multiflora rose should be treated before any harvesting or thinning occurs within this area in order to further it from spreading. The rose should

be monitored after treatment. The best option for treatment would most likely be a foliar spray.

Recreation

Common activities in this tract are fishing, mushroom gathering, as well as deer and turkey hunting.

Cultural

Cultural resources may be present on this tract but their location is protected. Adverse impacts to significant cultural resources will be avoided during any management or construction activities.

Type Descriptions and Silvicultural Prescriptions

Mixed Hardwood – 46.5 ac (Harvest Ac – 34)

Current Condition

There are a wide variety of species present in this stratum, although it consists mostly of hardwoods. Only the black locust appears to have been planted, although no records of any planting operation exist to our knowledge. The rest of the trees would seem to be the result of natural regeneration. Northern Red Oak comprises approximately 43% of the total sawtimber volume and approximately 26% of the total basal area in the stratum. The majority of the red oak is mature, with an average DBH of 19.5 inches. Red maple is the next most dominant species in this stratum. It makes up 12% of the total sawtimber volume and 37% of the total basal area. The third most dominant species in the stratum was northern pin oak; it comprises about 10% of the sawtimber volume. The remainder of the stratum is made up of a wide variety of species and size classes. The pole to small size class is largely made up of American elm & red maple. Advance regeneration present consists primarily of American elm, red maple, northern red oak, and boxelder.

The tree quality within the tract is very decent. The eastern part of the tract is estimated to be 60 to 70 years old, while the western portion is approximately 50 years old. Many of the trees within the tract are mature to over mature, but there is a sufficient amount of advance regeneration and trees in the understory.

The tract is currently 125% stocked with 141.8 ft^2 of basal area (BA), 276 trees per acre (TPA), and 8,430 board feet (bd.ft.) per acre.

Prescription

An improvement cut, utilizing single/group selection is recommended for this tract. The marking should focus on removing mature red maple & red oak, as well as ash, cottonwood and other defective, poorly formed and/or damaged trees. Since this tract is mostly closed-canopy and consists largely of red oak, some openings in the canopy may need to be created in order to let enough light in for future oak regeneration. But as

mentioned earlier, in the invasive section, a pre-harvest invasive removal/TSI should be conducted in order to control the multiflora rose. Much of this site is bottomland and should be continued to manage for red maple & red oak. The inventory suggests that approximately 118,000 bd.ft. could be harvested from this tract. Overall, the majority of the sawtimber volume to be harvested would be comprised of red oak (35%), eastern cottonwood (19%) and red maple (15%). The harvest should result in a residual stocking of 90%, 98 ft² BA/Ac, 252 TPA, and 4,841 bd.ft./ac.

Grapevines and invasives should be controlled through pre-harvest TSI operations. Also, undesirable seedlings/saplings and non merchantable trees should be killed in potential regeneration opening areas during pre-harvest TSI operations. Post harvest TSI may consist of coppicing, cull removal, and invasive control.

Tract Summary

Overall the current tract has an average stocking of 125%, with a BA of 141.8 ft², 276 TPA, and 8,430 bdft/ac. The proposed harvesting operation could produce an estimated total of 118,000 bdft or approximately 3,470 bd.ft./ac. Overall, the majority of the sawtimber volume to be harvested would be comprised of red oak, eastern cottonwood, and red maple.

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 long term impacts to the soil.

The tract would need to be closed to the public during harvesting operations. Therefore, hunting activities would be adversely affected during this period. However, there are numerous locations in the surrounding property that offer the same opportunities. Wildlife habitat, timber quality and biodiversity should be enhanced as a result of the proposed harvesting and TSI operations. Also, there is a camp ground located south-southwest of the tract and should be considered before harvesting operations begin. It would be preferable if the logging operation was done during the winter months while the visitor use is low.

Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Skid Trail / Log Yard Construction	2012 – 2013
TSI (Pre-Harvest)	2012 - 2013
Timber Marking	2013 - 2014
Harvest	2013 - 2015
Close Out	2014 - 2015
TSI (Post-Harvest)	2015 - 2016
Re-Inventory	2030

Attachments

- Maps (Tract, Inventory, Soils)
- A stocking guide chart with the tract level stocking condition plotted and identified.

- Ecological Review
- T Cruise reports

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