Indiana Department of Natural Resources
Division of Forestry
RESOURCE MANAGEMENT GUIDE

Greene-Sullivan State Forest	Compartment **5**	Tract **4**
Forester- **Cole Jones**	Date- **01/12/2023**	Acres: **142**
Management Cycle End Year - **2043**	Management Cycle Length - **20 years**	

Location

The tract hereto referred to as 6330504 resides within Greene and Sullivan County, section 31 of Stockton Township and section 36 of Jefferson Township, T7N R7W & R8W. County Road 1550 W and 1525 W form the eastern boundary of the tract. County Road 100 S forms part of the northern tract boundary. It is approximately 4 miles southwest of Linton and 5 miles south by southeast of Dugger.

General Description

The tract's 142 acres is, for the most part, mixed hardwood forest. About 13 acres of the tract is open water, primarily from Hornbeam Lake and Reservoir 29. A 6-acre square along CR 100 S is early successional habitat (e.g., small trees, shrubs, etc.) as a result of a reclamation salvage project.

History

- 1936 to 1964 – Tract establishment was through various land acquisitions from Central Indiana Coal Company
- 2007 - Management guide written by forester Andy Maday
- 2008 - Pre-reclamation salvage sale marked and sold by forester Phil Jones. Total of 13,779 bd ft sold to Estel Patton for $3,200
- 2010 - 56 logs leftover from reclamation project sold to Carlisle Wood Products for $400

Landscape Context

The landscape surrounding the tract is mostly forested land and open water in the form of lakes. Agricultural fields are within a mile of the tract, but none reside next to it.

Topography, Geology and Hydrology

The topography in 6330504 is typical of tracts in Greene-Sullivan State Forest that have a history of surface coal mining. Steep, narrow ridges of varying heights commonly called strip hills run parallel to each other across most of the tract area. It is not uncommon for the ditches between the strip hills to fill with water, causing small bodies of water to form. These are often not mapped and range in size between a small vernal pool and a large pond.

Hornbeam Lake resides almost entirely within 6330504 and Reservoir #29 forms part of the west tract boundary. Both, along with all of the lakes at Greene-Sullivan State Forest, are manmade lakes that resulted from surface mining activity prior to state ownership. No major streams fall within the tract. This tract lies within the Brewer Ditch subwatershed. Water resources within this hydrologic boundary are part of the Black Creek watershed.

Soils

FcG- Fairpoint very parachannery loam, 35 to 90 percent slopes

This very steep, deep, well drained soil is in the uplands. They are series of narrow elongated mounds of spoil from surface mining for coal. This soil is poorly suited to trees due to slope. Site by site evaluation is needed to determine suitability for management activities. This soil has not been evaluated for site index.

St- Strip mines

This classification is for coal extracted mine spoils and has not been evaluated for forest management and productivity.

Access

The eastern boundary of 6330504 is accessible via CR 1550 W and CR 100 S. Internal access is somewhat challenging due to the strip hills. Vehicle access is limited to the Red Loop Horse Trail, which also serves as a fire lane and runs through part of the tract and a few old access roads from previous timber harvests.

Boundary

Private property makes up part of the northern tract boundary along with CR 100 S, while the rest of the tract is bordered by state forest land to south and east. Reservoir 29 forms the western tract boundary and part of the northern tract boundary.

Ecological Considerations

Direct observations of various wildlife species or observations of wildlife sign were noted in the inventory. These include but are not limited to whitetail deer (*Odocoileus virginianus*), eastern wild turkey (*Meleagris gallopavo*), squirrels (*Sciurus spp*), American beaver (*Castor canadensis*), and various songbirds. A high number of standing dead trees (snags) were observed as well. There are many areas of standing water in low lying spots between strip hills, which provide excellent habitat for amphibians and aquatic invertebrates.

> *The Division of Forestry has developed compartment level guidelines for important wildlife structural habitat features such as snags. Snags are standing dead or dying trees. Snags provide value to a stand in the form of habitat features for foraging activity, den sites, decomposers, bird perching, and bat roosting. Snags eventually contribute to the future pool of downed woody material. Downed woody debris provides habitat for many species and contributes to healthy soils.*

Snags	Maintenance Level	Inventory	Available Above Maintenance
5"+ DBH	568	5060	4492
9"+ DBH	426	1937	1511
19"+ DBH	71	140	69

Current assessments indicate the abundance of these habitat features meet or exceed recommended maintenance levels in all diameter classes.

The tract's overstory is highly diverse, with a high number of trees producing hard and soft mast. The understory has little native vegetation besides spicebush and is instead a mix of invasive species. Multiflora rose, Autumn olive, Amur honeysuckle, Japanese honeysuckle, oriental bittersweet, Japanese stiltgrass, and callery pear were all observed in the inventory. Invasive control is recommended.

Recreation

The Red Loop Horse Trail runs through parts of the tract and is accessible from CR 1525 W. Trails may be temporarily closed during management activities due to public safety considerations. Reservoir 29 and Hornbeam Lake provide fishing opportunities to the public and will remain open during management activities, including boat ramps. Hunting and foraging are also major recreational uses of the tract.

Cultural

Cultural resources may be present, but their location is protected. Adverse impacts to significant cultural resources will be avoided during any activity.

Tract Subdivision Description and Silvicultural Prescription

The tract can be divided into the following cover types.

Mixed Hardwoods - 122 acres

Most of the tract is composed of mixed hardwoods, with black cherry, black locust, and red maple being the most common. Various oak species and black walnut are present and should be released to grow and produce seed. Eastern white pines were noted in the inventory but only make up about 3% of the total trees present within the tract and about 4% of the total volume.

Non-Forested - 6 acres

This semi-open field is the result of the Yew Lake reclamation project, also referred to as a highwall project. Steep spoil banks were clearcut and levelled out to create a manageable field which was then planted in trees. There are no sawtimber trees here but invasives such as Bradford pear and Autumn olive are present. These along with black locust trees are outcompeting the trees that were planted. Timber stand improvement (TSI), including invasive work is recommended to reduce the presence of invasive plants and release the planted trees to advance.

Lakes - 13 acres

The lakes bordering and within the tract will not be affected by resource management activities. Some areas within this subdivision are forested islands which are impractical for resource management efforts.

The current forest resource inventory was completed on 1/11/2023 by Forester Cole Jones. A summary of the estimated tract inventory results are located in the table below.

Tract Summary Data (trees >11"DBH):

Species	# Sawtimber Trees	Total Bd. Ft.
Eastern Cottonwood	758	194,481
Black Cherry	1,585	168,982
Red Maple	960	117,545
Black Locust	1,401	86,810
Black Walnut	667	80,674
American Sycamore	246	74,323
Eastern White Pine	233	42,890
Scarlet Oak	354	36,088
Sassafras	378	22,530
Northern Red Oak	112	20,733
Hackberry	404	19,128
Shingle Oak	112	18,759
Black Oak	181	10,264
White Oak	83	8,299
Boxelder	121	5,917
American Elm	143	5,322
Total:	7,737	912,555

Summary Tract Silvicultural Prescription and Proposed Activities

This tract would benefit from a light improvement harvest. Timber marking would primarily use single selection and patch-cuts to release desirable tree species, remove trees with poor form, remove overmature trees, and improve the overall vigor of the stand. Efforts will also be made to salvage standing dead timber with sound volume, where applicable. Post-harvest TSI and invasive control will need to be done within two years of the end of harvesting operations. Since the invasives in the tract are very dense in spots, invasive control should be done every year for three to five years after the harvest. Some work could begin prior to the harvest, however many of these species are found throughout the county and may require a situational approach. Invasive control should start with cut-stump work on the larger invasives and continue with foliar treatments in later years. If the invasives are not repeatedly controlled, opening the canopy will cause the invasives to spread and grow.

Proposed Activities Listing

Proposed Management Activities	*Proposed Date*
Timber marking	2023
Timber harvest	2024-2025
Invasive control using cut-stump method	Directly following harvest
Post-harvest TSI	Within 1-2 years after harvest
Invasive control using foliar application	3-5 years following harvest
Inventory and management guide	2043