

Indiana Department of Natural Resources
Division of Forestry
DRAFT
RESOURCE MANAGEMENT GUIDE

State Forest: Morgan-Monroe
Tract Acreage: 116
Forester: James Dye for David Ramey
Management Cycle End Year: 2026

Compartment 02 Tract 01
Commercial Acreage: 116
Date: September 22, 2011
Management Cycle Length: 15 years

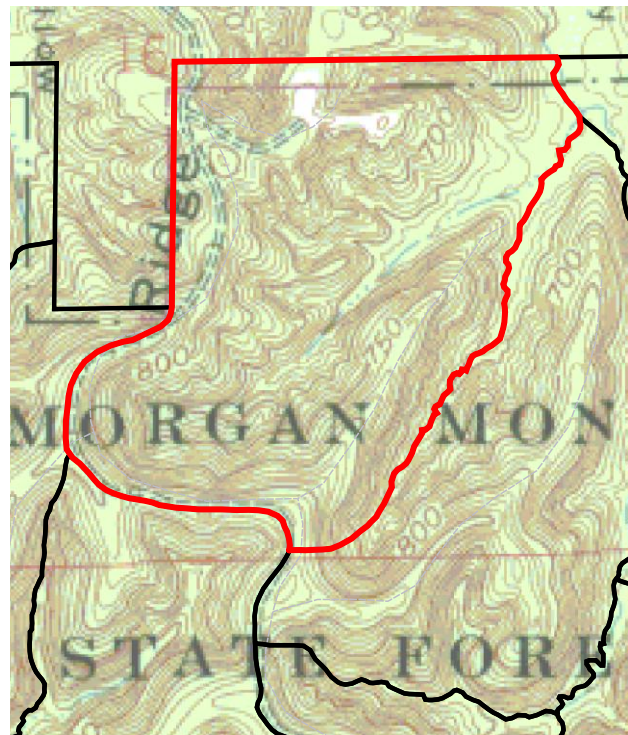
Location:

M0201 lies in the south half of Section 16, Township-11-N, Range-1-E in Washington Township of Morgan County, Indiana. The Tract lies approximately 3 miles south of the city of Martinsville, Indiana.

General Description:

M0201 is an approximately 116 acre managed, multiple-use parcel located on Hatfield Ridge in the northwest region of the 782 acres contained in Compartment 2. The timber type is predominantly closed canopy Mixed Hardwoods, though also present throughout the Tract are modest areas of Oak-Hickory timber types, and a small Virginia Pine plantation is located in the northwest corner of the Tract. Most of the land adjacent to M0201 is also a part of Morgan-Monroe State Forest with only the north and northwest boundaries being adjacent to privately held property. It is easily accessible via the Hatfield Ridge Forest and Wildlife Management Unit roadway which is open seasonally in the spring and fall. There is a small, day use parking area at the beginning of the roadway at the Rosenbaum Road gate. This area exhibits good opportunities for multiple use management, including timber management, wildlife

**Figure 1 – Morgan-Monroe SF
Compartment 2 Tract 1**



management, and soil and water conservation. It also provides for public recreational activities such as hiking, gathering, hunting, and wildlife viewing. Table 1 is prepared from the 2011 forest resource inventory data and shows the relative frequency of tree species in M0201.

Table 1. – Basic Forest Structure of M0201 in July 2011

Overstory Sawtimber Layer	Understory Poletimber Layer	Regeneration Layer
White Oak	Sugar Maple	White Ash
Black Oak	American Beech	American Beech
Northern Red Oak	Sassafras	Sugar Maple
Yellow Poplar	Yellow Poplar	Sassafras
Scarlet Oak	Flowering Dogwood	Hickory spp.
Bitternut Hickory	Red Maple	Northern Red Oak
Shagbark Hickory	Hickory spp.	Yellow Poplar
Pignut Hickory	Bluebeech	White Oak
American Sycamore	Pawpaw	Black Oak
Sugar Maple	Elm spp.	Eastern redbud
American Beech	Northern Red Oak	Pawpaw
Largetooth Aspen	Blackgum	Scarlet Oak
Chestnut Oak	Boxelder	Bluebeech
Eastern Cottonwood	White Ash	Red Maple
Red Maple		
White Ash		
Sassafras		
Virginia Pine		
Black Walnut		
Blackgum		

History:

Morgan-Monroe State Forest encompasses more than 24,000 acres in Morgan and Monroe counties in south central Indiana. The forest land encompasses many steep ridges and valleys, and is forested with some of the State's finest hardwoods. The original settlers of the area cleared and attempted to farm the ridges but were frustrated by rocky soil unsuitable for agriculture. The State purchased the eroded, abandoned land to create Morgan-Monroe State Forest beginning in 1929.

M0201 spans portions of three separate land acquisitions. The earliest dates all the way back to 1930 when 82.5 acres were purchased from the Avery family. The southern portion of the Tract lies within this area. In 1940 200 acres were purchased from the Elliot family which covered the

the eastern portion of the Tract. Finally, in 1969, a 37.5 acre parcel was acquired from the Allen family; this entire parcel forms a part of the northwest portion of the Tract.

In 1989, a forest resource inventory was completed which estimated M0201 to contain 7,846.4 board feet (bd. ft.) of total sawtimber per acre. A timber harvest was conducted in 1990 which sold 621 sawtimber trees and 86 cull trees for a total of 176, 920 bd. ft. The prescription for this harvest was to complete an improvement cutting which generally favored White Oak but also other quality Oaks. Approximately 20 acres were excluded from the sale because of adjacent property line issues and excessively steep slopes (90 acres were marked). Four small group selection openings were created from this harvest to remove large, unsound, and/or poor quality timber. The second and current forest resource inventory was completed by Intermittent Forester James Dye on July 21, 2011.

Landscape Context:

M0201 is surrounded by the closed canopy deciduous forests within Morgan-Monroe State Forest and in adjacent private woodlands to the north and northwest. A mapped intermittent stream runs through the northeast quadrant of M0201 and feeds into Greasy Hollow however Hatfield Ridge consists of predominantly dry sites containing Oak-Hickory timber types. Land to the far north of this Tract consists of agricultural fields that lay south of city of Martinsville. Indian Creek is a perennial stream that divides the upland forest land from these bottomland agricultural fields. Two small wildlife ponds are located in the north central portion of M0201 and provide dry weather water resources for forest wildlife. The most recent timber harvest in M0201 took place in 1990, although some of the neighboring MMSF tracts were in harvested in 2004 and 2005.

Topography, Geology, and Hydrology:

The terrain of M0201 forms a northeast cove site. M0201's sideslopes are generally long and steep and flow downward into the mapped intermittent stream which begins at the center of the Tract. A number of ephemerals are also present which generally flow into this mapped intermittent that feeds northeast into the Greasy Hollow lowland area which drains into Indian Creek. It should be noted that soil erosion is a significant concern near the small Virginia pine and aspen stands in the northwest quarter of the tract. Overall, the soils within M0201 (See Figure 2) are derived from the sandstone, siltstone and shale bedrocks that commonly occupy the uplands of Morgan-Monroe State Forest.

Soils:

Berks Channery Silt Loams (BfG) are the most dominant soil type found within M0201 and comprise about 41.5 acres. They tend to be steep (35 to 80 percent slopes), moderately deep, and well drained on sideslopes and nose slopes of strongly dissected uplands.

Hickory Silt Loams (HkF) are the next most common soil type found in M0201 and comprise about 30 acres. They are moderately steep to very steep (18 to 50 percent slopes), deep, well drained soils on sideslopes and head slopes of strongly dissected uplands.

Zanesville Silt Loams (ZaC) are a soil type found in 13 acres of the Tract. They are a moderately sloping (6 to 12 percent), deep, well drained soil on shoulder slopes of narrow to broad ridgetops. Another type of Zanesville Silt loam (ZaB) is also present and covers 11.5 acres. This is a gently sloping (2 to 6 percent), deep, well drained soil on narrow to broad ridgetops.

Figure 2 - Soil Survey Map of M0201

Wilbur Silt Loams (Wu) are also present in the northeast corner of M0201 covering 9 acres. They are nearly level, deep, moderately well drained soils on narrow to moderately broad flood plains of creeks. They are frequently flooded.

Gilpin Silt Loams (GpD) are strongly sloping (12 to 18 percent), moderately deep, well drained soils on highly dissected uplands. They account for about 7.5 acres of soils in this Tract. They reside on very narrow ridgetops and shoulder slopes of broader ridgetops. Another Gilpin Silt Loam (GpE) is also present in a

small, 3.5 acre, portion in the northwest corner of M0201. This soil type is a moderately steep (18 to 25 percent slopes), moderately deep, well drained soil on highly dissected uplands. It resides on very narrow ridgetops and lower shoulder slopes of broader ridgetops and head slopes of drainages.



Access:

The major access trails within M0201 are generally in good condition however in a proposed harvest most of the short, minor skid trails would need to be reestablished. Access is achieved via the Hatfield Ridge Firetrail extending northwest from Rosenbaum road and a series of skid trails that lie within and along the Tract boundaries. In springtime and autumn, M0201 is easily accessed by the public via the opening of the Hatfield Ridge Forest and Wildlife Unit Compartmental Road. The access road on Hatfield Ridge is in very good condition and a large public parking area exists at the end of the open roadway. In springtime this roadway is open from April 15th through May 31st and then closed until it is opened up in the fall from the first day of September through the last day of November.

Boundary:

The north and upper west private land boundaries are the only ones adjacent to private land and these lines have been recently repainted in orange. The east, south, and lower west boundaries all follow existing trails or topographical features and border other State Forest tracts. Modest firetrail gate structures were been erected and maintained at the northwest corner of M0201 in the 1990's by Forestry staff to control illegal ATV and off road vehicular traffic.

Wildlife:

Wildlife resources in M0201 appear abundant. M0201 contains habitat for a variety of wildlife species. Forested habitats include mostly Mixed Hardwoods and Oak-Hickory timber types however there are also modest lowland hardwood timber types adjacent to the mapped intermittent stream. The Oaks, Hickories, Black Walnuts, and American Beech provide hard mast for deer, turkey and squirrel. Snags (standing dead trees) and cavity trees provide nesting, bugging, and roosting opportunities for woodpeckers, songbirds, and small mammals. Rotten logs, crater knolls, small ponds, and the mapped intermittent stream provide habitat for herptiles and aquatic vertebrates. Wildlife species or sign that were observed are documented in the Tract's appendix. M0201 has an abundant supply of food resources such as soft and hard mast. The mapped intermittent stream that runs through the central portion of the Tract provides an ephemeral water source for the area during nondroughty periods of the year whereas 2 wildlife ponds on the ridgetops provides water resources during droughty periods.

A Natural Heritage Database Review was completed in 2011. 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.

The Division of Forestry has instituted special procedures for conducting forest resource inventories so that the documentation and analysis of live tree and snag tree densities are examined on a

compartment level basis in order to maintain long-term and quality forest habitats. Crown release performed during timber harvests will stimulate the growth of the selected croptrees and will enhance the vigor of these sawtimber trees. Timber Stand Improvement (TSI) following the harvest is planned which will increase standing snag counts. Management practices conducted on M0201 will be conducted in a manner that will maintain the long-term and quality forest habitats for wildlife populations.

Communities:

Currently, M0201 is composed of mesic and dry site upland hardwoods that are dominated by the Oak-Hickory cover types. The dominant overstory timber species include White, Black and Red Oaks, Yellow Poplar, and Scarlet Oaks. Mixed Hickories such as Bitternut, Pignut and Shagbark species are moderately present. The Tract's understory contains a few Oak but consists mainly of Sugar Maple, Sassafras and American Beech. The ground cover of M0201 consists of mainly mesic to dry mesic species.

Exotic Species:

Japanese Stiltgrass and Multiflora Rose were observed during the forest resource inventory. Scattered Multiflora Rose populations are present throughout the Tract in light to moderate concentrations. As Morgan County is nearby to Brown County (a known location of the plant "virus" rose rosette disease), populations of Multiflora Rose are relatively stable. Control measures for MF Rose may be warranted if populations are located in planned regeneration openings. Eradication of Japanese Stiltgrass is unlikely; however, treatment to accessible areas prior to harvest operations should be considered as well as prompt reseeded of disturbed areas following timber harvest. Ailanthus, an exotic and invasive tree species from Asia, has been noted as increasing in a few State Forest and privately owned woodland tracts to the west. This species may be present within M0201 in obscure pockets. The forest resources within M0201 should be monitored and reviewed occasionally for its establishment, especially in newly created and older regeneration openings, as it is an aggressive hardwood canopy competitor.

Recreation:

M0201 is accessible via a long fire lane that extends northwest from Rosenbaum road. Although no permanently established recreation areas are present in M0201, there are still several recreational opportunities. Hunting is permitted on State Forest property and this Tract also offers opportunities for off-trail hiking, gathering, and wildlife viewing. M0201 is open seasonally in spring and fall for recreational purposes and lies north of the large public parking area on Hatfield Ridge and north of the permanent wildlife openings that the closed portion of the access road runs through.

Cultural:

Cultural resources may be present on M0201 but their location(s) are protected. Adverse impacts to significant cultural resources will be avoided during any management or construction activities.

Tract Subdivision Description and Silvicultural Prescription

The overall stand structure for M0201 is represented in the Gingrich Stand and Stock Table (Figure 3) that follows the individual stand summary (Table 2).

Tract Summary Data

Total Trees/Ac. = **240 Trees/Ac.**
BA/A = **113 Sq. Ft./Ac.**

Overall % Stocking = **100% (Fully Stocked)**
Present Volume = **12,955 Bd. Ft./Ac.**

Tract Prescription and Silvicultural Prescription:

M0201's forest resource was not divided into subdivisions (non-stratified). Its timber type is predominantly closed canopy Oak-Hickories and Mixed Hardwoods with some lowland hardwoods near the mapped intermittent stream. There is also a small stand of Virginia Pine adjacent to and sometimes mixed with largetooth aspen in part of the northwest quarter of the Tract. The overstory consists mostly of medium to large sawlog sized White Oak, Black Oak, Northern Red Oak, Yellow Poplar, Scarlet Oak, and mixed Hickory trees. The overall quality of merchantable timber is fair to good. The large sapling and pole-sized understory consists mostly of Sugar Maple, American Beech, Sassafras, Yellow Poplar, Flowering Dogwood, Red Maple, and mixed Hickory trees. Seedling regeneration consists mostly of White Ash, American Beech, Sugar Maple, Sassafras, and mixed Hickories.

The current stocking level of 100% indicates that M0201 has reached an overstocked condition. Despite still being dominated by Oaks, there is a consistent presence of Yellow Poplar, Sugar Maple, American Beech, and/or Sassafras trees. White and Black Oaks are particularly abundant throughout but Scarlet Oak, Northern Red Oak, and Bitternut, Shagbark, and Pignut Hickories are well represented also. The exceptions to this are in the extreme low-lying portions of the Tract where there is a dominant presence of lowland hardwoods and in the Virginia Pine/Largetooth Aspen stands.

The biggest limiting agents of the forest resource in M0201 are windthrow and grapevines. Windthrow is as concern on slopes where there is exposure of large sawtimber trees on shallow soils. Grapevines are a problem in some areas, especially after regeneration opening creation. However, these limiting agents are not major concerns if careful marking and the maintenance of modest stocking levels are observed.

The prescription is to perform an intermediate harvest using a mainly singletree selection cutting. This will result in thinning and a reduction of competition with and amongst the maturing quality sawtimber trees. The composition of M0201 will also be improved by harvesting low quality, damaged, diseased, dying and poorly formed trees. A group selection opening is proposed to remove the declining stand of Virginia Pine and the mature stand of Largetooth Aspen for the benefit of wildlife and future forest regeneration.

A postharvest management in the form of Timber Stand Improvement (TSI) should be performed to control grapevines, release preferred croptrees through the culling of low volume, poorly formed trees, and to encourage early successional (Oak) regeneration through the creation of canopy gaps and a reduction in numbers of understory shade tolerant species (Sugar Maple and American Beech). Consideration should also be given to older group selection openings during postharvest TSI to select and release future croptrees as well as reduce grapevine competition.

Standing dead trees (snags) and cavity trees will be given consideration for retention as habitat for wildlife. Legacy trees as defined by the Resource Management Strategy for the Indiana bat will be given consideration for retention as habitat for the Indiana Bat.

Existing skid trails will be reused, and these connect with an existing landing and haul road (fire trail) along the south and southwest edges of the tract. As in the previous harvest, a number of acres will be excluded due to proximity to the unsurveyed property boundaries as well as steep terrain and erosion concerns.

The overall goal of this prescription is to make an improvement cut utilizing both singletree and group selection methods which will reduce competition among the larger trees, provide resources for future croptrees through the removal of over-mature and declining trees, improve understory composition to favor oak regeneration, and improve overall timber quality while creating quality forest wildlife habitat.

Given the recent inventory and growth of this Tract's forest resources, M0201 is suitable for a 15 year management cycle wherein growth and development of the forest resources are reevaluated by a forest inventory every 15 years. A timber sale is proposed for M0201 in conjunction with tract M0206 in FY2013-2014.

Proposed Activities Listing

Proposed Management Activity

DHPA timber sale project review
Roadwork Rehabilitation
Timber Marking
Combined Tract Timber Sale w/T6
Timber Harvest

Proposed Period

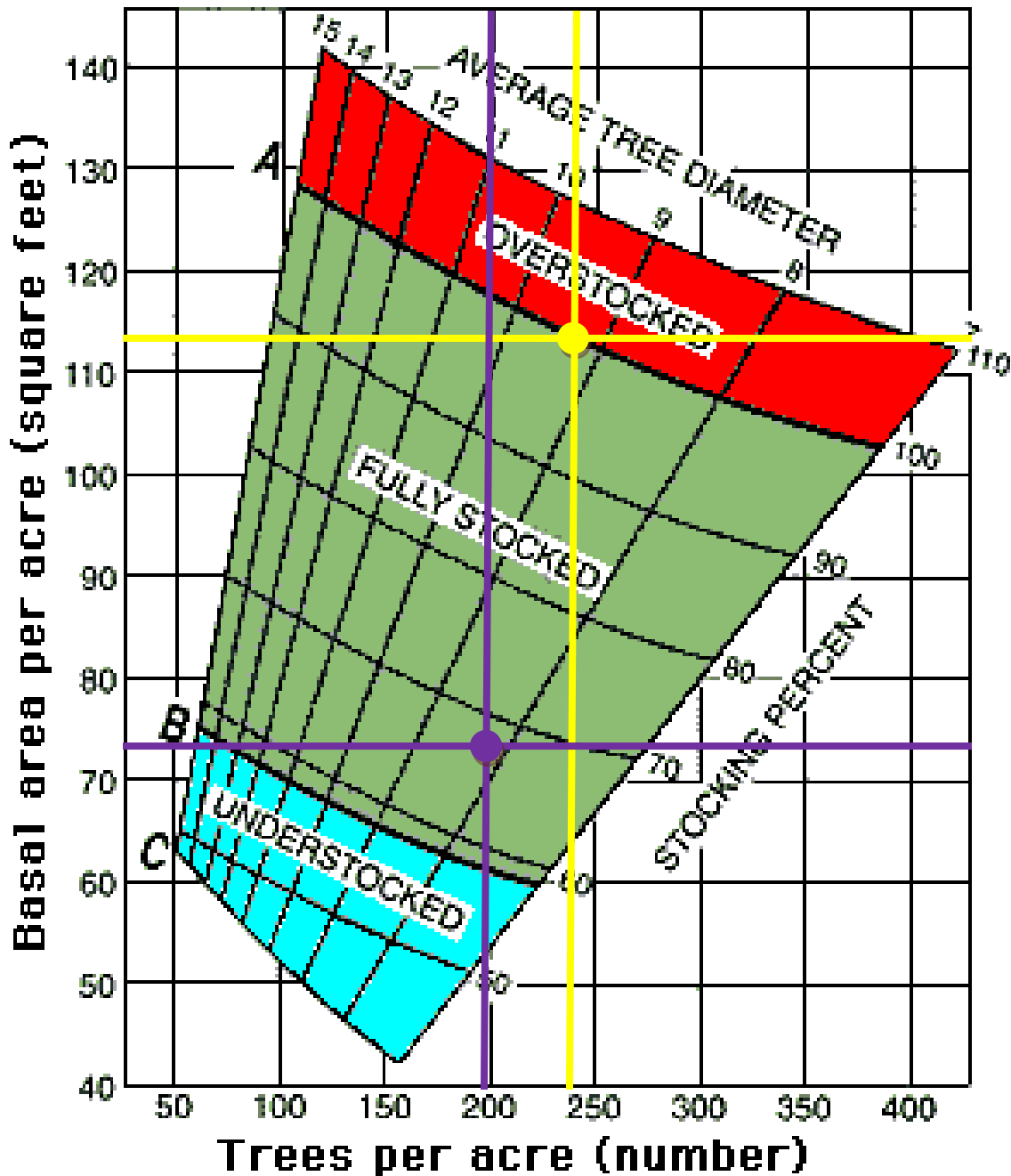
CY2013
CY2013-2014
CY2013-2014
FY2013-2014
CY2014-2016

Table 2 – Estimated Tract Volumes in M0201 in July 2011 (Doyle Rule)

Species	Present Total Volumes (bd. ft.)
White Oak	238,120
Black Oak	131,090
Northern Red Oak	126,450
Yellow Poplar	94,460
Scarlet Oak	61,910
Bitternut Hickory	49,710
Shagbark Hickory	38,670
Pignut Hickory	24,740
American Sycamore	20,740
Sugar Maple	19,190
American Beech	15,580
Largetooth Aspen	14,780
Chestnut Oak	11,480
Eastern Cottonwood	11,300
Red Maple	10,210
White Ash	9,190
Sassafras	4,770
Virginia Pine	4,110
Black Walnut	3,660
Blackgum	2,470
Tract Total Volumes	892,630
Tract Volume Per Acre Total	7,695

Figure 3 – Gingrich Stocking Chart for 2011 Forest Inventory

Yellow lines indicate current values; Purple lines indicate projected values after timber harvest



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 the State Forest Name, Compartment Number and Tract Number 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. Note: Some graphics may distort due to compression.