

Indiana Department of Natural Resources – Division of Forestry

Draft

Resource Management Guide

State Forest: Morgan-Monroe

Tract Acreage: 129

Forester: Allison Rubeck for D. Ramey

Management Cycle End Year: 2028

Compartment 02 Tract 06

Commercial Acreage: 120

Date: May 10, 2013

Management Cycle Length: 15 years

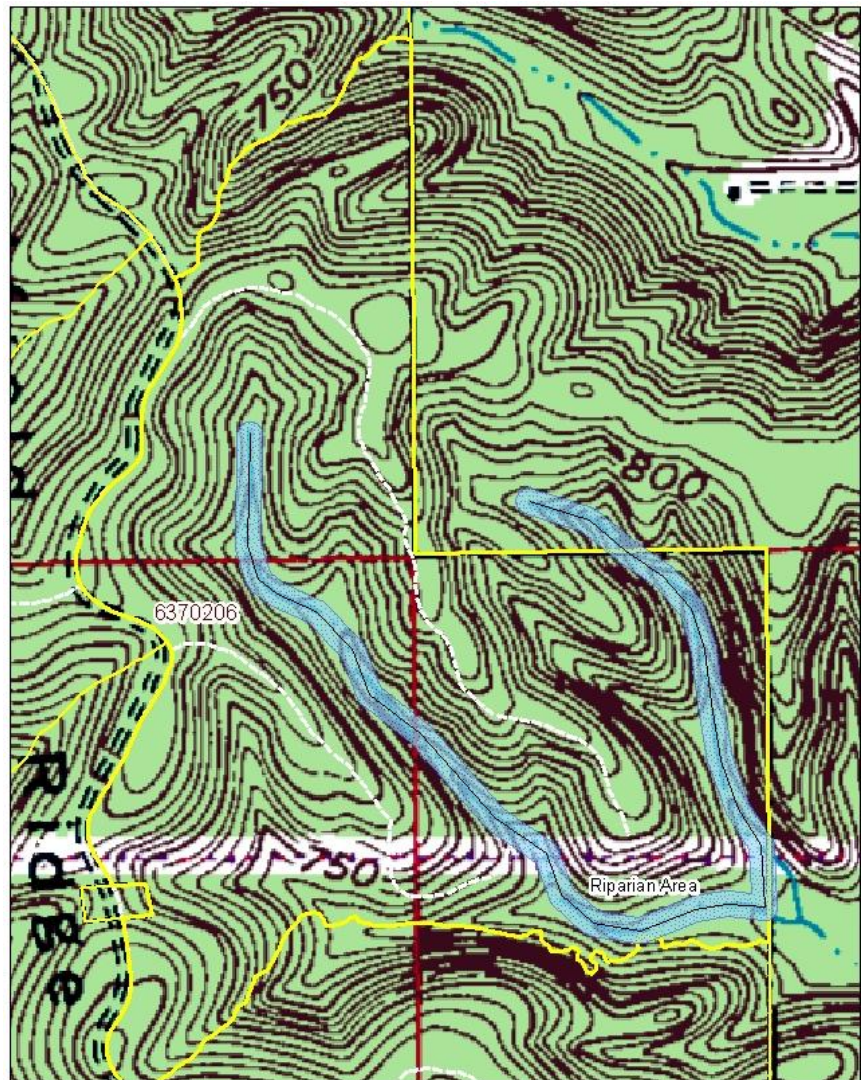
Location:

Compartment 02, Tract 06 lies in the southeast corner of Section 21, the northeast corner of Section 28, and the northwest corner of Section 27 in Township-11-N, Range-1-E in Washington Township of Monroe County, Indiana. M0206 lies approximately 12 miles north northeast of the city of Bloomington, Indiana and 3 miles south of Martinsville, IN.

Figure 1 – M0206

General Description:

M0206 consists of a total of 129 forested acres of which 120 acres are in Oak-Hickory forest and commercial forestland. Of this 120 acres, 10 acres are comprised of nearly 20 year old regeneration openings. Mixed Hardwoods such as Yellow Poplar, Sugar Maple, White Ash, Red Maple, Beech and Largetooth Aspen are also present and interspersed throughout the Tract. The non-commercial area in M0206 is approx. 9 acres which consists of a maintained grassland, utility corridor. This utility line was established in 1969. M0206's timber resource ranges from small to large sawtimber in size. The overall timber quality of this Tract is good. Pole sized, Mixed



Hardwoods dominate the regeneration openings. A summary of the forest resources in M0206 in relation to species dominance is noted below in Table 1.

Table 1. – Basic Forest Structure of M0206 in May 2013.

Overstory Sawtimber Layer	Understory Poletimber Layer	Regeneration Layer
Yellow Poplar White Oak Black Oak Northern Red Oak <i>Scarlet Oak</i> <i>Sugar Maple</i> <i>Red Maple</i> <i>Bitternut Hickory</i> <i>Pignut Hickory</i> <i>Shagbark Hickory</i> <i>White Ash</i> <i>American Beech</i> <i>Basswood</i> <i>Blackgum</i> <i>Chestnut Oak</i> <i>Red Elm</i> <i>Sassafras</i>	Sugar Maple Yellow Poplar White Oak <i>Sassafras</i> <i>American Beech</i> <i>Black oak</i> <i>Elm spp.</i> <i>Shagbark Hickory</i> <i>American Sycamore</i> <i>Blackgum</i>	Sugar Maple American Beech <i>Red Maple</i> <i>Sassafras</i> <i>Yellow Poplar</i>

Bold – Species that comprise $\geq 10\%$ of the total TPA and/or BA in each structural class

Italicized - Species that comprise $\leq 10\%$ of the total TPA and/or BA in each structural class

History:

- 1929 – State acquisition from Avery Family (Section 21)
- 1930 – State acquisition from Lowder Family (Section 28 and 27)
- 1930/31 – State acquisition from Mott Family (Section 28)
- 1967 – Quickcruise inventory and Management Guide completed(old C6T3&4)
- 1/24/69 – Timber Sale (30,260 BF)
- 1/24/69 – AT&T Corridor Timber Sale (21,541 BF)
- 1969 – Utility Corridor Established
- 1985 – Timber Marking
- 1985 – Property line survey completed along east line to resolve timber trespass by adjacent Landowner(Harris)
- 9/5/85 – Timber Sale (272,986 BF) sold to Indiana Lumber Company for \$43,343.00.
- 1986 – Red Oak plantings in Openings Completed (10.5 acres)
- 1987 – TSI Completed
- 1985 – Boundary Line Painted
- 1995 – Compartment Road upgrade with Stone
- 2001 – Gate Access Blocked
- 2011 – Boundary Line Re-Painted
- 2013 – Stand Inventory by Forest Intermittent A. Rubeck

In 1985 a timber harvest was completed which removed 1,171 trees containing an estimated volume of 272,986 Board Feet (Bd. Ft.) of sawtimber volume. 573 cull trees were marked. About 70% of the trees removed were Oaks, 13% Yellow Poplar, and remaining trees were predominantly Beech, White Ash, Sugar Maple, Hickories, and Largetooth Aspen. The sale was closed out in the spring of 1987. Postharvest TSI was completed in late summer of 1987 in the 8 openings (19.45 ac total).

Landscape Context:

M0206 lies just east of Hatfield Ridge Road. The land surrounding the east and northeast edge of the Tract is privately owned and consists of a mix of closed canopy deciduous forest. An intermittent stream starts in the northwest portion of M0206 and cuts through the center portion of the Tract ending in the southeast corner. The south and west portions of M0206 are surrounded by Morgan-Monroe State Forest. An intermittent stream delineates the lower east Tract boundary. A fiber optic right-of-way corridor runs east and west near the southern Tract boundary. This corridor is roughly 150 feet wide and is maintained in an early successional, grassland stage being periodically maintained by mowing.

Topography, Geology, and Hydrology:

M0206 consists of one main ridge with a ravine on each side where the intermittent streams are located. Slopes range from 2-6% on the ridge and 25-75% on the sideslopes. All aspects are represented within the Tract. The two primary soils that are present formed over limestone, underlain by sandstone, siltstone, or shale. Water resources from the intermittent streams and ephemeral drainages within M0206 feed into Indian Creek which drains into the White River.

Soils:

M0206 contains 6 different soil types: BfG, GpE, ZaC, GpD, ZaB, and Wa. The most dominant soil type in the Tract is BfG.

Berks Channery Silt Loam (BfG): found on 35 to 80 percent slopes. This is a steep, moderately deep, well drained soil on sideslopes and nose slopes of strongly dissected uplands. It is suited to trees. Equipment limitations and erosion hazards are concerns that should be considered during sale layout and implementation of Best Management Practices for Water Quality. This soil has a site index of 70 for northern Red and Black Oak.

Gilpin Silt Loam (GpD): found on 12 to 18 percent slopes. This strongly sloping, moderately deep, well drained soil is on convex, dissected uplands. It is well suited to trees. Erosion hazards, equipment limitations, and plant competition are the main management concerns. These should be considered during sale planning, layout, and implementation of Best Management Practices for Water Quality. This soil has a site index of 73 for northern Red Oak and 95 for Yellow Poplar.

Gilpin Silt Loam (GpE): found on 18 to 25 percent slopes. This is a moderately steep, moderately deep, well drained soil on highly dissected uplands. It is on very narrow ridgetops and lower shoulder slopes of broader ridgetops and head slopes of drainageways. It is suited to trees. Erosion hazards, equipment limitations, and plant competition are the main management concerns. These

concerns should be considered during sale planning, layout, and implementation of Best Management Practices for Water Quality. This soil has a site index of 80 for northern Red Oak and 95 for Yellow Poplar.

Wakeland Silt Loam (Wa): frequently flooded. This is a nearly level, deep, somewhat poorly drained soil on narrow to moderately broad floodplains of creeks. It is well suited to trees. Management planning should consider wet periods of year. This soil has a site index of 90 for Pin Oak and Yellow Poplar.

Zanesville Silt Loam (ZaB): found on 2 to 6 percent slopes. This gently sloping, deep, moderately well drained or well drained soil is on uplands. It is well suited to trees. This soil has a site index of 69 for White Oak and 90 for Yellow Poplar.

Zanesville Silt Loam (ZaC): found on 12 to 6 percent slopes. This moderately sloping, well drained soil is moderately deep to a fragipan. It is on sideslopes of the loess covered uplands. It is suited to trees. The fragipan can restrict and limit rooting depth. This soil has a site index of 68 for northern Red Oak.

Access:

Established in 1995 as a Forest and Wildlife Management Area, the Hatfield Ridge Road Wildlife Project with cooperation of the Wild Turkey Federation was completed in October of 1996. This area has been opened seasonally (April-May and September-December) for recreational purposes since that year and also serves as a demonstration area for school groups to visit and learn about forest management activities. In the spring many people also utilize this Management Unit for hunting mushrooms or parking in the large parking lot on an adjacent tract to hike in for fishing at Prather Lake. M0206 is very accessible to the public during these open seasonal periods and receives a moderate amount of hunting pressure during hunting seasons. There are two fire trails that offer Tract access.

Boundary:

Private property boundary lies adjacent to the east and northeast portion of M0206. Other Morgan-Monroe State Forest tracts border the west, north and south sides. The west Tract boundary is the Hatfield Ridge Compartmental Road. Private property lines are clear and visible along the eastern Tract boundary as they were surveyed by the Division in October of 1985 to resolve a timber theft along these lines. Boundaries are well marked with orange paint and were last remarked in 2011.

Wildlife:

Wildlife resources in M0206 appear abundant. M0206 contains habitat for a variety of wildlife species. Forested habitat includes a large amount of contiguous Oak-Hickory canopy, scattered Mixed Hardwoods, riparian areas along streams, and eight 28 year old regeneration openings. The eight openings are varied in size but all have similar yet dense vegetation that favors wildlife. Sassafras, grapevines, and other early successional shrubs are among those present that provide modest wildlife food resources. Other habitat structures that favor wildlife include snags (standing dead trees) and cavity trees. Snags and cavity trees provide habitat for birds, bats, and other small

mammals to feed, roost, and nest. Hard mast trees such as Oaks, Hickories, and Beech provide food resources for Squirrels, Wild Turkey, and White-tailed deer. Downed woody debris provides habitat and protection for forest floor wildlife and herptile species. Overall, M0206 has an abundant supply of soft and hard mast. The mapped intermittent streams that run through the west and east central portions of the Tract provide ephemeral water sources for local wildlife during nondroughty periods of the year.

A Natural Heritage Database Review was completed for M0206 in 2013. If Rare, Threatened or Endangered species (RTE's) were identified for M0206, 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 M0206 will be conducted in a manner that will maintain the long-term and quality forest habitats for wildlife populations.

Communities:

M0206 is comprised mostly of dry mesic upland hardwoods. The dominant overstory timber species include Pignut, Bitternut, and Shagbark Hickories as well as White, Black, and northern Red Oaks in the upland areas. Slopes and streamside areas are dominated by Mixed Hardwood species such as Sugar Maple, Yellow Poplar, and Beech. The 1985 regeneration openings have regenerated into predominately Yellow Poplar trees. M0206's understory does contain some Oaks but consists mainly of mixed Hickories, Maples and Beech. Several poles and numerous saplings of Tree of Heaven (*Ailanthus altissima*) were found in one of the 8 regeneration openings from the 1985 harvest. These individuals of this invasive species are planned to be treated prior to the proposed timber harvest.

Exotic Species:

Japanese Stiltgrass, Multiflora Rose and Ailanthus trees were observed during the forest resource inventory in M0206. Eradication of Japanese Stiltgrass is unlikely; however, treatment to accessible areas prior to harvest operations should be considered as well as prompt reseedling of disturbed areas following timber harvest. 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. Ailanthus, an exotic and invasive tree species from Asia, has been noted as increasing in several State Forest Tracts and private woodlands to the west of M0206. This species may be present within M0206 in obscure pockets. The forest resources within M0206 should be monitored and reviewed occasionally for its establishment, especially in newly created and older regeneration openings, as it is proven to be an aggressive hardwood canopy competitor.

Recreation:

M0206 is accessible via a long fire lane that extends northwest from Rosenbaum road. Although no permanently established recreation areas are present in M0206, 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. M0206 is open seasonally in spring and fall for recreational purposes and lies south of the large public parking area on Hatfield Ridge and mostly north of the large utility corridor that intersects the southernmost portion of the Tract.

Cultural:

Cultural resources may be present on M0206 but their location(s) are protected. Adverse impacts to significant cultural resources will be avoided during any management or construction activities.

M0206 Tract Summary Data from the May 2013 Inventory

Total Trees/Ac. = **106 Trees/Ac.**

Overall % Stocking = **90% Stocking**

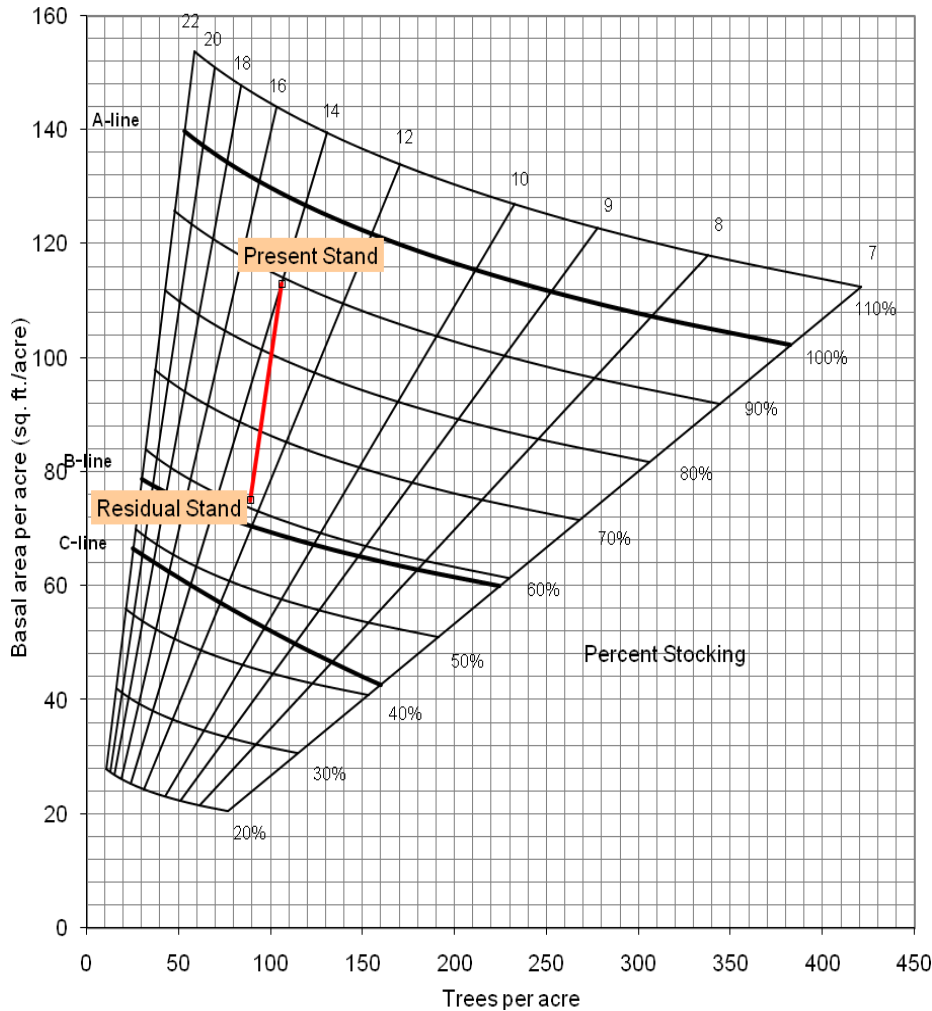
BA/A = **112 Ft²/Ac.**

Sawtimber & Quality Trees/Ac. = **43 Trees/Ac.**

Present Volume = **10,766 BF/Ac.**

	Acres		Sq. Ft. per Acre
Hardwood Commercial Forest:	120	Basal Area Sawtimber:	80.4
Pine Commercial Forest:	0	Basal Area Quality:	10.4
Noncommercial Forest:	9	Basal Area Poles:	17.2
Permanent Openings:	0	Basal Area Culls:	2.8
Other Use:	0	Sub-merchantable:	1.4
Total:	129	Total Basal Area:	112.7

Table 4. Gingrich Stand and Stock Table for M0206 in May 2013



Stand Descriptions and Silvicultural Prescriptions:

The current forest resource inventory for M0206 was completed on May 9, 2013 by Foresters P. Jones and A. Rubeck. 31 prism points were sampled over approximately 129 acres. A summary of the inventory is noted above and a species summary is given in **Table 5** below. M0206 is presently fully stocked and would benefit from a timber harvest. The proposed timber sale on M0206 could yield 300-500 MBF. A combined tract timber sale with M0201 is planned for FY2013-14.

Oak-Hickory/Mixed Hardwood Stratum– 120 acres

Current Condition

This mixed timber type is predominantly mature Oak-Hickory with some Mixed Hardwoods such as Yellow Poplar, Sugar Maple, White Ash, Red Maple, and Beech. Oak and Hickories account for nearly 55% of the total volume and BA in the stand with White and Black Oaks being the most prevalent. Yellow Poplar accounts for over 20% of the total Tract BA and volume. The understory is dominated by Sugar Maple, Sassafras, Red Maple, Beech and Hickory spp. There are 8 regeneration

openings dominated with Yellow Poplar, Maples, and Sassafras that have 26 years of growth. These openings total approximately 19.45 acres.

Prescription

The management goal of M0206 is to maintain a fully stocked stand dominated with healthy and vigorous Oaks and Hickories. The recommendation is to prescribe an improvement cutting over the majority of the Tract. This should be accomplished primarily through single tree selection. However, small group selections may be prescribed in areas dominated by poor growing stock. Trees selected for harvest should be primarily overmature, damaged or defective, poorly formed, stressed, or inferior species competing with croptrees.

Riparian buffer areas exist along the banks of the mapped intermittent streams located in the central and east drainages as well as along the southern Tract drainage. Management of these areas will be prescribed according to current Division of Forestry guidelines.

Postharvest Timber Stand Improvement (TSI) is recommended and may include Grapevine control, croptree release, large snag creation and possibly small opening completion. Preharvest Grapevine control may be required in potential group selection openings. Prescribed TSI work will be most intensive in the older regeneration openings and these openings should include Grapevine control, croptree release, and Ailanthus treatments.

Table 5. – Estimated Tract Volumes in M0206 in May 2013

Species	Total Volume (bd. ft.)
Yellow Poplar	386,660
Black Oak	301,650
White Oak	272,290
Red Oak	229,370
Sugar Maple	34,890
Beech	27,320
Scarlet Oak	20,990
Bitternut Hickory	19,800
White ash	18,510
Basswood	17,180
Shagbark hickory	14,250
Blackgum	9,840
Pignut hickory	7,880
Red Elm	7,670
Sassafras	5,290
Sycamore	9,130
Chestnut Oak	3,590
Red maple	2,480
Tract Total	1,388,790
Per Acre Total	10,766

Proposed Management Activities:

Proposed Period

DHPA Roadwork Project Review	CY2013
Evaluate stiltgrass populations for treatment	CY2013
Timber Marking	CY2013
Timber Sale (w/M0201)	FY2013-14
Timber Harvest	CY2014-2016
Timber Stand Improvement Project	CY2015-2017
Regeneration Opening Review	CY2020
Inventory and New Management Guide	CY2028

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