Indiana Department of Natural Resources
Division of Forestry

DRAFT

RESOURCE MANAGEMENT GUIDE

State Forest: **Morgan-Monroe** Compartment: **05** Tract: **12**
Tract Acreage: **95 acres** Commercial Forest Acreage: **92 acres**
Forester: **Kaylee DeCosta (For Dave Ramey)** Date: **11/29/2011**

Location

This tract is located in Section 36 of Township 11N, Range 1W of Morgan County. It is approximately 1.4 miles east of Highway 37 and 5.5 miles southwest of Martinsville. M0512 is situated along the northwest corner of the main block of Morgan-Monroe State Forest. Access is available to the public off the major firetrail gate on Main Forest Road.

General Description

This tract is 95 total acres of Mixed Oak in Morgan-Monroe State Forest, 92 of which constitute commercial forest acreage. The remaining 3 acres is part of a large powerline right-of-way. The forest resource is predominantly medium to large sawtimber Mixed Oak. Overall timber quality in the tract is fair: White, Black, and Red Oaks along with Yellow Poplar represent the highest quality timber in the tract. Many of the largest of the Black and White Oaks were observed to have short boles and large wolfy crowns. Several over-mature Red Oaks were also noted throughout the tract but especially concentrated on the steep north facing slope and associated drainages. The tract inventory species composition is listed below in Table 1 according to their dominance.

Table 1. Overview of M0512 Forest Resources in November 2011.

Sawtimber	Poletimber	Regeneration
White Oak	Sugar Maple	American Beech
Black Oak	White Oak	Sugar Maple
Northern Red Oak	Northern Red Oak	Ironwood
Sugar Maple	Pignut Hickory	Red Maple
Scarlet Oak	American Beech	White Ash
Pignut Hickory	Shagbark Hickory	Pignut Hickory
White Ash	Red Maple	*Sassafras
American Beech	Red Elm	Red Elm
Red Maple	Boxelder	*Flowering Dogwood
Yellow Poplar	Sassafras	*Blue Beech
Black Cherry	Black Cherry	*Blackgum
Sassafras	Black Oak	White Oak
American Elm	Scarlet Oak	Black Cherry
Shagbark Hickory	Bitternut Hickory	American Elm
Chestnut Oak	Black Walnut	*Boxelder
American Sycamore	Chestnut Oak	*Bitternut Hickory
*Bitternut Hickory	Blackgum	*Northern Hackberry

	*White Ash *Northern Hackberry	*Downy Serviceberry *Eastern Red Cedar

*Species found within tract but not captured in prism plots.

History

The land in this tract was deeded to the Division of Forestry on June 12, 1929 by Edward and Stella Avery for $1.00 & other considerations. This tract was first inventoried in November of 1975 by Foresters Hahn and Gunkel when the tract was noted as Old MC4 T6 & 5 with T6 being the NW portion and T5 being the SE portion of the current tract. Combined together this inventory noted 3600 BF/A of present volume and 1012 BF/A of harvest volume. These inventories were probably done using the quickcruise method however management guides for these two portions of the tract have been lost. On February 17, 1988 boundary lines were flagged, painted, and posted. In 1990 the Morgan County surveyor surveyed Section 36 and stones were set at the Quarter corners along the E line of this tract. DNR surveyor Bob Vollmer also reviewed the West tract line in 1999 and the south line in 2006. Details of these surveys are in the Boundary Section of this guide. On July 22, 2004 the first tract resource inventory was completed by Forester Hahn. The inventory at that time noted a total present volume of 8,055 BF/Ac. with 1,574 BF/Ac. being harvestable. A timber harvest did not occur at that time due to restrictions with access crossing private land. There is no evidence or records to indicate any other timber management or harvest since State Acquisition within this tract. The 2nd and current resource inventory was completed by Forestry Intermittent K. DeCosta on November 23, 2011.

Landscape Context

The majority of land immediately surrounding this tract is private forestland or State Forest. A portion of this private forestland has undergone a moderate to heavy timber harvest within the last 10 years; some areas of early successional growth were noted adjacent to this tract. Whip-poor-will Lake, a small reservoir, lies approximately 200 meters south of the tract. An RV trailer park also lies around this small reservoir and there are modest hiking use by campers and unauthorized ORV users within this tract. Several large agricultural fields containing grazing or hay fields lie just north and southwest of the tract. Residential areas also exist to the north and south of the tract within the landscape. A major powerline right-of-way crosses centrally through this tract; this area is periodically maintained and is now mostly composed of early successional growth and grasses. This early successional area encompasses approximately 3 total acres.

Topography, Geology and Hydrology

This tract contains a diverse topographic and hydrologic composition for Morgan-Monroe State Forest. Topography ranges from 2 to 80% slopes. The Northeast facing slope in this tract is very steep and may limit timber removal. Southwest is the dominant aspect although all aspects are represented throughout the tract. The underlying silt loam soils range from 20 - 40 inches in depth to sandstone and/or shale bedrock. The Zanesville Soils on the upper ridgetops provide a deeper 50 – 90 inches of soil depth. One mapped intermittent creek serves as the tract's southern boundary. Several other unmapped ephemeral drainages also occur within the tract. Water resources draining the southern aspects of this tract drain into an intermittent stream which feeds Whip-poor-will Lake. This reservoir spills into Little Indian Creek which eventually drains into the White River. Water resources from the northeast facing slope also feed into Little Indian Creek via Gose Creek.

Soils

Bd (Bartle silt loam) This soil type is on stream terraces with level to 2% slopes. This soil type comprises approximately 3% of this tract along Gose Creek close to the east boundary line. This soil is well suited for the growing of cove hardwoods. Erosion and equipment limitations exist for this soil type due to proximity to intermittent creeks.

BfG (Berks channery silt loam, 35 to 80% slopes) This soil type is well drained and found mostly on sideslopes. This soil type comprises approximately 67% of this tract along all the sideslopes and coves. Site index is 70 for this soil type. Erosion and equipment limitations exist for this soil type due to steepness.

GpD (Gilpin silt loam, 12 to 18% slopes) This soil type is well drained and is situated along the ridgetops in this tract. This soil type comprises approximately 20% of this tract. Site index for Yellow Poplar on this soil is 95.

GpE (Gilpin silt loam, 18 to 25% slopes) This soil type is found on hills and comprises approximately 10% of this tract along the upper sideslopes on the west and northwest facing slopes in this tract. Site index for Yellow Poplar is 95.

*ZaB (Zanesville silt loam, 2 to 6% slopes)*This soil type is moderately well drained and is situated along the center of the highest ridgetops in this tract. This soil type comprises approximately 10% of this tract. Site index is 75 for Black Oak, 90 for Yellow Poplar, and 69 for White Oak.

Access

Access into this tract is from a major firetrail (McGoose) off of Main Forest Road. This firetrail receives year-round use and is well maintained as it serves as a handicap hunter access as well as access into the Hardwood Ecosystems Experiment Research Unit 2. Access from the main firetrail into this tract crosses private forestland for about 200 meters. The Division of Forestry has permission to use this access for resource management and fire suppression purposes but not for timber removal. An easement would be needed for this stretch of haul road in order to facilitate timber removal. Another option for timber removal would be to skid logs from this tract into the two existing log yards in adjacent Tract 17.

Boundary

This tract is only bordered by Morgan-Monroe State Forest along the SE portion of the tract's boundary. The North, East, and West boundary lines are bordered by private forestland as well as the west half of the South line. The private property lines are marked in orange paint on trees as well as marked by orange-tipped carsonite along surveyed portions. One encroachment area is still unresolved along the south boundary line adjacent to the RV trailer park at Whippoorwill Lake. Unauthorized ATV trails were found extensively throughout the tract; these ATV trespasses are originating from the RV trailer park as well as from private property to the northwest. A few areas of unauthorized firewood cutting were also noted along these ATV trails. In 1990 the Morgan County surveyor surveyed Section 36 and stones were set at the Quarter corners along the E line of this tract as well as the offset corners for Section 31 in the adjacent Township. DNR surveyor Bob Vollmer and Forester Bill Hahn also reviewed the W line of this tract in 1999 and confirmed that the NW corner of this tract (a stone in a fence corner) was placed appropriately. The Morgan county surveyors had noted in 1990 that this stone in the fence corner was inappropriate and should have been reset south and west of the

present location. Following the 1990 & 1999 surveys this tract's private property lines were reflagged and painted using the east cornerstones and the northwest cornerstone. On January 5, 2006 DNR surveyor Bob Vollmer completed a survey of the south line of this tract in order to resolve a recreational use encroachment. A stone was found at the Center of Section 36 and a rebar with yellow cap was set at the property corner ¼ mile east from the stone on the south line. Some resolution by Property Manager Jim Allen and the Whipporwill RV owners was accomplished by moving camping equipment off State property however ATV usage and trails that originate from the RV area remain unresolved. The property lines were last remarked in FY2009-10.

Wildlife

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.

The current inventory was conducted during late fall of 2011 therefore summer breeding bird residents were not present. The following bird species were detected during the inventory:

Tufted Titmouse	Hairy Woodpecker	Eastern Towhee	American Crow
White-Breasted Nuthatch	Downy Woodpecker	Carolina Chickadee	Song Sparrow
Golden-crowned Kinglet	Red-bellied Woodpecker	Carolina Wren	Northern Cardinal
Blue Jay	Northern Flicker	Red-Headed Woodpecker	American Robin
Red-tailed Hawk	American Goldfinch	Pileated Woodpecker	

Other species or sign observed during the inventory include White-tailed Deer, Eastern Chipmunk, Raccoon, and Grey Squirrel. Other species most likely utilizing this tract include Wild Turkey, Fox Squirrels, Opossum, Coyote and other small mammals. Deer impact in this tract appeared minimal; browse levels were fairly low. It was also apparent that the deer in this tract receive moderate hunting pressure. The powerline right-of-way that transects this tract is periodically cleared and as a result is maintained as early successional growth. This area is characterized by dense shrubby growth along the forest edge as well as grassy areas. Bird species whose habitat preference includes early successional growth are benefitted. This large break in the forest canopy also provides a foraging and travel corridor for bats and other mammals.

Deficiencies were found in the Wildlife Habitat Feature Summary for larger diameter snags. Several large American Beech culls were noted throughout the tract; a post-harvest TSI plan will girdle some of these large culls to create standing snags.

	Maintenance Level	Optimal Level	Inventory	Above Maintenance	Above Optimal
Legacy Trees *					
11"+ DBH	855		3084	2229	
20"+ DBH	285		893	608	
Snags (all species)					
5"+ DBH	380	665	534	154	-131

9"+ DBH	285	570	253	-32	-317
19"+ DBH	47.5	95	30	-17	-65

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

Communities

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.

Multiflora Rose was noted in a few areas throughout the tract; the only dense infestation found was in the northeast corner of the tract adjacent to a cornfield. A tractwide treatment of Multiflora Rose is not practical at the present time and with the exception of the northeast area this plant does not appear to posing a threat to native plant species. Treatment of the Multiflora Rose infestation is recommended for this one area to prevent further spread. The current inventory was conducted in late fall so most plant species likely growing in the tract in the spring and summer months were undetectable. The ground cover of the drier south facing slopes in these tracts is composed mostly of various wood sedges and Green Briar. In some areas the Green Briar was particularly dense. Christmas Fern and Bottlebrush Grass were found interspersed throughout the tract. Beechdrops (Epifagus virginiana) were also found in a few spots in the tracts; this plant is parasitic on American Beech Trees. Squawroot (Conopholis americana) is another parasitic plant that was also identified here; this plant is parasitic on the roots of oak trees. Spicebush, Green briar, and Maple-leaved Viburnum formed much of the shrub layer. Other plants identified in the understory during the inventory included Wood Mint and Wild Ginger.

Recreation

This tract is accessible to the public from Tract 17 to the southeast. Only Division of Forestry Personnel have permission to use the access road that crosses private property on the ridgetop. Recreational opportunities for this tract include hiking, hunting, mushrooming, and wildlife/ nature viewing. Unauthorized ATV traffic was noted extensively throughout this tract. Several ground blinds and tree stands were also seen within the tract suggesting that it receives moderate hunting pressure during White-tailed Deer season.

Cultural

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.

Tract Subdivision Description and Silvicultural Prescription

Tract Summary Data – November 2011 Inventory

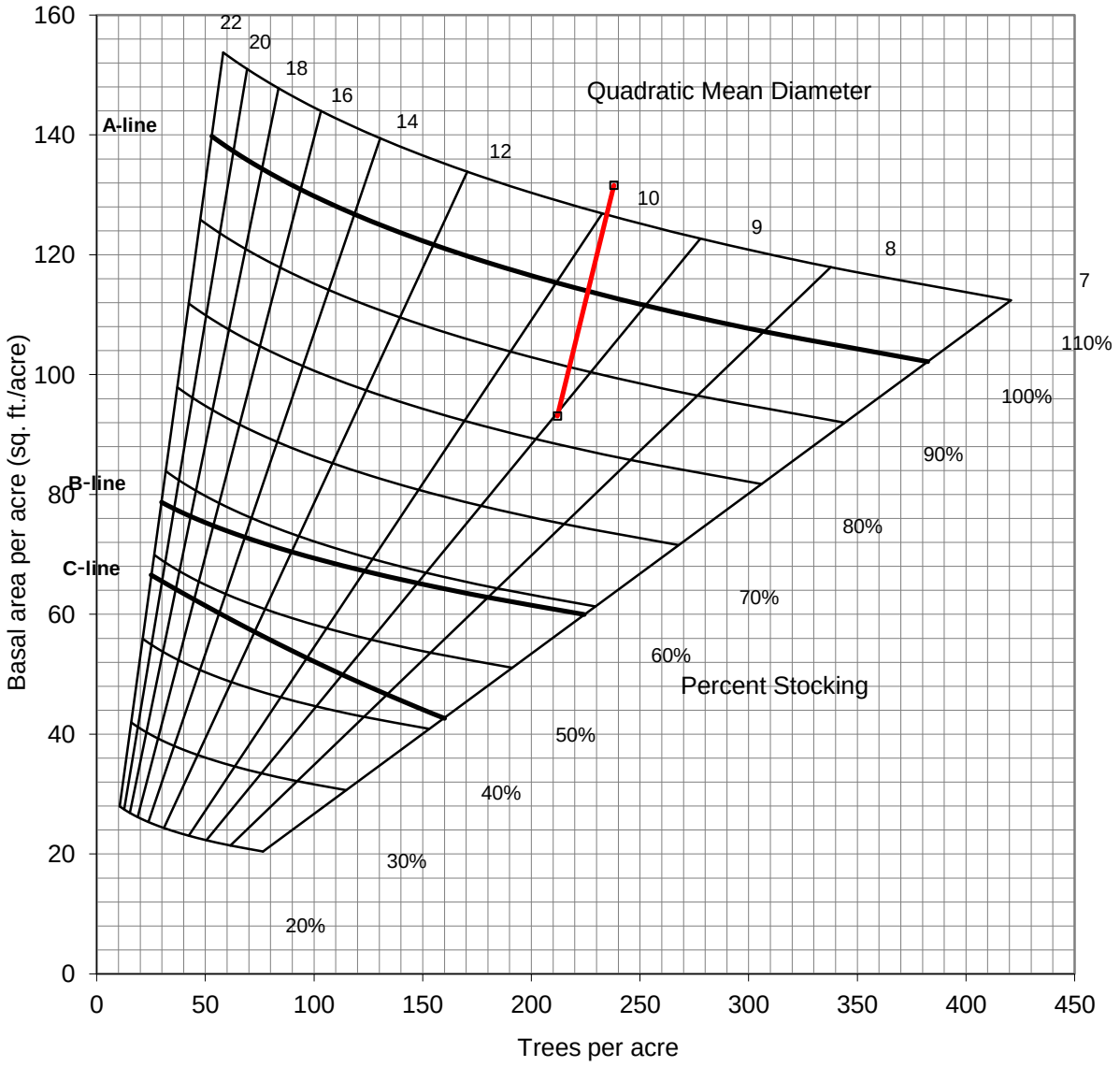
Total Trees/Ac.= **238** Overall % Stocking = **113% (Over-stocked)**

Sawtimber & Quality Trees/Ac.= **51** BA/A= **131.6 sq.ft./Ac.**

Present Volume = **10,333 Bd. Ft./Ac.**

Harvest Volume = **3,294 Bd. Ft./Ac.**

Growing Stock Volume = **7,039 Bd. Ft./Ac.**



Silvicultural Prescription

This inventory was completed on November 23, 2011 by Forestry Intermittent K. DeCosta. 32 prism points were completed over 95 acres (1 point for every 2.97 acres). Inventory summary results are presented above. This tract is presently overstocked and a timber harvest is recommended. This tract is dominated by mixed oak of predominately White and Black Oak species. Overall timber quality throughout the tract is fair. Although small pockets of quality Oak growth exist, the majority of the trees appear to be of only fair quality. Many of the larger diameter White and Black Oaks are characterized by wolfy crowns and short boles. Butt rot, leaning trees, sweeps, suppressed crowns and epicormic sprouting are some other common defects and signs of poor tree vigor that were noted throughout the tract. This tract has no history of any prior timber management and many of the trees in the current stand are poorly formed.

A timber harvest is proposed to improve and thin the current stand to release and promote the growth of high quality croptrees. Trees that are mature, poorly formed, suppressed or have excessive crown damage or have overall low vigor should be removed in an improvement cutting. Some

suppressed intermediates and trees with crown die-back should also be harvested. Selecting these trees for removal will release from above and below quality croptrees and increase their growing space. One small area on the northeast facing slope of this tract is recommended for group selection, however other groups may be identified during timber marking. This area is characterized by poor species composition (Sugar Maple, Sassafras, and American Beech) as well as mature Yellow Poplar. The White Ash growing in this tract should be removed where feasible in a sanitation cutting to reduce habitat for enlarging Emerald Ash Borer populations that are already present in northern Brown County and Monroe County. After the removal of mature Yellow Poplar and White Ash in this group the residual basal area would be low, therefore regeneration is recommended. It is likely that Yellow Poplar will regenerate well in the next stand.

Many mature to over-mature Red Oak trees exist throughout the tract but are especially concentrated on the steep northeast facing slope. These trees should be harvested where possible since many will not likely survive to the next timber harvest rotation. Some areas of recent windthrow damage were noted in which large oak stems had been blown down. It may be possible to salvage a few of these trees before decay becomes too advanced.

This tract contains many large (30"+) American Beech culls. These trees provide excellent wildlife habitat for cavity nesting bird species as well as providing den sites for mammals. These trees also take up a significant amount of canopy space that could provide crown space for higher quality trees. It is recommended that some of these large culls be girdled in a post-harvest TSI to create standing snags. This will open up canopy space for other higher quality trees while also still providing wildlife habitat. Some grapevines were also seen growing into the crowns of potential croptrees. TSI of these vines could be easily accomplished during timber marking by the marking forester.

Based on the timber inventory a modest timber harvest of up to 300,000 BF is possible in a harvest that utilizes improvement cuttings and group selection regeneration cuts. Given the resource and expected growth of this stand the expected cutting cycle is favorable for a 15 year cutting cycle.

Volume Estimates: Morgan-Monroe SF Comp. 05 Tract 12

(November 2011 Inventory Data)

Species	Harvest	Leave	Total
Black Oak	111,970	157,750	269,720
Northern Red Oak	49,370	110,180	159,550
White Oak	33,040	238,970	272,010
Scarlet Oak	27,850	27,140	54,990
Yellow Poplar	23,130	28,250	51,380
White Ash	21,150	5,390	26,550
Sugar Maple	19,100	37,340	56,440

American Beech	12,750	14,520	27,270
Black Cherry	7,510	7,380	14,890
Sassafras	5,610	0	5,610
Red Maple	1,420	7,760	9,180
American Elm	0	1,720	1,720
Chestnut Oak	0	4,830	4,830
Pignut Hickory	0	27,500	27,500
Tract Totals (Bd. Ft.)	**312,900**	**668,730**	**981,640**
Per Acre Totals (Bd. Ft./Ac.)	**3,294**	**7,039**	**10,333**

Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Boundary Line remarking	CY 2011/2012
Timber Marking	CY 2011/2012
Multiflora Rose Invasive Treatment	CY2011/2012
Timber Sale	FY 2011-2012
ReInventory and Management Guide	2026

Attachments

Included in Tract File:

- Topo Map of Tract Features
- Tract Soils Map
- INHD Review Map
- Stocking Guide Chart
- Ecological Resource Review
- TCruise Reports

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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.

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