

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

State Forest: **Yellowwood**  
 Tract Acreage: **75 acres**  
 Forester: **Kaylee DeCosta and Sean Sheldon**

Compartment: **12** Tract: **14**  
 Commercial Forest Acreage: **74 acres**  
 Date: **5/7/2011**

**Location**

This tract is located in Section 24 of Township 10N, Range 1W of Monroe County. It is approximately 4½ miles northeast of Dolan, 3 miles northwest of Lake Lemon and is situated along the southern edge of the main block of Morgan-Monroe State Forest. Access is available to the public off the major firetrail gate on the north end of M1215.

**General Description**

This tract is 75 total acres of Mixed Oak, Pine, and Bottomland Hardwoods in Morgan-Monroe State Forest, 74 of which constitute commercial forest acreage. The remaining acre is part of a buffer zone near an old homesite area that will be protected from harvesting activities. The forest resource is predominantly medium to large sawtimber Bottomland Hardwoods and Mixed Oak with stands of dense White and Virginia Pine growth. Overall timber quality in the tract is poor with the exception of a few small stands of quality oak and maple timber. The tract inventory species composition is listed below in Table 1 according to their dominance:

**Table 1. Overview of M1214 Forest Resources**

<b>Sawtimber</b>	<b>Poletimber</b>	<b>Regeneration</b>
Yellow Poplar	Yellow Poplar	American Beech
American Sycamore	Red Maple	Bluebeech
Eastern White Pine	Eastern White Pine	White Ash
Virginia Pine	Sugar Maple	Sugar Maple
Red Maple	Blackgum	Black Cherry
Pin Oak	American Beech	Flowering Dogwood
Sugar Maple	White Ash	American Elm
White Ash	Shagbark Hickory	Ironwood
Black Oak	Black Walnut	Yellow Poplar
White Oak	American Sycamore	Red Maple
American Beech	American Elm	Shagbark Hickory
Northern Red Oak	Virginia Pine	Pawpaw
Black Cherry	White Oak	Red Elm
Shagbark Hickory	Black Cherry	Sassafras
Black Walnut	Northern Red Oak	Ohio Buckeye
Red Elm	Boxelder	Blackgum
Boxelder	Red Elm	American Sycamore
Bitternut Hickory	Sassafras	White Oak
Largetooth Aspen	Black Oak	Black Oak
Pignut Hickory	Bitternut Hickory	Black Walnut
Black Locust		Eastern White Pine
		Northern Red Oak
		Bitternut Hickory
		Boxelder

### **History**

The land within this tract was purchased on 9/20/1935 from Helen and Arthur Woodward. According to our YCC records Virginia pine were planted in the tract on eroded areas on 4/15/40 (Plantation Record #178). It appears that the White pine established within in the tract were also planted during this period by the YCC. Boundary work on this tract was first completed in February and March of 1989. This work included a survey and establishment of property lines by DNR Surveyor Bob Vollmer. On May 2, 1975 a timber sale of 57, 968 BF was sold to Crone Lumber Company for \$2,500.00. On February 29, 1984 a timber sale that included a northern portion of this tract along with M1215 containing 377,744 BF was sold to Kinser Timber Products for \$60,576.00. On 6/21/93 Forester Vadas discovered a tree cut along the private boundary line by a timber harvest on adjacent private property and on 7/9/93 receipt of \$115 for half of this line tree's value was received by the State from the logger. In December 2001, permission was obtained for use of the access road of Camp Hunt of Wheeler Mission Ministries for Division of Forestry personnel. The current forest resource inventory of the tract was completed by Forest Intermittent Kaylee Decosta on May 6, 2011.

### **Landscape Context**

This tract is surrounded by a unique matrix of habitat and timber types. This tract borders the main block of mostly closed canopy Morgan-Monroe State Forest to the north. It is bordered by private forestlands and field areas to the south, east, and west. Lazy Lake, a privately owned lake, exists about ¼ of a mile southeast of the tract and provides a significant waterfowl resting area as well as wetland habitats. Privately owned oldfield and grazing areas border the tract along the south line and southeast portions of the tract. The privately owned forestland to the west underwent a recent (< 3 years) timber harvest and contains some significant areas of forest regeneration.

### **Topography, Geology and Hydrology**

This tract contains a diverse topographic and hydrologic composition for Morgan-Monroe State Forest. Topography ranges from nearly level to 40% slopes. All aspects appear to be represented equally within the tract. The underlying silt loam soils range from 53 - 60 inches in depth to silt loam and sandstone and/or shale bedrock. One mapped intermittent creek that forks midway through the tract essentially divides the tract into 3 upland sections. Several other unmapped ephemeral drainages also occur in the tract. A large portion of this tract is a wet bottomland area with some areas containing seasonal standing water with a few interspersed trees.

### **Soils**

*St (Stendal silt loam)* Nearly level, deep, somewhat poorly drained soils on broad flats and narrow stream channels. Areas are subject to flooding and soil tends to be somewhat acidic. Site index is 90 for Yellow Poplar and Virginia Pine. This soil type presents slight risks for erosion, seedling mortality, and windthrow hazard. Equipment limitations may exist January through May due to wetness. Approximately 40% of this tract is comprised of this soil type bordering the mapped intermittent creek areas.

*EkB (Elkinsville, silt loam, 2 – 6% slopes)* Gently sloping, deep, well drained soil on broad terraces adjacent to drainages and bottomland. Site index for Yellow Poplar is 98 and 90 for

White Oak. This soil type presents slight risks for erosion, seedling mortality, equipment limitations and windthrow hazard. Approximately 20% of this tract is comprised of this soil type along the tops of the gently sloping ridges. The Elkinsville soils historically have been among the best growing sites for Indiana hardwoods on Morgan-Monroe State Forest.

*EkF (Elkinsville silt loam, upland, 20 – 40% slopes)* Moderately steep to very steep, deep, well drained soil on terraces in steep area adjacent to bottomland. This soil type presents moderate erosion and equipment limitations and slight seedlings mortality and windthrow hazard. Approximately 40% of this tract is comprised of this soil type in areas between slopes and flat creek bottomlands. Site Indices of 98 for YEP and 90 for Oak. The Elkinsville soils historically have been among the best growing sites for Indiana hardwoods on Morgan-Monroe State Forest.

### **Access**

Two access routes exist for entry into the tract. Public and resource management access is available into the northern portion of the tract via the firetrail that initiates from the large metal gate at the north end of M1215. This firetrail provides good access to the northeast portion of the tract and fair access to the west portion of the tract. In the late 1980s rehabilitation of this north access and construction of one logging yard were completed. State Forest resource and contractor access is also feasible off of Anderson Road via the Wheeler Mission/Lazy Lake roadway that enters the southeast portion of the tract. Access rights by the DOF to this south end were obtained in December 2001. This roadway coincides with and crosses intermittently the entire eastern boundary of the tract. The use of this access would allow easier access to the tract's southern ridge. Historic preservation review and construction of a log yard and short access for this south access is still needed. The timing and use of this southern access will need to be coordinated with Wheeler Mission in the event of future timber extraction.

### **Boundary**

This tract is bordered by Morgan-Monroe State Forest on the north and private forestlands and grazing fields to the south, east, and west. The south and east boundary borders the Wheeler Mission campground and its Lazy Lake recreational facility. The east & south boundary was originally surveyed by surveyor Taylor Sumerford in the late 1970's or early 1980's, with the conclusion that a large portion of the existing roadway along the E line is the property line. All the property lines were resurveyed by DNR Surveyor Bob Vollmer in December of 1988. All boundaries were marked in orange paint with metal steel fence posts set at the corners by MMSF staff. At present the boundary paint is somewhat faded and should be updated prior to timber or wildlife management activities.

### **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.

Worm-eating, Cerulean, Hooded, and Black-and-White Warblers were also detected within the tract during the inventory. A timber harvest would encourage the growth of a denser understory and shrub layer component. This habitat type provides cover and nesting habitat for Worm-eating, Hooded, and Black-and-White Warblers. According to the Indiana State Forest Environmental Assessment handbook, research in Indiana has shown that Cerulean Warblers do

not show avoidance for harvested areas and also that canopy gaps may be an important component of Cerulean habitat. These birds would likely be benefitted by a light timber harvest in this tract. The current inventory was conducted during the spring of 2011 therefore most breeding bird residents were present. The following bird species were detected during the inventory:

Acadian Flycatcher	Downy Woodpecker	Red-headed Woodpecker
American Crow	Eastern Towhee	Ruby-throated Hummingbird
American Goldfinch	Gray Catbird	Scarlet Tanager
American Redstart	Great-crested Flycatcher	Song Sparrow
American Robin	Hairy Woodpecker	Swainson's Thrush
Barred Owl	<i>Hooded Warbler (SC)</i>	Tennessee Warbler
<i>Black-and-White Warbler (SC)</i>	Indigo Bunting	Tufted Titmouse
Black-pole Warbler	Kentucky Warbler	Warbling Vireo
Black-throated Green Warbler	Louisiana Waterthrush	White-breasted Nuthatch
Blue Jay	Mourning Dove	White-eyed Vireo
Blue-gray Gnatcatcher	Northern Cardinal	White-throated Sparrow
Blue-winged Warbler	Northern Flicker	Wild Turkey
Brown-headed Cowbird	Northern Parula	Wood Thrush
Canada Goose (flyover)	Ovenbird	<i>Worm-eating Warbler (SC)</i>
Carolina Chickadee	Pileated Woodpecker	Yellow-bellied Sapsucker
<i>Cerulean Warbler (SE)</i>	Pine Warbler	Yellow-breasted Chat
Chimney Swift	Red-bellied Woodpecker	Yellow-throated Vireo
Common Yellowthroat	Red-eyed Vireo	Yellow-throated Warbler

Other species most likely utilizing this tract include White-tailed Deer, Grey and Fox Squirrels, Eastern Chipmunk, Raccoon, Opossum, Coyote and other small mammals. One Eastern Cottontail Rabbit was flushed in the open canopy bottomland area. A few Barred Owls were heard within the White Pine stand in this tract; one fledgling was also seen and photographed. Crayfish mounds were observed throughout the tract. The presence of crayfish is indicative of wetland sites. This tract provides a unique matrix of wildlife habitat types tending to contribute to a modest increase in species diversity. Two pine stands exist within the tract as well as a large open canopy bottomland area. The private land adjacent to the west underwent a recent timber harvest leaving a large area of regeneration and early-successional habitat. The tract overall is characterized by areas with low-lying bottomlands and some areas with seasonal standing water pools. To avoid overlooking potential wetland habitat, this wetland area was reviewed by Scott Haulton, the DOF wildlife biologist in May of 2011 and K. Decosta for resource management and forest wildlife considerations. This review concluded that some wildlife openings and tree planting projects could be completed without reducing current wildlife habitat diversity. The tract currently has a wide diversity in habitat as is evidenced by the diversity of bird species that were detected during the spring inventory. Specialist interior species, generalists, and early-successional specialist species were all detected within the tract. A portion of the open bottomland field area should be kept intact to provide wildlife habitat although a lowland oak planting is recommended for part of it. Deficiencies were found in the Wildlife Habitat Feature Summary for larger diameter legacy trees. Timber management activities will be targeted to retain some of these tree species and encourage their healthy and vigorous growth. All levels of snags met or exceeded maintenance levels. The only deficiency was for larger diameter snags in the "Above Optimal" category as highlighted in red below. An increase in natural snag density may occur in the next few years due to expected natural mortality from the sustained drought that occurred in the area in the Summer/Fall of 2010. A TSI plan for this tract will also address the girdling and deadening of some larger diameter cull trees.

	Maintenance Level	Optimal Level	Inventory	Above Maintenance	Above Optimal
<b>Legacy Trees *</b>					
<i>11"+ DBH</i>	675		979	304	
<i>20"+ DBH</i>	225		216	-9	
<b>Snags (all species)</b>					
<i>5"+ DBH</i>	300	525	546	246	21
<i>9"+ DBH</i>	225	450	325	100	-125
<i>19"+ DBH</i>	37.5	75	37	0	-38

\* **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 but was especially thick in the open canopy bottomland areas. These should be treated where feasible during this management cycle to control and prevent further spread. *Black Locust* was observed in the overstory forest layer in this tract and is considered an invasive species. Individuals should be marked for removal; any regeneration or poletimber tree observed should be included in the post harvest TSI operation.

### Recreation

This tract is accessible to the public from the north firetrail. Recreational opportunities for this tract include hiking, hunting, mushrooming, and wildlife/nature viewing. ATV traffic was noted along the private roads surrounding this tract.

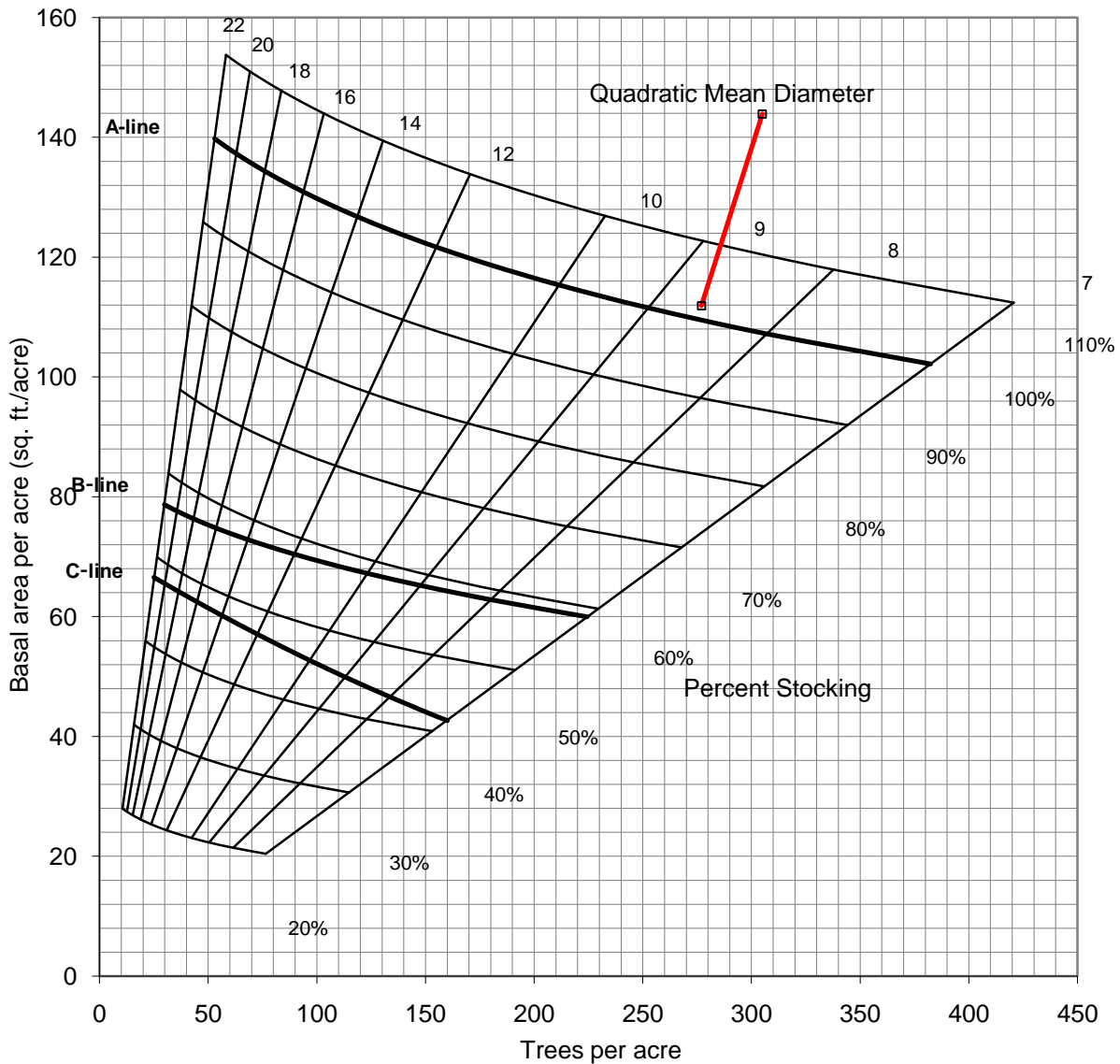
### Cultural

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.

## Tract Subdivision Description and Silvicultural Prescription

### Tract Summary Data – May 2011 Inventory

Total Trees/Ac.= <b>305</b>	Overall % Stocking = <b>125% (Over-stocked)</b>
Sawtimber & Quality Trees/Ac.= <b>56</b>	BA/A= <b>143.9 sq.ft./Ac.</b>
Present Volume	= <b>9,125 Bd. Ft./Ac.</b>
Harvest Volume	= <b>2,392 Bd. Ft./Ac.</b>
Growing Stock Volume	= <b>6,733 Bd. Ft./Ac.</b>



### **Silvicultural Prescription**

This inventory was completed on May 6, 2011 by Forestry Intermittent K. DeCosta. 30 prism points were completed over 75 acres (1 point for every 2.5 acres). Inventory summary results are presented above. This tract is presently overstocked and a timber harvest is recommended. A combined sale with adjacent Tract 12 is suggested for fiscal year 2011-2012. This tract is dominated mainly by cove and bottomland hardwoods. Yellow Poplar was the most commonly encountered tree species within the tract with American Sycamore being the second most common tree encountered. Pin Oak was common along the flat bottomlands area where there are occurrences of seasonal standing water. Overall quality throughout the tract is poor to fair, although pockets of quality growth exist on well drained slopes. Many of the trees in the wet areas were characterized as low-forking, poorly formed, or having multiple boles.

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 a single tree selection cut. Selecting these trees for removal will release from above and below quality croptrees and increase their growing space. Group selection may be warranted in locations that have poor species composition, windthrow damage, or low residual basal area. Several inventory points were noted as having low stocking and poor quality and species composition; these areas may warrant regeneration as well. Given the uniqueness of this wetland site on State Forest property, an oak planting project is recommended for regenerated areas as well as a portion of the open bottomland areas. With the exception of Pin Oak, many of the presently growing trees are of low vigor and form. Oak species such as Cherrybark or Shumard that are more well suited to wetland areas may be beneficial as a source of quality timber as well as provide quality wildlife food resources. The planted Virginia Pine stand within the tract appears to be in decline and it is recommended that this area be regenerated to hardwoods. The White pine stand is healthy although some thinning is needed; trees that are mature or have suppressed crowns should be removed to allow for the continued healthy growth of this stand. Pine stands are a valuable refuge for wildlife and offer habitat diversity especially in the winter seasons. White Ash 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.

The proposed timber harvest could be sold in conjunction with Tract 12 to the north. A combined harvest would utilize the existing haul road that runs along the eastern boundary of both tracts and reduce the reentry period needed for resource management of both areas. Timber stand improvement is recommended for the regeneration openings created in 1984: this would include croptree release as well as to cut and deaden grapevines where they pose a threat to future crop trees. Multiflora Rose was the most prevalent invasive species in the tract especially in the open bottomland area. This species should be treated in areas where its growth is thickest in an effort to reduce competition with regenerating hardwoods. A tractwide treatment of MF Rose is not practical as it is endemic through much of the forest stands in Monroe County and does not appear to be spreading or to pose a threat to native species although monitoring of its population is recommended. Some Bush Honeysuckle and Black Locust populations were also noted; these invasive species should be treated/harvested where practical. Based on the timber inventory a modest timber harvest of up to 200,000 BF is possible in a harvest that utilizes improvement cuttings and group selection regeneration cuts. As Elkinsville soils historically have been among the best growing sites for Indiana hardwoods on Morgan-Monroe State Forest and the tract inventory indicates only fair to poor stocking of quality timber, additional regeneration areas within this tract should be evaluated during its marking. Therefore a modest increase in the harvest volume per acre may be expected. This inventory was completed in the spring of 2011 during the wettest part of the year. Access issues were taken into account during the inventory and explain why residual volume is higher in this tract than in typical inventories. Post harvest TSI may be scheduled to treat or remove poor quality trees in this area. Logging should be restricted to the driest portion of the year (July- October) or during winter when the ground is frozen due to the wetness of several sites. Skidding and hauling in this area during wet portions of the year could create rutting and limit equipment access. An examination of specific water pooling areas as well as significant seeps and springs will be evaluated for conservation during the timber marking.

## Volume Estimates: Morgan-Monroe SF Comp. 12 Tract 14

(May 2011 Inventory Data)

Species	Harvest	Leave	Total
American Sycamore	29,500	91,520	121,020
Yellow Poplar	21,790	145,920	167,710
Eastern White Pine	21,310	53,840	75,150
White Ash	19,270	5,080	24,350
Pin Oak	16,450	44,520	60,970
Virginia Pine	15,910	15,470	31,380
Black Oak	12,280	25,470	37,750
Red Maple	11,390	17,560	28,950
Sugar Maple	9,970	17,950	27,920
Northern Red Oak	6,140	20,900	27,040
Pignut Hickory	4,660	0	4,660
Large-tooth Aspen	3,940	0	3,940
American Beech	3,400	12,040	15,440
White Oak	3,400	25,670	29,070
Bitternut Hickory	0	1,540	1,540
Black Cherry	0	8,990	8,990
Black Walnut	0	1,460	1,460
Boxelder	0	960	960
Locust Spp.	0	4,090	4,090
Red Elm	0	730	730
Shagbark Hickory	0	11,260	11,260
<b>Tract Totals (Bd. Ft.)</b>	<b>179,410</b>	<b>504,970</b>	<b>684,380</b>
<b>Per Acre Totals (Bd. Ft./Ac.)</b>	<b>2,392</b>	<b>6,733</b>	<b>9,125</b>

### Proposed Activities Listing

Proposed Management Activity

Proposed Date

Boundary Line remarking	FY 2011-2012
DHPA Sale Project Review w/T12	FY 2011-2012
Road construction Rehab & Yard construction w/T12	FY 2011-2012
Timber Marking	FY 2011-2012
Timber Sale w/T12	FY 2011-2012
Preharvest Invasives Treatment	FY 2011-2012
Tree Planting	FY 2012-2014
Post Harvest TSI & Invasives Control project	CY 2012-2014
Boundary Line Remarkings – per 6 Yr plan	2017, 2023, 2029
ReInventory and Management Guide	2031

### 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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