RESOURCE MANAGEMENT GUIDE

DRAFT

State Forest: Morgan-Monroe **Compartment:** 16 **Tract:** 17
Date: March 26, 2010 **Forester:** Andrea Wallis

Location

This tract is located in Section 16 of Township 9 North Range 1 East. It is about 3 miles from Unionville, IN on North Brummett's Creek Road. It is in Monroe County.

General Description

The majority of this tract is mixed hardwoods with a few areas if oak-hickory stand type. There are 50 commercial acres; 44 acres are mixed hardwoods and 6 are oak-hickory. Although the inventory did not reflect it there are 1.5 acres if planted white pine that range in diameter from 3" to 20". The majority of this pine stand is large sawtimber dominant canopy structure. Overall the tract canopy structure is as follows:

Overstory	Understory	Regeneration
American Beech	American Beech	American Beech
White Oak	White Oak	Red Maple
Northern Red Oak	Red Maple	Sugar Maple
Yellow Poplar	Yellow Poplar	Yellow Poplar
Black Oak	Sassafras	Ironwood
Largetooth Aspen	Sugar Maple	Dogwood
Red Maple	Pignut Hickory	
Eastern White Pine	Shagbark Hickory	
Shagbark Hickory	Eastern White Pine	
Pignut Hickory	Northern Red Oak	
Blackgum	Black Walnut	
Sugar Maple	Blackgum	
Black Walnut	Black Oak	
Sassafras		
White Ash		
Black Cherry		

History

A portion of this tract was attained through purchase from Citizen Sluss in September 1947. The remainder of the tract was received through an exchange with the federal forest service in July 1965. There is no other relative tract history contained within available files at this time. Forester Wallis completed a tract inventory in March 2010.

Landscape Context
This tract is part of a larger segment of landlocked state property. It is bordered on the west by managed state forest however surrounded on all sides by private property. Residential development is modest along Brummett's Creek Road.

Topography, Geology and Hydrology
There are several drainages in this tract with a main ridge line in the northern portion. A flat previous plantation area of white pine comprises the lower eastern boundary. There is also another small main ridge in the lower section of the tract. The majority of this tract is mesic with the rest being mostly of mixed mesic and xeric qualities. The three dominant aspects in the tract are flat, east, and west; the following were also included in notation: west south west, south west, south, south east, and north west. Parent material of the tracts soils are as follows; Berks-Weikert from sandstone and siltstone and Gilpin-Gullied and Wellston-Gilpin from sandstone.

Soils
There are four soil types on this tract according to the Monroe County Soil Survey published by the NRCS: Berks-Weikert (75%), Bedford Silt Loam (15%), Gilpin-Gullied (5%), and Wellston-Gilpin (5%).

Berks-Weikert (BkF) soils typically have steep to very steep slopes ranging from 25% to 75%. Berks soils constitute the upper slopes while Weikert is restricted to the gradually sloped and lower land areas. Available water capacity is low to very low with rapid permeability and surface run off with moderate organic matter. These conditions indicate low soil moisture and the possibility of erosion, This soil type is recommended to be utilized for forest management. Bedrock depth limits the number of trees able to survive in the area and those that survive are not generally high quality trees. It is recommended that road construction follow contours to prevent excessive erosion, Berks-Weikert soils have a capability class of VIIe and a woodland suitability subclass of 3f (Berks) and 4d (Weikert) indicating moderately high soil productivity with restrictive root depth. Berks soils are a moderate erosion hazard, have severe equipment limitation, moderate seedling mortality, and have a slight windthrow hazard. Weikert soils have moderate erosion hazards, severe equipment limitations, severe seedling mortality, and moderate windthrow hazards.

Bedford Silt Loams (BdB) have very slight slopes ranging from 2-6% with well-drained soils and fragipans present in some areas at depths of 20". There are areas of depressions that can allow for poor drainage. Water capacity and permeability are both moderate except permeability can be restricted above and within the fragipan. There is low organic material in this soil with a seasonal high water table of two to four inched between March and April; also because of the fragipan root penetration is restricted, resulting in perched water tables. This soil type can become wet and seepy during the spring and is prone to frost action

and low soil strength. This will restrict harvest activities to the middle of winter or dry summers in order to prevent erosion damage. The capability subclass in IIe and woodland suitability subclass is 3o indicating moderately high productivity and no other restriction. Erosion hazards, equipment limitations, seedling mortality, and windthrow hazards area all slight for this soil types. There is no potential for flooding however the perched water table and high potential for frost action will need to be considered during haul road and skid trail construction.

Gilpin-Gullied (Grd) soils are deep and well grained with moderate to steep slopes ranging from 12-22%. Gilpin soils have bedrock located about 36" deep while Gullied soil has experienced severe erosion resulting in 6-42" of surface soil removal. Permeability is moderate; available water capacity is low, and surface run off is rapid for Gilpin soils. The rooting depth is less than 40" and organic layer is of low content. This soil type is not suited for farming of any kind and is best used as forest. The shallow bedrock will restrict the number of trees able to survive in a given area however proper management can increase survivability. Gilpin soil has a capability subclass of Vie and a woodland suitability subclass of 2r indicating high productivity with steep slopes. The Gullied land type is not assigned any grouping. There is a very small portion of this soil type on the tract mainly located in the northern part, which will not pose any harvest restrictions. This soil has moderate erosion and equipment limitations with slight seedling mortality and windthrow hazards.

Wellston-Gilpin (WmC) soils have gentle to moderate slope ranging from 6-20% and very well drained soils. Wellston has moderate water capacity and permeability with medium surface run off while Gilpin has low water capacity, moderate permeability and rapid run off. These characteristics combined with the low organic content of both soils and the acidic surface layer tendencies indicate high probability for erosion and moderate difficulty growing timber. This soil type is preferable to forest over any other land use type. Logging roads should be constructed on the contours and management should focus on the removal of matures trees and the protection of healthy seed trees. This soil capability subclass in IIIe and woodland suitability class of 2o indicating high productivity an no other restrictions. Erosion hazard, equipment limitation, seedling mortality, and windthrow hazard are all moderate for Wellston and Gilpin soils.

Bedford Silt Loam type in the second largest type on this tract and will constitute the most problems for harvest activities. It is mainly located on the southeastern boundary and the northern central tip that may cause problems for haul road placement and construction. The majority of the tract consists of Berks-Weikert which tend to produce lower quality trees, Berks soils do not pose problems for haul road or skid trail construction however, steeper slopes need BMP applies to reduce soil erosion and compaction. Yellow poplar and eastern white pine are the only two species predicted to do well on these soil types/

Access
Access to this property requires the crossing of private property; negotiations with adjacent property owners are needed. The main access road is off of Brummett's Creek Road.

Boundary
The north and east boundaries lie adjacent to private land. The west boundary is a large intermittent stream that borders another Morgan-Monroe State Forest tract. There are four property corners representing the property corners.

Wildlife
The Natural Heritage Database indicates that there have been no reported sightings of any rare, threatened, or endangered animal, vegetation, or terrestrial communities within or near this tract. The following wildlife was noted during inventory: white-tailed deer, assorted song birds, woodpecker, and barred owl.

The following tables list the observed wildlife legacy, snag, and cavity trees that formulate the wildlife habitat features encountered during the inventory.

Legacy Trees Size Classes	Maintenance Level	Inventory	Available For Removal
11"+ DBH	450	705	255
20"+ DBH	150	285	135

**** Species Include:*** *American Elm, Bitternut Hickory, Black Locust, Cottonwood,, Green Ash, Northern Red Oak, Post Oak, Red Elm, Shagbark Hickory, Shellbark Hickory, Silver Maple, Sugar Maple, White Ash, White Oak*

These species of trees, whether dead, dying, or alive have a relative high value as potential Indiana Bat roost trees and are encouraged for conservation.

Snags (All Species) Size Classes	Maintenance Level	Optimal Level	Inventory	Available above Maintenance	Available above Optimal
5"+ DBH	200	350	228	28	**-122**
9"+ DBH	150	300	118	**-32**	**-182**
19"+ DBH	25	50	49	24	**-1**

Cavity Trees (All Species) Size Classes	Maintenance Level	Optimal Level	Inventory	Available above Maintenance	Available above Optimal
7"+ DBH	200	300	451	251	151
11"+ DBH	150	200	313	163	113
19"+ DBH	25	50	62	37	12

Exotics
No invasive communities were noted during inventory. There is one area of multi flora rose on the neighboring tract.

Recreation
The tract is heavily used for recreation, including but not limited to the following activities: hunting, birding, and general outdoor recreation/ Horse-back riding, mountain biking, and a campfire pit were also identified, however, these activities are currently illegal activities within this tract and a report advising enforcement has been submitted to the property manager.

Cultural
No cultural sites were observed during inventory. There is a permanent deer stand located next to creek by middle eastern corner and dumped washer not far from that.

Tract Prescription and Activities
The tract inventory was completed by Forester Wallis on 17 March 2010. The majority of this tract is dominated my medium to large sawtimber Yellow Poplar, White Oak, and American Beech. There is also a good oak representation and a large amount of small to medium Pignut and Shagbark Hickory in some areas. This tract has reasonably good soil indicted by scattered Black Walnut and Cherry. The main prescription recommends a removal of a large portion of the Beech with a focus on increasing canopy dominance of desirable species. This tract has no desirable species in young regeneration due to a large Beech concentration. Trespass appears to be a significant problem on this tract. A regularly used camp fire pit and seating area has been constructed near the north east corner, a biking trail is evident, a permanent deer stand has been constructed in a Black Walnut along the creek at the middle corner, and a well used road passes through the White Pine stand along the southeastern boundary line.

The northern plateau is mainly early successional habitat and provides good area for a yard to conduct a harvest. The White Pine areas along the south east boundary provide good habitat and ecological diversity. Overall hardwood diversity is very good in this tract. Yellow Poplar and American Beech are the main reason this tract is overstocked: there are twice as many of these species compared to any other in the tract. There are a total of 257 trees per acre and an average of 131 square feet of basal area per acres on this tract. The removal of most mature beech and all mature Yellow Poplar should return this stand to a healthier stocking.

Volume Estimates

Species	Harvest Stock/Acre	Growing Stock/Acre	Total Volume/Acre
Yellow Poplar	2190	785	2975
American Beech	1078	652	1730
White Oak	730	1073	1803
Black Oak	448	606	1054
Largetooth Aspen	316	0	316
Red Maple	260	181	441
Pignut Hickory	158	741	899
White Ash	99	0	99
Northern Red Oak	71	546	617
Blackgum	57	29	86
Sugar Maple	51	33	84
Shagbark Hickory	0	244	244
Sassafras	0	79	79
Black Walnut	0	163	163
Black Cherry	0	53	53
Total/Acre	**5458**	**5185**	**10643**

Proposed Management Activity	*Proposed Date*
Timber Harvest Marking	Dependant on Sale Access
Timber Sale	Dependant on Sale Access
Timber Stand Improvement	Dependant on Sale Access
Inventory and New Management Guide	2030

Attachments (in Tract File)

Gingrich Stocking Charts
Ecological Resource Review
Natural Heritage Database Review
Wildlife Habitat Review
Archeological Clearance/Roadwork Request
Soil, Stand, and Roadwork Maps
TCruise Reports

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