Indiana Department of Natural Resources
Division of Forestry

DRAFT
RESOURCE MANAGEMENT GUIDE

State Forest: **Yellowwood** Compartment: **14** Tract: **28**
Tract Acreage: **88** Commercial Forest Acreage: **88**
Forester: **Kaylee DeCosta** (for Sean Sheldon) Date: **3/2/2012**

Location
This tract is located in Section 12 of Brown County in Township 10N, Range 1E. It is approximately 7.5 miles southeast of Martinsville and 3 miles north of Lake Lemon. Access is through a gated firetrail off of Bear Creek Road at Bear Wallow.

General Description
This tract is 88 acres in size all of which are commercial acres. The forest resource is predominantly medium to large sawtimber Mixed Oak with some Mixed Hardwoods present in cove areas and on north or east facing slopes. Also present in this tract are areas of high quality Black and White Oak. The tract inventory species composition is listed below in Table 1 according to their dominance.

Table 1. Overview of Forest Resources of Y1428 in March 2011.

Overstory Sawtimber Layer	Poletimber Layer	Regeneration Layer	Cull Timber
Chestnut Oak	Sugar Maple	American Beech	Sassafras
Black Oak	Red Maple	Sugar Maple	Blackgum
White Oak	Yellow Poplar	Ironwood	Black Cherry
Yellow Poplar	Chestnut Oak	Blackgum	Yellow Poplar
Scarlet Oak	Pignut Hickory	Sassafras	American Beech
Sugar Maple	American Beech	Red Maple	White Oak
Northern Red Oak	Blackgum	Yellow Poplar	Northern Red Oak
Basswood	White Oak	Flowering Dogwood	
Sassafras	Sassafras	American/Red Elm	
Pignut Hickory	Basswood	Pawpaw	
Red Maple	Scarlet Oak	Bluebeech	
Bitternut Hickory	Shagbark Hickory	Pignut Hickory	
Shagbark Hickory	Black Cherry	Black Cherry	
White Ash		White Ash	
Blackgum		Basswood	
Red Elm		Bitternut Hickory	
American Beech		Chestnut Oak	
Largetooth Aspen		American Sycamore	
		Eastern Redcedar	

History
The northern part of this tract was harvested in 1984 and the southern part was harvested in 1983. Both of these timber sales occurred prior to State Forest acquisition and consisted mainly of single tree selection markings and small group openings. In June of 1988 a large portion of forest – including the land within this tract – was acquired from George Brunner; this acquisition. No records are available of any timber management activities since State Forest acquisition. It was observed that TSI (croptree release) had occurred in the old group openings although no records exist of it being done or by whom it was completed. The current tract inventory of 88 acres was completed on March 2, 2011 by Forest Intermittent K. Decosta.

Landscape Context
The majority of land surrounding the tract is managed State Forest with some privately managed forestlands to the south. Two small reservoirs lie to the south and to the east within a mile of this tract. This tract is located within the Brunner Tract Forest & Wildlife Management Unit of Yellowwood State Forest. The Brunner Tract had a long history of upland row crops prior to its State Acquisition in 1988. This Management Unit was designated as a Forest & Wildlife Unit to continue the great diversity of forestland and early successional wildlife habitat interfaces by the implementation of periodic timber harvests as well as the maintenance of grassland fields. Some of the wildlife fields within this Unit were planted shortly after acquisition to warm season grasses that are given prescribed burns on a regular basis. The remainder of the Brunner Tract wildlife fields is mowed every 4-5 years to prevent or reduce woody plant encroachment. At times these fields are also treated by prescribed burns to reduce fescue and thatch. This mixture of grassland field edges with early successional forest habitats is unique within the Yellowwood/Morgan-Monroe State Forest and provides many opportunities for wildlife viewing as well as hunting areas for the public.

Topography, Geology and Hydrology
This tract is comprised of a single main ridge running southeast to northwest. It also includes a portion of a southwest facing slope from another ridge as well as a mapped intermittent drainage between. Topography ranges from 6% to 70% slopes with southwest being the dominant aspect; all aspects are represented within the tract. The underlying soils range from 27 - 52 inches in depth to weathered siltstone interbedded w/sandstone and/or shale bedrock. One mapped intermittent creek lies in the northern third of the tract between the two ridges. Several other unmapped ephemeral drainages occur throughout the tract. The water resources from this tract drain into Bear Lake and from there into Bear Creek. Bear Creek eventually drains into Lake Lemon.

Soils

BgF (Berks-Trevlac-Wellston complex, 20 – 70% slopes) Moderately steep to very steep slopes and well drained soils. This tract is comprised of approximately 75% of this soil type and presents moderate - severe erosion hazards, severe equipment limitations, slight -moderate seedling mortality, and slight windthrow hazard. Management considerations should include

building haul roads on a contour and constructing water bars to prevent erosion. Site index for Yellow Poplar is 90 and 70 for White Oak.

WeC2 (Wellston-Gilpin silt loams, 6 – 20% slopes, eroded) Moderately sloping to moderately drained soils on sideslopes and ridgetops. This soil type comprises approximately 25% of the tract and presents slight risks for erosion hazard, equipment limitation, seedling mortality, and windthrow hazard. Site index for Yellow Poplar is 90 and 70 for White Oak.

Access

Access to this Tract is through a gated firetrail off of Bear Creek Road at Bear Wallow. This roadway has undergone recent road improvements for a 2011 timber sale. The haul road into this tract will cross through the ridgetop field on Tract 26 and enters Tract 28 where there is an existing haul road and skid trails. This haul road will need to be rehabbed prior to a timber harvest being scheduled and stone may be needed on portions of the haul road that crosses the wildlife field.

Boundary

The majority of this tract is surrounded by Yellowwood State Forest except for some private property ownerships along the north portion of the tract and along the southern tract boundary. These boundaries are marked in orange paint and were last repainted and posted in Fall of 2011.

Wildlife

This inventory was conducted in late winter/early spring so no summer breeding birds were detected at the time of the inventory. Birds seen or heard during the inventory include the following:

Red-bellied Woodpecker	Hairy Woodpecker	White-breasted Nuthatch
Red-headed Woodpecker	American Crow	Song Sparrow
Eastern Bluebird	Red-shouldered Hawk	Carolina Chickadee
Pileated Woodpecker	Red-tailed Hawk	Killdeer
Northern Flicker	Northern Cardinal	Tufted Titmouse
Downy Woodpecker	Blue jay	Carolina Wren

Other wildlife species detected during the inventory include White-tailed Deer, Wild Turkey, Raccoon, Eastern Chipmunk, Fox Squirrel, and Gray Squirrel.

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.

Deficiencies were found in the wildlife habitat feature summary for timber snags in the 19"+DBH categories as highlighted in red below. A postharvest TSI project following the timber harvest is a management technique that can aid in increasing tract snag densities. This would include the girdling of cull trees or unharvested timber in harvested group selection openings.

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees *					
11"+ DBH	792		2031	1239	
20"+ DBH	264		651	387	
Snags (all species)					
5"+ DBH	352	616	516	164	-100
9"+ DBH	264	528	266	2	-262
19"+ DBH	44	88	35	-9	-53

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

Communities

The current tract inventory was conducted during late winter/early spring therefore many understory plant species that may be present during the summer or later in the spring were undetectable. The only early emergent wildflower noted during the inventory was Spring Beauty.

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Multiflora Rose was noted in a few locations within the tract but did not appear to be spreading. This invasive rose species in the Brunner Tract is mostly concentrated along the wildlife field edges where it has ample sunlight. Regular burning of the wildlife fields helps to control this exotic. Green-briar and Spicebush make up the majority of the shrubs found in the tract with Witch Hazel and Maple-leaved Viburnum also present.

Recreation

This tract is modestly accessible to the public off of a parking area outside the firetrail gate on Bear Creek Road. The Tecumseh Hiking Trail also transects this tract. Common recreational activities that the tract would provide are hunting, mushrooming, hiking, and wildlife viewing.

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.

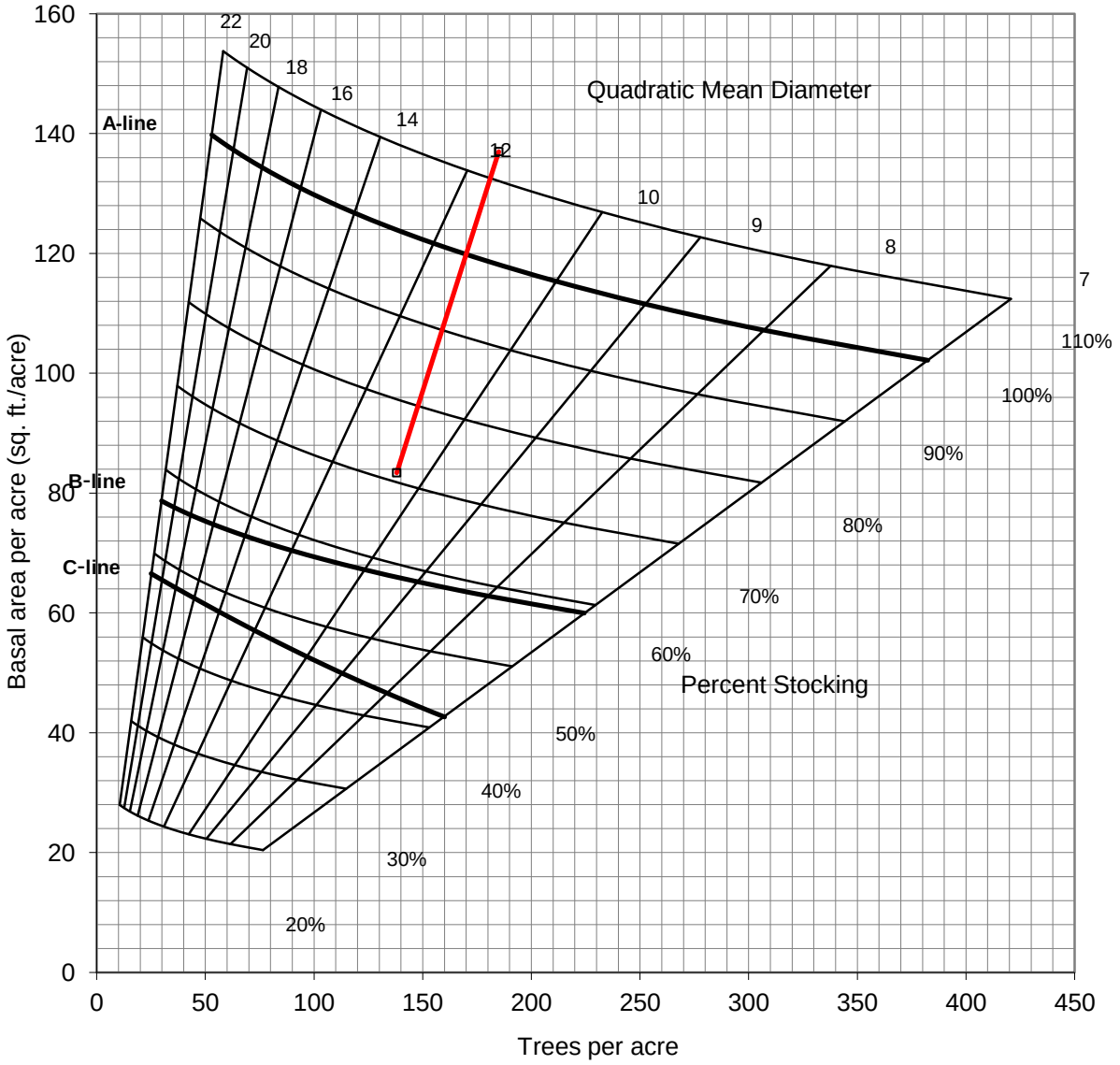
Tract Subdivision Description and Silvicultural Prescription

Y1428 Tract Summary Data

Total Trees/Ac.= 185 Overall % Stocking = 112% (Over-stocked)

Sawtimber & Quality Trees/Ac.= 69 BA/A= 137.0 sq. ft./Ac.

Present Volume = 11,388 Bd. Ft./Ac.
Harvest Volume = 4,540 Bd. Ft./Ac.
Growing Stock Volume = 6,848 Bd. Ft./Ac.



Silvicultural Prescription

The most recent forest resource tract inventory was completed on March 2, 2012 in which 31 prism points were evaluated over 88 acres (1 point for every 2.8 acres). Summary inventory results are given above whereas detailed species contributions are given in Table 2 below. This tract is presently overstocked and possesses a relatively high timber volume per acre ratio; a timber harvest is prescribed. From the timber inventory the harvest will focus on the removal of dying, leaning, mature, deformed, or poor quality stems of low vigor in an effort to release the more vigorous croptrees and improve croptree spacing. This type of harvest is typically classified as a combination improvement cutting and selection cutting. The basal area

(dominance) of the overstory timber stands is high in most portions of the tract and that has resulted in excessive crown competition of croptrees in the intermediate and overtopped tree classes. Thinning from above and below is recommended to reduce the crown competition and increase growth on selected croptrees. Most of the Scarlet Oak within this tract were notable in having excessive butt rot which has probably occurred from wildfire or pasturing damage. These trees now have a weakened support system making them susceptible to windthrow damage so it is recommended that these trees also be harvested where feasible. There were also many multiple-stemmed trees noted throughout the tract; these should also be harvested where stocking levels allow and where resident stems have poor unions. Overall, the stands in this tract have excellent quality in Yellow Poplar, Black Oak, and Red Oak; healthy and vigorous quality stems that have not yet reached maturity should be retained in this harvest. The hickory species noted in the current tract inventory was mostly represented only in the intermediate to codominant overstory layers. As this species is a valuable timber and wildlife habitat species as well as a consistent mast producer, a greater effort to retain and encourage its growth and development in the future stand is recommended. Timber marking should therefore be directed at releasing many of these smaller hickories whenever they appear to have vigorous qualities. Timber marking close to the Tecumseh Hiking Trail should follow timber marking rules set forth for Visual Enhancement Areas. A harvest within this tract will need coordination between the property and the Hoosier Hiker Council to reduce downtime in trail closures and reroutes. Because of the proximity to the oldfield areas, the marking forester should be aware of old barbed-wire fencing that has grown into the boles of some trees; several of these areas were noted during the inventory.

This tract is located within the Brunner Tract Forest & Wildlife Management Unit. This Management Unit is a unique area within the Y-MMSF Property where the development and maintenance of early successional wildlife habitat has been encouraged since 1988. Tracts within this Unit are managed to encourage early successional yet ephemeral forest regeneration openings as well as the maintenance of existing grassland fields. As this tract borders other tracts with permanent wildlife grassland fields, additional forest regeneration openings of an ephemeral nature ranging from 1 to 10 acres will be evaluated during the proposed harvest marking providing the timber types and forest stocking warrant this prescription. Overall, some small stands were noted during the inventory as having poor quality, poor species composition, and windthrow damage; other stands also consisted of over-mature trees (Yellow Poplar and Black Oak in particular). In stands where intermediate silvicultural treatments are needed, the growth of more vigorous, longer-lived mast-producing species such as the oaks & hickories will be encouraged. White Ash should be harvested where feasible in a sanitation cutting to reduce habitat for Emerald Ash Borer that is currently present in northern Brown County. Several cull trees with cavities were observed in this tract; some of these could be girdled or deadened to increase snag density and improve Indiana Bat habitat or they can be retained if they appear to be occupied by wildlife.

Overall the cutting cycle for this tract is suitable for 15 years. Based upon the inventory data a timber sale is proposed for this tract in FY2012-13 and a modest harvest marking of over 350,000 BF is expected.

Table 2. Volume Estimates: Yellowwood SF Comp. 14 Tract 28

Data from March 2012 Inventory

Species	Harvest	Growing Stock	Total Volume
Black Oak	78,110	122,780	200,890
Chestnut Oak	90,050	74,450	164,500
Northern Red Oak	25,850	127,770	153,620
White Oak	20,930	130,430	151,360
Scarlet Oak	70,100	42,710	112,810
Yellow Poplar	36,420	29,760	66,180
Sugar Maple	30,560	20,050	50,610
Basswood	11,430	10,490	21,920
White Ash	17,720	0	17,720
Shagbark Hickory	0	12,130	12,130
Pignut Hickory	0	11,770	11,770
Bitternut Hickory	0	11,280	11,280
Sassafras	6,560	1,360	7,920
Blackgum	0	6,150	6,150
Red Maple	2,910	1,510	4,420
Largetooth Aspen	3,730	0	3,730
American Beech	3,100	0	3,100
Red Elm	2,080	0	2,080
Tract Totals (Bd. Ft./Ac.)	**399,550**	**602,640**	**1,002,190**
Per Acre Totals (Bd. Ft./Ac.)	**4,540**	**6,848**	**11,388**

Proposed Management Activities Listing

Proposed Activity	*Proposed Period*
DHPA Roadwork Review project for Tracts 26&28	CY 2012
Timber Sale Roadwork Improvement	CY 2012-13
Timber Marking	CY 2012-13
Timber Sale	FY2012-13
Post Harvest TSI and Invasives ReTreatment (if needed)	CY 2013-14
ReInventory and Management Guide	2027

Attachments

Included in Tract File:

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

- TCruise Reports

To submit a comment on this document, click on the following link:
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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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