Indiana Department of Natural Resources - Division of Forestry

DRAFT

RESOURCE MANAGEMENT GUIDE

State Forest: **Yellowwood** Compartment: **12** Tract: **3**
Tract Acreage: **96** Commercial Forest Acreage: **95**
Forester: **Kaylee DeCosta (for Amy Spalding)** Date: **1/10/10**

Location

This tract is located in Section 21 of Brown County of Township 10N, Range 2E. It is approximately one tenth of a mile east of Carmel Ridge Road, approximately 2 miles northeast of Trevlac, and 1 ½ miles northwest of Helmsburg, IN. Access is off of Carmel Ridge Road through a gated firetrail.

General Description

This tract is 96 total acres of which 95 acres are commercial acres; the remaining acre includes a sensitive area. A portion of the Tecumseh Hiking Trail enters & leaves the southwest area of the tract. Portions of the ridgetop areas in this tract were historically planted to pine; these pine stands still persist and are mainly comprised of a mixture of Eastern White Pine, Virginia Pine, and Red Pine. The remainder of the tract consists of mixed hardwoods and oak-hickory timber types. The following species composition was found during the inventory according to their dominance:

Sawtimber	Poletimber	Regeneration
Yellow Poplar	Sugar Maple	American Beech
Black Oak	American Beech	Sugar Maple
White Oak	Red Maple	White Ash
Virginia Pine	Yellow Poplar	Red Maple
Red Oak	Sassafras	Ironwood
American Beech	White Oak	White Oak
Shagbark Hickory	White Ash	Sassafras
Sugar Maple	Black Oak	Pignut Hickory
White Ash	Virginia Pine	Bitternut Hickory
Red Pine	Pignut Hickory	Red Oak
Pignut Hickory	Blackgum	Black Oak
Scarlet Oak	Red Pine	Yellow Poplar
American Sycamore	Flowering Dogwood	Flowering Dogwood
Bitternut Hickory	Black Cherry	Black Cherry
Red Maple	Shagbark Hickory	Blue Beech
Eastern White Pine	Bitternut Hickory	Eastern White Pine
Black Cherry	American Sycamore	
Sassafras	Red Elm	
Shortleaf Pine	Redbud	
Largetooth Aspen		

American Elm		

History
This tract had a timber harvest in 1977 of 109,174 BF marked by Julie Akard. TSI of the harvest area was completed by a CETA forest crew and Forester Bill Bull in 1977. In 1993, Forester Eckart laid out skid trails, conducted an archeological review and constructed a haul road connecting this tract with Carmel Ridge Road. In 1995, an inventory was completed by Forester Eckart indicating 1,556 BF/Ac. of harvest and 5,671 BF/Ac. of leave volume. Old aerial photographs show that portions of this tract were once opened up for agriculture; this is further evidence of an abandoned home site. Old field sites were subsequently planted to pine. The current inventory was completed by Forest intermittent K. Decosta on January 7, 2011.

Landscape Context
This tract borders State Forest to the west and south; it borders private land to the north and east. The surrounding area is managed State Forest and a mixed forest with residential housing. This tract does contain a significant amount of mixed pine plantations which provides great variety for many species of wildlife and songbirds. A modest sized private reservoir to the southeast also provides a water resource for migratory and local wildlife populations.

Topography, Geology and Hydrology
This tract is comprised of 3 finger ridges at the end of Carmel Ridge. Topography ranges from 2% to 70% slopes. All aspects are represented within the tract with west to southwest being the dominant aspect. Underlying soils range from 27 - 64 inches in depth to interbedded siltstone, sandstone, shale bedrock. One mapped intermittent stream serves as the western boundary of the tract; another mapped intermittent stream originates in the southeastern corner of the tract. Several other unmapped ephemeral drainages occur throughout the tract. The water resources from the western side of this tract drain into Beanblossom Creek and from there into Lake Lemon. From the eastern side, water resources drain into Bell Creek, to Lick Creek and eventually to Beanblossom and Lake Lemon.

Soils
Be (Beanblossom) This soil type is deep and moderately well drained, gently sloping, or nearly level. It is subject to occasional flooding and so presents equipment limitations. This soil type comprises approximately 5-10% of the tract.

TIB (Tilsit silt loam, 2 – 6 % slopes) This soil is deep, moderately well drained, gently sloping. It comprises approximately 1-5% of tract on flat ridgetop area. Site index for Yellow Poplar is 90. Seedling mortality, windthrow hazard, equipment limitations, and erosion hazards are all slight for this soil type.

BgF (Berks-Trevlac-Wellston complex, 20 – 70% slopes) Moderately steep to very steep slopes and well drained soils. This tract is comprised of approximately 50% 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.

WeC2 (Wellston-Gilpin silt loams, 6 – 20% slopes, eroded) Moderately sloping to moderately drained soils on sideslopes and ridgetops. This soil type comprises approximately 40% of the tract and presents slight risks for erosion hazard, equipment limitation, seedling mortality, and windthrow hazard.

Access

Access is off of Carmel Ridge Road from State Road 45 through a gated trail. This roadway also coincides with a segment of the Tecumseh Hiking Trail which enters the southwestern corner of the tract and continues to the top of the ridge where there is an existing haul road and log yards. Access would utilize a portion of the Tecumseh Trail until meeting up with the existing haul road along the ridgetop. This access includes a creek crossing; best management practices will be considered in determining the best way to allow for the creek crossing with minimal erosion impact. The trail and old haul road will require improvement work in order to facilitate vehicle access.

Boundary

This tract is bordered by State Forest to the west and south; private land lays to the north and east. The current Property boundary is marked by faded orange paint and not clearly defined in certain areas; this boundary is scheduled to be repainted in the 2011-2012 fiscal year and will be completed before any proposed management activities.

Wildlife

A Natural Heritage Database review was conducted on the tract; no rare or endangered animal records were found within the tract. Nearby records to the southeast include Bachman's Sparrow, Hooded Warbler, and Bobcat. Hooded Warblers prefer large forested tracts with a dense shrub layer and is often associated with regenerating forest gaps. Bobcats have a wide habitat preference that is typically dictated by prey availability; habitat ranges from early successional openings, caves and rocky outcroppings or dense brush in deciduous and coniferous forests. Bachman's Sparrow typically inhabits open areas but has been found in recent large clearcuts and early stages of field succession. All of these species would likely be benefited by regeneration openings within the tract. The majority of this inventory was conducted during winter so no spring and summer breeding migrants were detected; however, other bird species observed or heard during the inventory included White-breasted Nuthatch, Carolina Chickadee, Golden-crowned Kinglet, American Crow, Tufted Titmouse, Carolina Wren, and Blue Jay. Several Red-breasted Nuthatches were also heard in the pine stand areas; this bird is not as common in Indiana as its relative the White-breasted Nuthatch and typically prefers coniferous habitats. Woodpeckers encountered during the inventory included Northern Flicker, Pileated, Downy, and Red-bellied. Other species observed within the tract include Wild Turkey, Coyote, Eastern Chipmunk, and Gray Squirrel. Portions of the pine component in this tract will be retained to contribute to wildlife habitat diversity. Deficiencies were found in the wildlife habitat feature summary for snags in the 9"+ and 19"+ DBH in the "Available Above Maintenance" category, as well as in the 9"+ and 19"+ DBH "Available above Optimal" category as highlighted in red below. Several larger diameter trees will likely become snags within the next year due to mortality from the drought of summer/fall 2010. Post-harvest TSI work will also likely include girdling less desirable stems and creating more snags to meet maintenance levels.

	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
Legacy Trees *					
11"+ DBH	864		1904	1040	
20"+ DBH	288		615	327	
Snags (all species)					
5"+ DBH	384	672	1019	635	347
9"+ DBH	288	576	172	-116	-404
19"+ DBH	48	96	21	-27	-75

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

Communities

The majority of the inventory was conducted during winter; many plant species that have been present during the summer were undetectable. This tract's volume is about 50% oak-hickory, 40% mixed hardwoods (dominated by yellow poplar) and about 10% pine. With 19 different commercial timber species, the diversity of species and species groups present indicate a rich forest and wildlife community. This was evident by the number of wildlife and songbird species that was observed during the inventory. The amount of coniferous forest in the form of White Pine, Shortleaf Pine and Virginia Pine stands provide additional wintering habitats for resident wildlife as well as breeding habitat for some songbirds. Modest populations of multiflora rose were noted throughout the tract and appeared to be most prevalent around the coniferous stands as well as in the old field and cultural resource area. Remnants of Japanese stiltgrass were also noted along the Tecumseh Hiking Trail. These invasives will be treated prior to and after timber harvest operations in areas of disturbance. Rattlesnake plantain was observed in its wintering form as was one other *Orchis* species within the tract. Christmas fern was common on the ground layer throughout the tract. *Lycopodium digitatum*, a type of club moss, was found growing throughout the pine stand areas; this species is usually indicative of acidic or poor soil conditions. The Natural Heritage Database review did not record any rare, threatened or endangered plant & animal species within the tract.

Recreation

The Tecumseh Hiking Trail enters and exits a portion of the southeastern area of this tract providing additional access for hikers. Other recreational activities include hunting and wildlife viewing through an access through Y1201.

Cultural

All cultural sites will be protected and buffered from harvest operations based upon the archaeologist's recommendations.

Tract Subdivision Description and Silvicultural Prescription

Tract Summary Data

Total Trees/Ac.= 444 Overall % Stocking = 115% (Over-stocked)

Sawtimber & Quality Trees/Ac.= 62 BA/A= 134.2 sq.ft./Ac.

Present Volume = 9,452 Bd. Ft./Ac.

Harvest Volume = 4,203 Bd. Ft./Ac.

Growing Stock Volume = 5,249 Bd. Ft./Ac.

Volume Estimates: Yellowwood SF Comp. 12 Tract 03

Data from January 2011 Inventory

Species	Harvest	Growing Stock	Total Volume
Yellow Poplar	129,000	132,020	261,020
Black Oak	84,550	90,020	174,570
White Oak	31,040	97,780	128,820
Red Oak	39,740	66,060	105,800
Eastern White Pine	27,620	49,650	77,270
White Ash	39,790	0	39,790
Pignut Hickory	0	25,150	25,150
Virginia Pine	21,420	2,890	24,310
Red Maple	16,070	4,260	20,330
Sugar Maple	4,660	6,880	11,540
Shagbark Hickory	0	9,500	9,500
American Beech	0	6,680	6,680
Bitternut Hickory	0	6,440	6,440
Shortleaf Pine	4,490	0	4,490
Red Pine	4,220	0	4,220
Sassafras	850	1,700	2,550
Scarlet Oak	0	2,290	2,290
American Sycamore	0	1,740	1,740
Blackgum	0	850	850
Tract Totals (Bd. Ft.)	**403,450**	**503,910**	**907,360**
Per Acre Totals (Bd. Ft./Ac.)	**4,203**	**5,249**	**9,452**

This inventory was started in July 2010 by Forester Spalding and completed by Forest Intermittent K. DeCosta on January 7, 2011. 33 points were conducted over 96 acres (1 point for every 2.9 acres). Inventory results are given above. This tract is mainly comprised of mixed hardwoods and oak-hickory stands with pine stands that were planted in old fields along the ridgetop areas. Some of the Virginia, Red, and Shortleaf Pine stands have low vigor and are declining. Other areas closely surrounding these pine stands have regenerated poorly and consist of low valued & poor quality timber – these areas would warrant regeneration consideration with portions of unhealthy pine. Other areas of pine, mainly Eastern White Pine, are healthy and vigorous; these areas and the remainder of the tract should be thinned from above and below by individual tree selection to improve spacing for more vigorous croptrees. For wildlife purposes, a healthy pine component should be retained within the tract to contribute to wildlife habitat

diversity. Overall, this tract is overstocked and would benefit from a thinning or improvement cutting. Mature stems as well as suppressed or deformed trees should be selected for harvest. White Ash should be removed where feasible in a sanitation cutting to reduce habitat for Emerald Ash Borer. Other areas of poor quality, poor species composition, windthrow/insect damage in the hardwood stand could also warrant group selection openings. Harvesting along the Tecumseh Hiking Trail should be selected due to aesthetic quality and the portion of the Trail transecting the harvest area should be rerouted during timber harvest operation for safety purposes. In some areas, multiflora rose and Japanese stiltgrass was noted. These invasives should be treated prior to and following timber harvest operations in areas of anticipated disturbance. Grapevines were observed throughout the tract and should be treated during TSI in harvested areas to reduce competition with valuable croptrees. Based on the timber inventory a modest timber harvest over 200,000 BF is possible. A timber harvest in this tract could also be joined with Y1201 to reduce harvest access entries if volumes in Y1201 are practical.

Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
DHPA Access project	2011-12
Invasives Treatment	2011-12
Timber Sale Roadwork Improvement	2011-12
Timber Marking	2011-12
Timber Sale	2011-12
TSI and Invasives ReTreatment (if needed)	2011-13
ReInventory and Management Guide	2031

Attachments

Included in Tract File:

- Topo Map of Tract Features
- Tract Soils Map
- INHD Review Map
- Stocking Guide Chart/Preliminary Prescription
- 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.