

Indiana Department of Natural Resources - Division of Forestry

“DRAFT” RESOURCE MANAGEMENT GUIDE

Yellowwood State Forest

Compartment **4**

Tract **2**

Total Tract acreage: 52 acres Commercial Acres: 52

Date: 6/15/10

Forester: L. Burgess

Location

Located in Section 35 T9N, R2E of Brown County, just west of Brown County State Park about ¼ mile south of the west gate. This land was deeded to the State from the federal government in 1956. It first came under State management in 1940 when it was under lease to the State. No State timber harvests have been conducted in this area according to our records. Access is an issue for management activities. The current best access route would be utilizing Tract 3 to the east.

General Description

The cover types within this tract contains mixed hardwood primarily oak/hickory. The 2010 inventory data noted the frequency of tree species within each category of the tract’s forest canopy (listed in descending order of occurrence):

Overstory	Understory	Regeneration
White oak	Chestnut oak	American beech
Scarlet oak	White oak	Sugar maple
Chestnut oak	American beech	Blackgum
Northern red oak	Sugar maple	Dogwood
Black oak	Black cherry	Ironwood
Sugar maple	Black oak	Bluebeech
Pignut hickory	Pignut hickory	Red maple
White ash	Northern red oak	Sassafrass
American sycamore	Red maple	Pignut hickory
	Scarlet oak	American elm
		Black cherry
		White oak
		Shagbark hickory

History

The state acquired this acreage from the federal government in November 1956.

Resource management history:

1975 Quickie cruise, Forester Akard. Tallied 23,088 b.f. harvest 11,128 b.f. leave

1988 Tract acreage deducted from commercial acreage due to lack of access

1998 Forester Kaina: marked corners with carsonite and painted boundaries

2009 Inventory by Forester Burgess completed 12/7/09. Followed by preliminary prescription drafted 12/9/09.

Topography, Geology and Hydrology

The tract is comprised of <5% ridgetop, <5% bottomland and the remaining acreage is slopes of south, east and west ranging 5- 40%. The soil types noted in next section are unglaciated soils and have formed from the bedrock material of sandstone, shale and

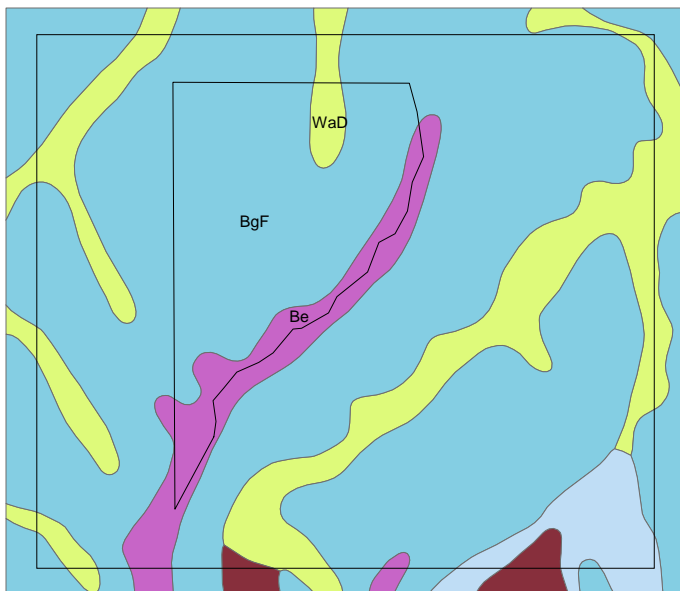
siltstone. This tract is located within the North Fork Salt Creek-Lower Schooner Creek watershed.

Soils

Berks-Trevlac-Wellston complex (**BgF**) 20 – 70 percent slope. Moderately steep to very steep, well drained soils on hillsides in the uplands. Severe limitations noted for logging due to slope. Comprises 85% of tract acreage.

Beanblossom channery silt loam (**Be**) nearly level and gently sloping, deep, moderately well drained soil is on flood plains, alluvial fans and colluvial benches. Slight to moderate limitations. Comprises 10% of tract acreage.

Welston Berks Trevlac complex (**WaD**) 6 – 70 percent slope. nearly level and gently moderately sloping, to moderately steep, well drained soils are on side slopes and narrow ridgetops. Slight to moderate limitations. Comprises 5% of tract acreage.



Access

Access to tract is only available through Brown County State Park. Resource access would be from the north end of adjacent Tract 3 which is readily accessed from a fire trail that crosses Brown County State Park property.

Boundary

Tract borders State Forest acreage to the east and south with drainage and intermittent stream defining the boundary with Tract 3. Private property borders to west and north with just a small portion of northeast area that borders Brown County State Park.

Boundary lines are up to date, last painted winter 2009.

Wildlife

Wildlife resources in this tract are abundant. Common species which are present include: Squirrels, white-tailed deer, turkey, various small furbearing animals, and a variety of songbirds. An eastern screech owl was observed the first afternoon during the winter 2009 inventory. An official ecological review was completed on the tract. This review focuses on wildlife habitat, looking at what is present in the tract and what can be created

through management activities. The inventory for this tract also included recording structural habitat features at each data point; these records include snag (dead, standing tree) and cavity tree counts. The results of this collected data for snag counts is included in the following tables.

Legacy trees*	Maintenance level	Inventory	Available above Maintenance
11" + DBH	468	948	480
20" + DBH	156	169	13

*Species include American elm, Bitternut hickory, Cottonwood, Green ash, Red oak, Post oak, Red elm, Shagbark hickory, Shellbark hickory, Silver maple, Sugar maple, White ash and White oak

Snags (all species)	Maintenance level	Optimal level	Inventory	Available above Maintenance	Available above Optimal
5" + DBH	208	364	329	121	-35
9" + DBH	156	312	177	21	-135
19" + DBH	26	52	33	7	-19

Cavity trees (all species)	Maintenance level	Optimal level	Inventory	Available above Maintenance	Available above Optimal
7" + DBH	208	312	72	-136	-240
11" + DBH	156	208	72	-84	-136
19" + DBH	26	52	0	-26	-52

Communities

A Heritage Database review was submitted for this tract. No RTE or species of special concern were noted within tract on the review. Timber rattlesnake, Yellowwood tree, Dry-mesic Upland Forest and Dry Upland Forest were noted within the Heritage database review in nearby acreage. Although not rare I did note Leatherwood (*Dirca palustris*) in the central south-east portion of tract. This shrub is not common in Brown County as it does well on fertile, moist soil.



Invasives/Exotics

No invasives were noted during Winter 2009 inventory.

Recreation

Primary recreational use is wildlife viewing with access across Brown County State park.

Cultural

No cultural sites discovered during Winter 2009 inventory.

2010 Inventory Results

Stand 1. Mixed hardwoods (52 acres):

Present tract volume estimates: Basal Area
 Harvest volume 2,394 bd.ft./acre 31
 Leave volume 2,918 bd. ft. /acre. 64
 Total tract 5,313 bd/ft./acre 95

Harvest/Leave Report Summary

MBF=1000 board feet

SPECIES	HARVEST MBF	LEAVE MBF	TOTAL MBF
White Oak	0.21	.94	1.15
Black Oak	0.77	0.337	1.11
Scarlet Oak	0.44	0.41	0.85
Northern Red Oak	0.22	0.61	0.83
Chestnut Oak	0.48	0.33	0.81
Sugar Maple	0.17	0.07	0.24
Sugar Maple	0.17	0.07	0.24
Black Cherry	0.0	0.16	0.16
American Sycamore	0.0	0.14	0.14

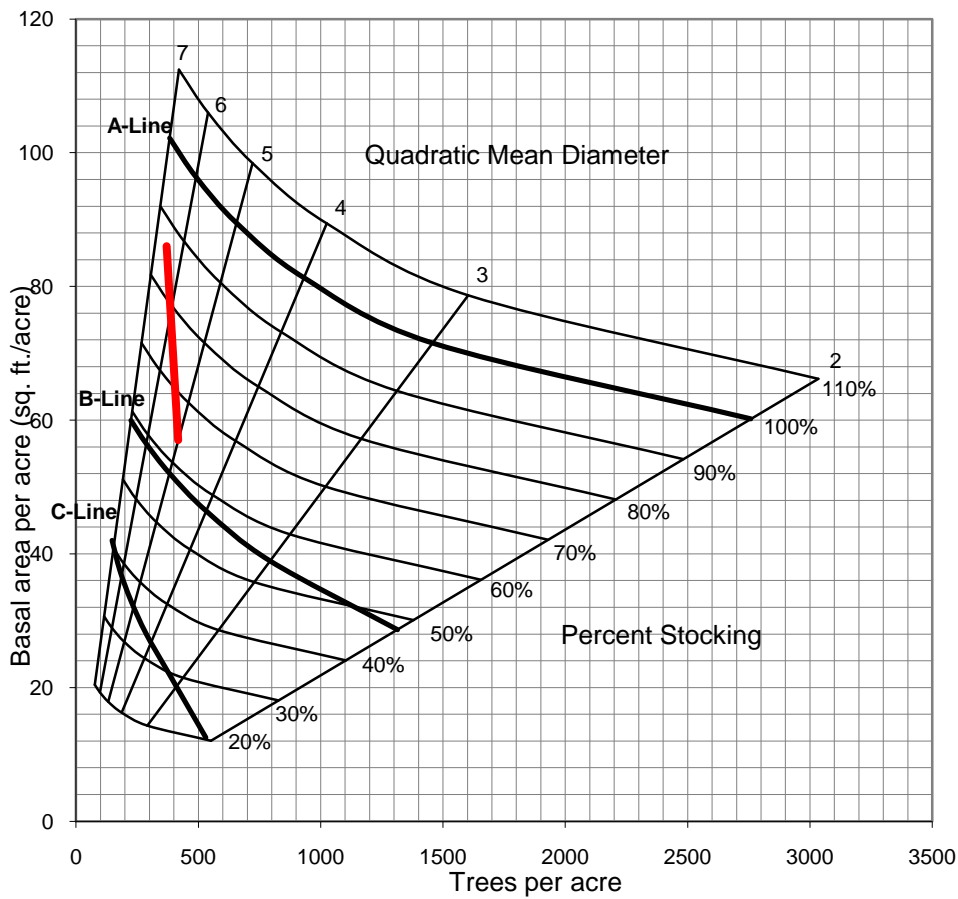
White Ash	0.07	0.03	0.10
Pignut Hickory	0.03	0.05	0.08
Totals			
PER ACRE	2.39	2.92	5.31
TRACT TOTAL	124,448	151,736	276,276

Discrepancies due to rounding.

Hardwood stand Acreage	52 acres	Present Volume per Acre	5313 bd. ft.
Basal Area per Acre	86 sq. ft.	Harvest Volume per Acre	2394 bd. ft.
Number Trees per Acre	370	Residual Volume per Acre	2918 bd. ft.
Stocking Percentage	87%	Average Tree Size	6.5" dbh

Basal area per acre includes only live trees

Number trees per acre includes only live trees



Tract Prescription and Proposed Activities

This tract is comprised primarily of mixed oak/hickory stands with other stands holding mixed hardwoods or chestnut oak. The inventory results indicate this tract could sustain and benefit from a harvest this cycle. My recommendation is for an intermediate, improvement harvest utilizing single-tree selection over most of the acreage with 1 or 2 regeneration openings of 1 -5 acres in size. These openings will be included in post-harvest TSI. This tract holds some nice WHO that would benefit from release. Also, some areas indicating past fire would benefit from regeneration. Dominant harvest species by volume would be BLO, CHO and SCO. Top leave species would be WHO, REO and SCO.

This tract was inventoried by 1 point per 2 acres prism plots.

The marking objective will be the removal of mature/over-mature stems, as well as those of low quality in an effort to improve the overall health, vigor and composition of the stand. The reduction of stocking levels should provide space for pre-selected crop trees to move forward into the next cutting cycle. Regeneration of a minimum of 10% of tract acres will be addressed in the tract marking objective where conditions warrant. Species composition will likely become more diverse and less susceptible to insect and disease infestation which is a common problem with homogeneous stands. These management techniques will improve the overall health, vigor and quality of the residual stand, while utilizing stems that would drop out due to natural mortality, overstocking or maturity. TSI is prescribed to follow to reduce stocking in some areas of high basal area with pole size stems and release crop trees not successfully released during the harvest.

Wildlife will benefit from this harvest as well. Additional sunlight penetrating the forest floor will simulate the development of new ground flora, subsequently increasing nesting and foraging habitat. This is essential for both game and non-game species as well as continued forest development. Post-harvest TSI will increase snags per acre while diversifying diameter distributions of both snags and growing stock trees.

Habitat/cover types currently present within the tract will remain after the proposed management activities throughout the majority of the tract as the silvicultural approach is predominately singletree selection. The creation of regeneration openings will convert current closed canopy to early successional habitat.

Proposed Activities Listing

Timber marking, harvest and TSI planned in 2010/2011.

TSI will include treatment of any invasive exotics discovered.

Stand Re-inventory work 2029

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

http://www.in.gov/surveytool/public/survey.php?name=dnr_forestry

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.