"DRAFT" RESOURCE MANAGEMENT GUIDE

Yellowwood State Forest Compartment **9** Tract **2**
Total Tract acreage: 71 acres Commercial Acres: 71 Date: 1/14/10
Forester: L. Burgess

Location

Compartment 9 Tract 2 is located in Brown County Section 1, R1E. The tract is located off the south end of Scarce O'Fat Road, beginning 0.3 miles north of the gate.

General Description

The cover type within this tract is primarily mixed oak. Other types include (in descending order) mixed hardwoods, WHO, pine, and YEP within regeneration openings from 1985. The 2009 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	Virginia pine	Sugar maple
Black oak	Scots pine	American beech
Sugar maple	Red maple	Yellow poplar
Northern red oak	Sugar maple	Red maple
Pignut hickory	American beech	Sassafras
Chestnut oak	White oak	Chestnut oak
Scarlet oak	Yellow poplar	Dogwood
Red maple	American elm	Pignut hickory
American beech	Blackgum	Virginia pine
Yellow poplar	Pignut hickory	American elm
Virginia pine	Chestnut oak	American sycamore
White ash		White oak
Shagbark hickory		Blackgum
Black cherry		Shagbark hickory
American sycamore		

History

This acreage was acquired by the state in November 1951.
A low ground fire spread over much of the tract in fall 2006.

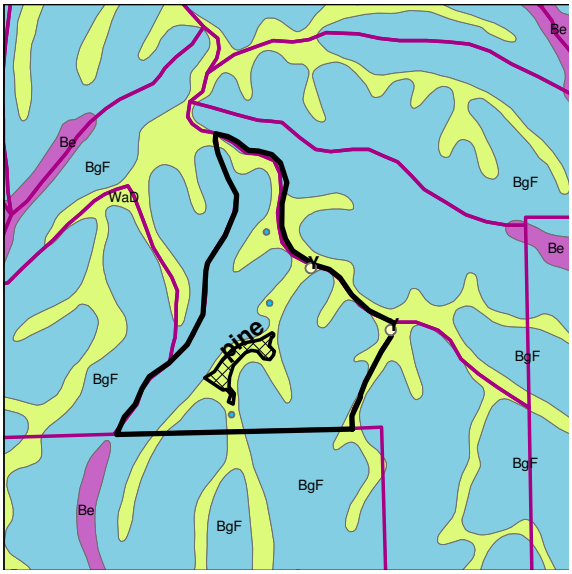
Resource management history:

1972 Inventory
1981 Inventory
1984 Timber sale (119,096 bf 1701 bf/ac, 6.5 trees/acre)
1985 Harvest completed. Firewood cutting
1986 Tree planting in harvest openings: 100 BLO and 200 WHO (Purdue Research planting). TSI marked
1987 TSI completed
2009 Inventory

Landscape Context

The private property to the south had a timber harvest circa 1990. This includes a small regeneration opening that borders this tract's acreage in the south-central portion.

Topography, Geology and Hydrology
The tract is comprised of about 15% ridgetop and the remaining acreage is primarily east and west facing slopes 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.
The tract drains into mapped intermittent streams within the North Fork Salt Creek-Lower Schooner Creek watershed into Lake Monroe watershed.



Soils
Berks-Trevlac-Wellston complex (**BgF**) 20 – 70 percent slope. Severe limitations noted for logging due to slope. Comprises 75% of tract acreage.
Wellston-Berks-Trevlac complex (**WaD**) 6 – 20 percent slope. Slight to moderate limitations. Comprises 25% of tract acreage.

Access
Good access off south end of Scarce O'Fat Road.

Boundary
Tract is surrounded by state forest acreage with exception of southern line bordering private property. The north/northeastern portion of tract is bounded by Scarce O'Fat Rd.; the western edge becomes defined by mapped intermittent stream for the southern two thirds; and the eastern edge of tract is a ridgeline.

Legacy trees*	**Maintenance level**	**Inventory**	**Available above Maintenance**
11″ + DBH	639	1409	770
20″ + DBH	213	365	152

*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	284	497	352	68	-145
9″ + DBH	213	426	104	-109	-322
19″ + DBH	35.5	71	37	1	-34

Cavity trees (all species)	Maintenance level	Optimal level	Inventory	Available above Maintenance	Available above Optimal
7″ + DBH	284	426	141	-143	-285
11″ + DBH	213	284	141	-72	-143
19″ + DBH	35.5	71	19	-16	-52

Wildlife

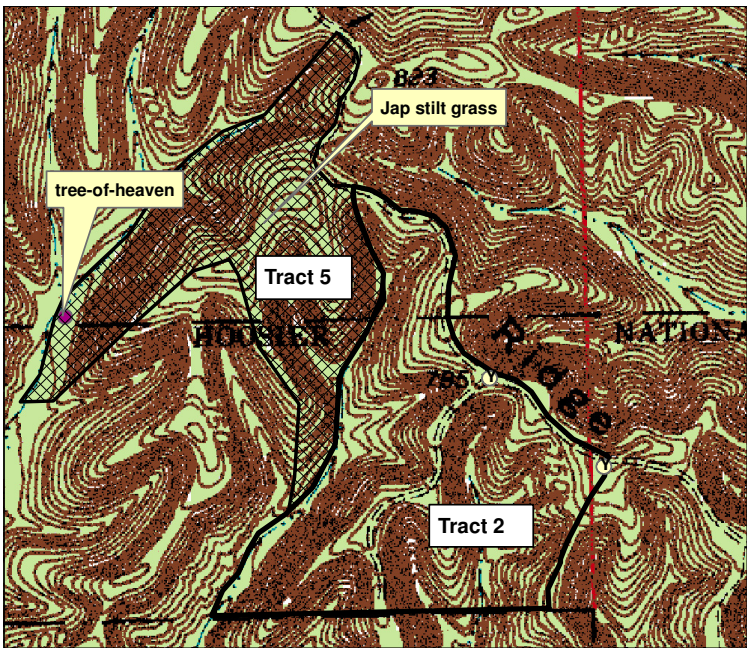
Wildlife resources in this tract are abundant. Common species which are present include: Squirrels, white tailed deer, turkey, various small furbearing animals, and a variety of songbirds. An official wildlife ecological review was completed on the tract. This review focuses on wildlife habitat as well as exotic species present in the tract and what can be created and controlled through management activities. The inventory for this tract 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 are included on the bat guidelines form for this tract. There are three wildlife ponds scattered within this tract.

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 and Great St. John's-wort were noted within the Heritage database review in nearby acreage.

Invasives/Exotics

No invasives were noted during inventory within the tract; however Tract 5 to the northwest has Japanese stiltgrass and tree-of-heaven. These highly aggressive invasives could easily encroach into Tract 2. Seeding of the skid trails and periodic monitoring of the regeneration openings are the planned management efforts to control the spread of these species. Any noted occurrence of tree-of-heaven will be chemically treated with Garlon4 and oil surfactant either as basal bark or foliar treatment. The stiltgrass treatment will be determined by the time of year.



Recreation
This tract is used for hunting, hiking and wildlife viewing with public parking lot at the south gate.

Cultural
No sites noted within the tract during inventory or during the DHPA recon of the tract.

Inventory Results

Stand 1.Hardwoods 64 acres

Present tract volume estimates:		Basal Area (includes sub-merch. stems)
Harvest Volume	3920 bd.ft./acre	41
Leave Volume	3290 bd.ft./acre	50
Total tract volume	7210 bd.ft./acre.	88

Harvest/Leave Report Summary
MBF=1000 board feet

SPECIES	HARVEST MBF	LEAVE MBF	TOTAL MBF
American Beech	0.06	0.0	0.06
American Elm	0.06	0.0	0.06
American Sycamore	0.0	0.05	0.05
Black Cherry	0.0	0.05	0.05
Black Oak	1.2	0.22	1.42
Chestnut Oak	0.64	0.43	1.07
Northern Red Oak	0.28	0.36	0.64
Pignut Hickory	0.22	0.13	0.35
Red Maple	0.09	0.0	0.09
Scarlet Oak	0.33	0.06	0.40
Shagbark Hickory	0.0	0.07	0.07
Sugar Maple	0.16	0.06	0.22
White Ash	0.09	0.0	0.09
White Oak	0.48	1.88	2.36
Yellow Poplar	0.29	0.0	0.29
Totals			
PER ACRE	3.92	3.29	7.21
TRACT TOTAL	250.88	249.60	461.44

Discrepancies due to rounding.

Hardwood stand Acreage	64 acres		Present Volume per Acre	7,210 bd. ft.
Basal Area per Acre	88 sq. ft.		Harvest Volume per Acre	3,920 bd. ft.
Number Trees per Acre	74		Residual Volume per Acre	3,290 bd. ft.
Stocking Percentage	90%		Average Tree Size	8″ dbh

Stand 2. Pine acreage(Scotch and Virginia pine) 3 acres (No harvest trees tallied)

Present tract volume estimates:	Basal Area
Total Volume 2008 bd.ft./acre	146

Stand 3. Regeneration opening acreage 4 acres (No harvest trees tallied)

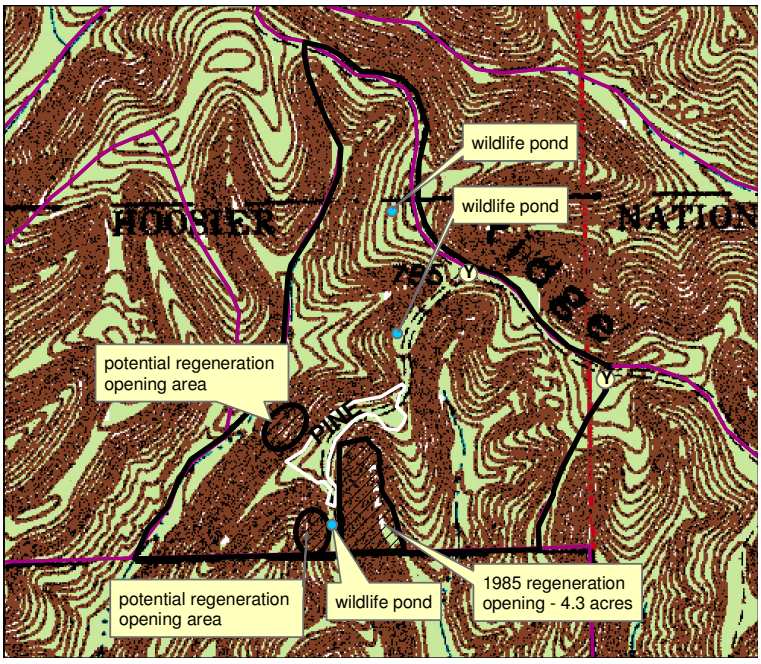
No volume estimates:	Basal Area
	86

Tract Prescription and Proposed Activities

This tract is comprised primarily of mix oak/hickory stands with a center ridge planted in Scotch and Virginia pine (3 acres). The inventory results indicate this tract would sustain and benefit from a harvest this cycle. Recommendation is for an intermediate, improvement harvest utilizing single-tree selection over most acreage with 1 or 2 regeneration openings of 1 -3 acres in size. These openings will be included in post-harvest TSI along with the opening created in the 1985 harvest. The 4.3 acre regeneration opening created in the 1985 harvest has regenerated with YEP, AME and grapevine. I did not see any of the 100 BLO or 200 WHO planted in 1986 into this opening. Acreage directly west of this opening will be considered for regeneration this harvest cycle. The private property adjacent to the south was harvested approximately 1990 and there was a small regeneration opening created up to the boundary line. This area has regenerated primarily in YEP, SAS and sumac and I would therefore anticipate similar species composition to come into this stand when regenerated. The second area likely considered for regenerating is presently holding fire damaged CHO as evidenced by the surrounding stumps and very thick bark.

Much of this tract was burned by a low ground fire Oct. 31 and Nov. 6, 2006 after escaping from private property. This fire was hot enough to kill several beech saplings and some maple saplings although some of these stems are now resprouting. An intermediate harvest utilizing single tree selection and some group selection would help promote regeneration of oaks and hickories through any advance regeneration of oak and hickories were established in 2006

This tract was inventoried by 1 point per 3.3 acres prism plots. 64 acres were tallied as hardwoods, 4 acres as regeneration from 1985 harvest and 3 acre in pine (Scotch and Virginia).



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. Species composition will likely become more diverse and less susceptible to insect and disease infestation a common problem with homogeneous stands. These management techniques will improve the overall health, vigor and quality of the residual stand, while utilizing stems dropping out due to natural mortality, overstocking or maturity. TSI should 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 with the possible addition of one or two regeneration openings that will be within 1 – 3 acres in size. The location of these openings will not be near any maintained forest edge

Proposed Activities Listing

Timber marking, harvest and TSI planned in 2009/2010.
TSI will include treatment of any invasive exotics discovered in 2010
Stand Re-inventory work 2029

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