Indiana Department of Natural Resources – Division of Forestry

Draft

RESOURCE MANAGEMENT GUIDE

State Forest: Jackson-Washington | Compartment: 12 Tract: 1
Forester: Sandy Derringer | Date: 12/10/2014
Management Cycle End Year: 2043 | Management Cycle Length: 20 years

Location

This 69 acre tract is located in Section 19, T3N, R5E of Washington County. The northern boundary for this tract runs along East Nicholson Hollow road. The tract is located approximately 13 miles south of Brownstown, IN and approximately 6.5 miles east of SR135.

General Description

This tract contains 69 acres of gently rolling to steep terrain. The northern boundary runs along East Nicholson Hollow road and is a main ridge. The southern boundary is an intermittent stream that flows to Potter Lake. The eastern boundary is the property line. The majority of this tract is oak-hickory cover type with yellow poplar, American beech and sugar maple present in the larger drains. Chestnut oak and greenbrier dominated the small ridge that come in from the east.

History

This tract was acquired from Mack M. Potter and his wife Lena Ruth Potter on August 7, 1967. The entire area contained 234.84 acres. No management has been performed on this tract since State ownership. A management plan dated 1972 indicated a harvest volume of approximately 1474 bd.ft. Per acre and should be considered in 20-25 years.

Landscape Context

This tract is surrounded by both private and state owned forest on all sides. The east side is private property. Potter Lake, a small state owned fishing lake, is located to the south west of the tract. There are a few scattered residential homes in the area and agricultural fields to the south. A mapped intermittent stream running southwest makes up the basic southern boundary of the tract. The intermittent stream runs into Potter Lake. An old roadbed that appears to have been unused for several years runs down the ridge coming from the northeast of the tract.

Topography, Geology and Hydrology

The area is made up of moderate to very steep slopes. One area near the center of the tract has a horseshoe shaped rock face. The main ridge for the area is the northern boundary of the tract with one major finger ridge on the east side and three fingers making up the rest of the tract. A mapped intermittent stream runs to the southwest. The underlying bedrock is composed of sandstone.

Soils

Berks-Weikert complex (BhF) This soil series is steep to very steep, well drained soils are on side slopes in the upland areas. The Berks soil is moderately deep, and the Weikert soil is shallow. The two soils occur as areas so intricately mixed that mapping them separately is not practical. This soil complex is suited for trees. The erosion hazard, the equipment limitations, seedling mortality, wind throw hazard, and plant competition are concerns in managing the woods. Locating logging roads, skid trails, and landings on gentle grades and removing water with water bars, culverts, and drop structures help to control erosion. The site indexes for hardwood species range from 50 (black oak) to 70 (white oak). Preferred trees to manage for are black oak, chestnut oak, scarlet oak, red oak, and white oak.

Burnside silt loam (Bu) This series consists of deep, well drained soils that formed in 30 to 61 centimeters (12 to 24 inches) of medium-textured alluvium and the underlying loamy-skeletal alluvium. These soils are on flood plains and alluvial fans. It is occasionally flooded for brief periods in the spring. Native vegetation is deciduous hardwoods. This soil is well suited for trees. Plant competition is moderate. Seedlings survive and grow well if competing vegetation is controlled by cutting, girdling, or spraying. The site index for hardwood species is 95 for yellow-poplar. Preferred trees to manage for are bitternut hickory, white oak, red oak, black walnut, and yellow-poplar.

Crider silt loam (CoB,) This soil series consists of deep, well drained, moderately permeable soils on uplands. They formed in a loess mantle and the underlying residuum from limestone. Slopes range from 0 to 30 percent. Nearly all of the soil is used for growing crops and pasture. The original vegetation was mixed hardwood forest, chiefly of oaks, maple, hickory, elm, ash, and hackberry. These soils are well suited for trees. There is no major hazards affecting the harvest and planting of trees until you reach a slope in excess of approximately 12%. Once this percent slope is reached special considerations need to be addressed. The erosion hazard, the equipment limitations, and plant competition are the main concerns in the management of wooded areas. Locating logging roads, skid trails, and landings on gentle grades and removing water with water bars, culverts, and drop structures help to control erosion. The site indexes for hardwood species range from 90 (white oak) to 98 (tulip poplar). Preferred trees to manage for are black cherry, black oak, black walnut, bur oak, chinkapin oak, Kentucky coffeetree, red oak, pecan, shagbark hickory, yellow-poplar, and white oak.

Gilpin silt loam (GID2) This strongly sloping, moderately deep, and well drained soil is on side slopes in the uplands. This soil is fairly well suited to trees. The erosion hazard, the equipment limitations, and plant competition are the main concerns in the management of wooded areas. Locating logging roads, skid trails, and landings on gentle grades and removing water with water bars, culverts, and drop structures help to control erosion. During wet periods, roads tend to be slippery and ruts form easily. Seedlings survive and grow well if competing vegetation is controlled by cutting, girdling, or spraying. The site indexes for hardwood species range from 80 (red oak) to 95 (yellow-

poplar). Preferred trees to manage for are black oak, chestnut oak, scarlet oak, red oak, and white oak.

Wellston silt loam (WeC2, WeD) This series consists of deep or very deep, well-drained soils formed in silty material from loess and from fine-grained sandstone or siltstone and with bedrock at depths of 40 to 72 inches. Wellston soils are on nearly level to steep uplands in areas of acid sandstone, siltstone, or shale bedrock; but are most common on ridgetops. Slope ranges from 0 to 50 percent but are dominantly 4 to 18 percent. Native vegetation consisted of oak, hickory, dogwood, tulip poplar, and cherry. This soil is fairly well suited to trees. The erosion hazard, the equipment limitations, and plant competition are the main concerns in the management of wooded areas. Locating logging roads, skid trails, and landings on gentle grades and removing water with water bars, culverts, and drop structures help to control erosion. During wet periods, roads tend to be slippery and ruts form easily. Seedlings survive and grow well if competing vegetation is controlled. The site indexes for hardwood species is 81 (red oak) and 90 (yellow-poplar). Preferred trees to manage for are black oak, chestnut oak, persimmon, red oak, scarlet oak, shagbark hickory, yellow-poplar, and white oak.

Access

From Brownstown, IN travel Highway 135 approximately 13 miles south to East Rooster Hill Road. Follow that road until North Delaney Park Road, proceed south on Delaney Park Road until you reach East Nicholson Hollow Road, turn east on Nicholson Hollow Road, after you take a sharp turn to the north east by Potter Lake parking lot, the tract starts a little over a quarter mile up the hill on the right.

Boundary

Nicholson Hollow Road serves as the northwest tract boundary. The west boundary is down a drain to the intermittent stream. The intermittent stream that feeds Potter Lake serves as the south boundary. The tract boundary then runs northeast along the intermittent stream bed until the line reaches the property line. The east line then runs north along the boundary line until it reaches the road.

Wildlife

Wildlife Habitat Feature Tract Summary

Snags (all species)	Maintenance level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
5"+ DBH	276	483	456	180	-27
9" + DBH	207	414	222	15	-192
19" + DBH	34.5	69	61	26	-8

The wildlife habitat feature summary indicates all the size classes exceed the maintenance level. Additional snags will likely be created in each DBH class through post harvest timber stand improvement.

A Natural Heritage Database review was completed for this tract. If Rare, Threatened or Endangered species (RTE's) 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.

Communities

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Multiflora rose was found in this tract near the intermittent stream on the southern end of the tract. There was a small pocket of aspen and sassafras near the north side of the tract on the flat ridgetop. A grassy patch was also found about the center of the tract on a hillside. Not sure of the significance since there is no evidence of an old home site or mention of a past harvest.

Forest Condition

TM 901
RESOURCE MANAGEMENT GUIDE

INVENTORY SUMMARY

		Compartment:	12
State Forest:	Jackson-Washington	Tract:	1
Forester:		Inventory Date:	12/12/14

ACREAGE IN:	69
Forest	69
Non-Forest	
Water	
Permanent Openings	
Other Uses	
TOTAL AREA	69

(Estimated Tract Volumes for Commercial Forest Area-Bd.Ft., Doyle Rule)

SPECIES	HARVEST STOCK	GROWING STOCK	TOTAL VOLUME
Chestnut oak	78,700	152,810	231,510
White oak	6,920	72,990	79,910
Black oak	2,980	29,000	31,980
Pignut hickory	1,320	30,450	31,770
Yellow poplar	3,520	25,740	29,260
Sugar maple	6,920	12,890	19,810
American beech	18,960		18,960
Northern red oak	5,350	5,680	11,030
Shagbark hickory		9,210	9,210
White ash	8,950	0	8,950
Black cherry		3,890	3,890
Bitternut hickory		2,450	2,450
Eastern red cedar		1,690	1,690
			0
			0
			0
			0
			0
			0
			0
			0
			0
			0
			0
TRACT TOTALS	133,620	346,800	480,420
PER ACRE TOTALS	1,937	5,030	6,960

The 2014 inventory showed that the area contained an estimated total volume of 6,960bd.ft. per acre (a 472% increase since the 1972 inventory), 1,937bd.ft.per acre of harvest volume and a growing stock of 5,030bd.ft. per acre. Total volume for the tract is 480,420bd. ft., harvest volume of 133,620bd.ft, and leave volume of 346,800bd.ft. The top three species by volume present in this tract are chestnut oak, white oak, and black oak. The top three in harvest volume are chestnut oak, American beech, and white ash. The stocking chart shows current stocking at 62% with a reduction to 57% stocking post harvest. Current basal area is 94.57sq.ft/acre with a post harvest basal area estimated at 69.57sq.ft./acre. The trees per acre will decrease from 81 to 68 per acre after the harvest. The dominate understory in the tract is chestnut oak, pignut hickory, sugar maple and American beech. The main regeneration is American beech, sugar maple, and white ash. There are pockets of poor quality oaks and areas where the chestnut oak needs thinned out.

Recreation

Hunting of small game, deer, turkey, mushrooms, etc. are recreational activities in this tract. Potter Lake is located in the adjacent tract which would provide recreation opportunities as well.

Cultural

Cultural resources may be present but their location(s) are protected. Adverse impacts to significant cultural resources noted will be avoided during management or construction activities.

Tract Subdivision Description and Prescription

Oak-Hickory (69)-The overstory species found in this tract include: black oak, chestnut oak, white oak and pignut hickory. The chestnut oak is more dominate on the ridge that runs from the northeast corner of the tract to the southwest. Understory species include the above species along with sugar maple, American beech and red oak. Regeneration is mostly American beech, sugar maple, and white ash with a few scattered oaks.
The management prescription for this subdivision would be to implement an improvement harvest utilizing single tree and group selection openings. The single tree selection will focus on removal of poor quality, competing and over mature trees to release the healthy more vigorous trees present. This will provide more sunlight and nutrients to enhance the development of the oak-hickory forest that remains. Many of the ash in the tract are prescribed for removal due to the Emerald Ash Borer. Species likely to occur in the regeneration openings in years following the removal of the overstory and completion of the opening via post harvest timber stand improvement (TSI) are the following: sugar maple, American beech, white ash, sassafras and yellow poplar. Due to their high presence in the understory, pignut hickory and chestnut oak may also be likely to occur in the regeneration opening.

Tract Prescription and Proposed Activities

The management prescription is to implement a harvest utilizing single and group selection harvest. The tract should be harvested to encourage growth of better quality oaks and hickories with removal of low quality, suppressed, and declining American beech, white ash, and chestnut oak present in the tract. Best management practices will be implemented during and after the harvest to minimize impact on soil and water resources

Following the harvest TSI will be administered to deaden culls, release future crop trees and reduce the amount of American beech and sugar maple competing with the oak regeneration. Another inventory will be performed in approximately 20 years following the harvest.

Proposed Activities Listing

Proposed Management Activities	Proposed Date
Mark Harvest and sell timber	2015 - 2020
Post Harvest TSI	2021 – 2023
Regeneration monitoring > 1 acre in size	2026 – 2031
Inventory and management guide	2043

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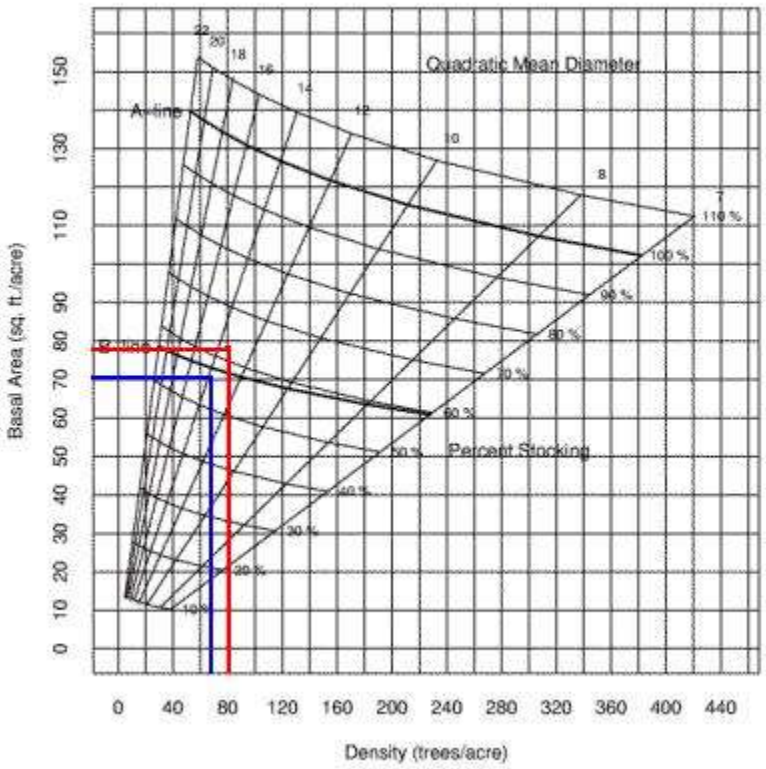
You must indicate the State Forest Name, Compartment Number and Tract Number in the "Subject or file reference" line to ensure that your comment receives appropriate consideration. Comments received within 30 days of posting will be considered.
Note: Some graphics may distort due to compression.

Attachments

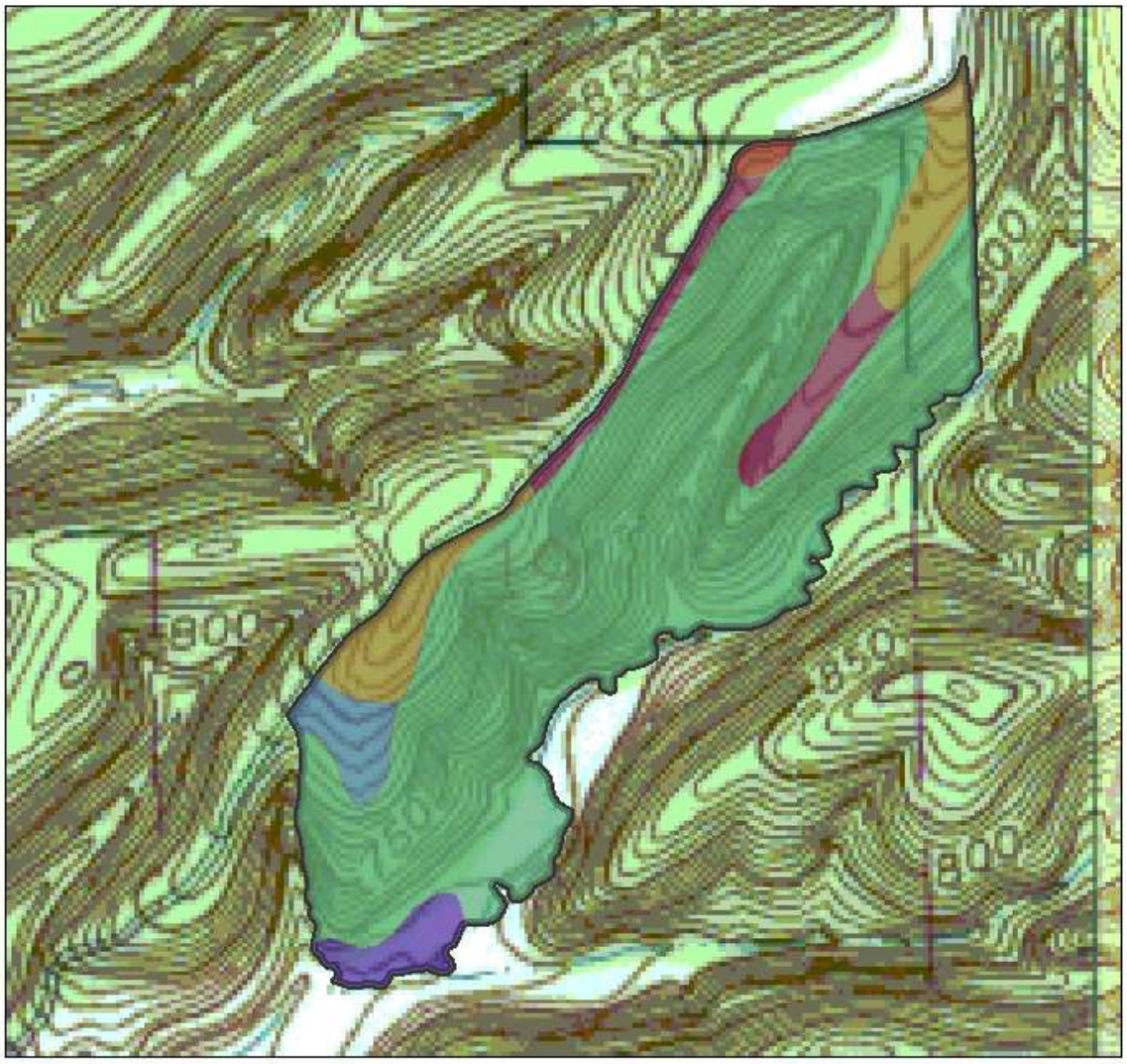
Stocking Guide
Compartment 12 Tract 01
69Acres



Pre-Harvest Inventory Data in Red
(Sub merchantable trees excluded)
Total BA/A = 78.5 sq.ft. per acre
Total #trees/acre = 81 trees per acre
Avg. tree diameter = 13.5inches
Percent stocking = 62%

Post-Harvest Inventory Data in Blue
(Sub merchantable trees excluded)
Total BA/A = 69.57 sq.ft. per acre
Total #trees/acre = 68 trees per acre
Avg. tree diameter = `13.8 inches
Percent stocking = 57%

Jackson-Washington State Forest
Compartment 12 Tract 01
Soils Map



Legend

- BhF
- Bu
- CoB
- GID2
- WeC2
- WeD
- Tract Boundary

0 0.03 0.06 0.12 0.18 0.24 Miles

N
W E
S

Jackson-Washington State Forest
Compartment 12 Tract 01
Tract Prescription Map

Legend

Tract Boundary

Oak-Hickory

0 0.075 0.15 0.3 Miles

N
W E
S