

RESOURCE MANAGEMENT GUIDE

State Forest: Yellowwood

Compartment: 14 Tract: 05

Forester: H. Hefner

Date: 1/12/2009

Management Cycle End Year: 2029

Management Cycle Length: 20 years

Location

Section 6 Township 10N, Range 2E in Brown County, Indiana. Tract is located on the west side of Bear Creek Road one quarter mile south of the Morgan County / Brown County line. This area is commonly referred to as compartment 14 tract 05 of Yellowwood State Forest. This tract is located about two miles south of Mahalasville, IN.

General Description

This tract contains 98 acres of which 88 are commercial forestland. The remainder of the property is utility right of way and riparian area. Both the utility right of way and Bear Creek are on the east end of the property. The general cover type is hardwood forest.

History

The United States Government deeded the tract to the State of Indiana in the 1950's. The tract management file shows a limited history of management on the site. Between the years 1981-1983 some timber marking, timber harvest and post harvest timber stand improvement were completed. The harvest area only covered 47 acres as well as acreage on tract 4. The lumber was sold to Pingleton Lumber Co. out of Greencastle, IN for \$20,751.95. Another timber sale in tract 6 was completed in 1983 that included 6 acres of tract 5. The 102,851 board feet harvested during this sale were also sold to Pingleton for \$15,862. Road construction and maintenance was completed in 1986-87 for access to tract 4.

Topography, Geology and Hydrology

This tract is located on the south side of a ridge. The ridge runs from the southwest to the northeast. The tract is made of mostly moderate to steep slopes. The south and east sides of the tracts are made up of drainages. The south drainage is a mapped intermittent and the east is Bear Creek, which includes a portion of a perennial stream. This tract is located in the Bear Creek Watershed which runs into the White River.

Soils

Berks-Trevlac-Wellston complex (BgF) 20-70% slope. 45% of the tract. Moderate to steep slopes. Some harvest limitation on steeper slopes. The site index for red oak is 70, black oak is 70 and Virginia pine is 70.

Hickory silt loam (HkF) 20-70% slope. 20% of the tract. Moderate to steep slopes. Minimal harvest limitations due slope. The site index for white oak is 85, yellow poplar is 95 and red oak is 85.

Beanblossom channery silt loam (Be) Nearly level. 15 % of the tract. Deep moderately well drained soils, flood plains. The site index for yellow poplar is 95.

Wellston-Gilpin silt loam (WeC2) 6-20% slope. 15% of the tract. Moderately sloping to moderately steep. Minimal harvest limitations. The site index for red oak is 71, yellow poplar is 90 and Virginia pine is 70.

Hickory silt loam (HkD2) 12-20% slope. 5% of the tract. Strongly sloping to moderately steep. Some harvest limitations on steeper slopes. The site index for white oak is 85, red oak is 85 and yellow poplar is 95.

Access

Access to this tract is directly off Bear Creek Road. Bear Creek must be crossed to get into the tract. There are pre-existing haul roads and major skid trails from the 1983 sales. A new crossing is proposed to cross Bear Creek and gain access on the site. Riprap or a movable bridge could be used. Log trucks will need to be careful to avoid the overhead utility line while entering the site. Haul roads and main skid trails renovation is planned before harvesting will occur.

Boundary

The eastern boundary of this tract is Bear Creek Road. The north tract boundary abuts tract 4 on the ridgetop as well as adjacent to 2 private holdings. The southern boundary of the tract is an intermittent creek. The west boundary of the tract is an ephemeral channel. Private boundaries will be remarked prior to harvest operations.

Wildlife

Wildlife resources in this tract are plentiful. This tract supports many woodland species including, but not limited to: White-Tailed Deer, Wild Turkey, Eastern Grey Squirrel, Fox Squirrel, chipmunks, and various songbirds.

Communities

There are two distinct communities on this tract. There is the upland, drier species found on the hillsides and there is the lowland, wet communities found in the creek bottoms. Tree species that characterize the upland communities are red oak, white oak, black oak, and hickory. Tree species that characterize the wetter sites are sycamore, elm, and red maple. Ferns, sedges, mosses and lichens were observed throughout the tract.

The Kirtland's Snake (*Clonophis kirtlandii*) was sighted on this tract in 1997. The snake is on the Indiana endangered species list. It is a reclusive reptile that lives in grassy areas and stays under objects or underground. The main food sources for the snake are earthworms and slugs.

Other Communities found near the area, by the Natural Heritage Database review, were timber rattlesnake (*Crotalus horridus*), Butternut (*Juglans cinera*), and Illinois blackberry (*Rubus centralis*). None of these species have been found on the tract.

Exotic Species

Multiflora rose was found along the road, on the north side of the tract, during the inventory.

Recreation

This tract has many possibilities for recreation uses. Some of the more common activities include: hunting, hiking, birding, traversing (with a compass and map), wildlife watching, meditation, mushroom hunting, tree identification, and photography.

Cultural

Cultural resources may be present on the tract but their location is protected. Adverse impacts to significant cultural resources will be avoided during any management or construction projects.

Tract Silvicultural Prescription

The predominant timber type within this tract is oak-hickory and yellow poplar. Dominant species composition within the tract is as follows: white oak 33%, chestnut oak 20%, black oak 9%, yellow-poplar 8%, hickory 5% (includes shagbark, pignut and bitternut hickory) sugar maple 8%, and red oak 6%. According to the most recent inventory data the estimated tract volume per acre is 8,739 bd ft/acre. The estimate for harvest is 3,130 bd ft/acre with a leave volume of 5,610 BF/acre. The average basal area for the tract is 112.8 sqft/acre. Average number of trees per acre is 108. According to the hardwood stocking chart, the tract is fully stocked at 87%. Understory regeneration within the tract is dominated by American beech and sugar maple.

This tract will be managed under uneven-aged management, meaning that singletree selection and group selection can occur throughout the tract. Based on the current condition an intermediate harvest is recommended over the majority of the tract to improve the quality of the stand. There are many areas on the tract with fire damage. At least one area was noted during inventory of containing excessive damage that warranted an opening. Openings could be created in some of these areas to remove fire-damaged trees and promote shade intolerant species. Opening(s) less than ten acres in size will provide regeneration of shade intolerant species. These opening(s) will be located within the tract as determined by the marking forester. Throughout the entire tract single tree selection will focus on removing damaged and mature trees, to improve the growth of younger and healthier trees. This tract lies adjacent to Bear Creek Road and therefore requires a visual enhancement area (VEA) along its eastern tract boundary. Single tree selection can occur within the VEA, but care will be taken to maintain aesthetics from Bear Creek Road.

Present standing snag trees as determined by the Indiana Bat guidelines are underrepresented and need to be left on the tract where possible. Following the Indiana Bat guidelines 316 snag trees need to be created in the 9" to 19" diameter and 50 snag trees over 19 inches need to be created. Timber stand improvement (TSI) will occur during pre harvest and post harvest operations to control grapevines and for the removal of understory vegetation in regeneration openings. Also, post harvest TSI will release crop trees by girdling or removing competing trees. Trees that are girdled during TSI could increase the snag tree count for the tract.

Tract Proposed Activities

Boundary marking will occur in the spring of 2009. Tract map with layout of yards, skid trails, and haul roads will be submitted for a Division of Historical Preservation and Archaeology (DHPA) review. Timber marking will occur in the spring/summer of 2009.

Roadwork will begin as soon as DHPA approval is granted. As timber is marked grapevines can be cut as part of pre-harvest TSI. Upon sale approval, the timber will be put up for sale in 2009 and will have a contract length of two years. Post harvest TSI will be performed after completion of harvest operations. Exotics such as multi-flora rose will be monitored and treated following harvesting if necessary. A new forest inventory will occur in the year 2029.

Harvesting timber will change the overstory species composition and density. Canopy gaps will stimulate residual canopies and understory plants as the results of increases to light. Modest ground cover exposure to mineral soil will simulate early successional species growth and development. Soil loss will be minimized as log yards and water bars will have seed and straw applied to prevent soil movement. The skid trails and haul roads will quickly re-vegetate after harvest operations cease. Little to no impact to water quality should occur as the use of Best Management Practices (BMP) will lessen runoff directly entering streams. Recreation use of the tract will be limited while harvest operations are occurring; this measure is taken to provide for the safety of recreation users and timber harvest operators. Wildlife populations of early to mid successional groups will moderately increase as a result of the harvest. Regeneration openings will promote species that thrive in early successional habitat, such as ruffed grouse and American woodcock.

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Proposed Activities Listing

Proposed Management Activity

Proposed Date

Boundary Marking	2009
DHPA	2009
Timber Marking	2009
Timber Sale	2009
Road Work	2009
Timber Sale Completion	2011/2012
Post Harvest TSI	2011/2012
Pre-Inventory	2029/2030