

RESOURCE MANAGEMENT GUIDE

State Forest: Yellowwood

Compartment 14 Tract 13

Forester: Amy Zillmer

Date: April 30, 2008

Management Cycle End Year: 2016

Management Cycle Length: 10 years

Location

Tract 13 of Compartment 14 is located in Section 5, T10N, R2E, Brown Co., Indiana. It is approximately 5 miles southwest from the municipality of Morgantown and 10 miles northwest from the city of Nashville.

General Description

The tract is approximately 75 acres and is dominated by an oak-hickory cover type. To a lesser extent, there is a mixed mesophytic cover type in the southwest corner of tract and along several of the eastern drainages. A small pocket of Virginia Pine was also noted in the center of the tract along a ridge top.

History

This parcel of land was acquired by the state in 1956 from the federal government. Current State records go back until 1988. Following an extreme windstorm in the spring, this area was cruised in the summer of '88 by Ralph Unversaw. A salvage operation was recommended to both this and surrounding tracts. 171,255 bf in 667 trees and 1,407 bf in 5 prime white oaks were sold to the Pingleton Sawmill on August 26, 1988. Due to wet spring and summers the contract was extended. On May 15, 1990, a second storm came through the area. Forester D. Duncan marked 58,406 bf from the surrounding tracts for a salvage sale. Pingleton was the sole bidder. Due to wet conditions, the contract was extended one last time to June 2, 1991. Fire trail 22 received 40 tons of #2 rocks for maintenance. Following the harvest, the yards and haul roads were graded, disked, and seeded with a mix of rye, fescue, and wheat. Hal Kaina then inventoried this tract in the 06/07 fiscal year.

Landscape Context

The most dominant surrounding cover type surrounding the tract is closed canopy forest. The federal and state government owns about 50 percent of Brown County. Much of this ownership is in forested condition. Agriculture and woodlots are also common land uses of the private sector. Overall, many of these private parcels are becoming smaller and shifting to more urban and recreational uses.

Topography, Geology and Hydrology

This tract has three fingerlike ridges extending in a south to southeast direction. The slopes on tract are 15-30% and generally face northeast to southwest. There are numerous intermittent drainages running through the tract, the largest makes

up the tract's eastern boundary. By and large they follow a southern direction and drain into a privately dammed pond south of the tract. The underlying geology of this area is a combination of sandstone and shale.

Soils

BgF-Berks-Trevlac-Wellston complex

This is the most dominant soil found on the tract. It is located along the side slopes and bottoms of the tract's ridges. This soil forms from sandstone-shale bedrock about 36" under surface. Slopes for this soil can range from 20 – 70%. They ranged from 20-30% on this particular area. Overall, the complex is well drained. This area is generally unsuited to urban development due to slope. There are some limitations for equipment due to slope. It is recommended that any road construction follow contours or land shaping should be employed. This is lessened due to the absence of very steep slopes on tract. In terms of forestry, this soil is very well suited for trees. This soil has a site index of 71 for northern red oak. This complex has a woodland ordination symbol of 4R.

WaD-Wellston – Berks – Trevlac Complex

This complex is found on many of the ridge tops and upper side slopes on tract. It forms from weathered sandstone-shale-siltstone bedrock at a depth of 51" with a loess cap. The slopes range from 6 – 20%. This soil is unsuited to urban development due to slope. It is very well suited to forestry, with only moderate equipment limitations due to slope and depth to bedrock on some components of complex. Following natural contours for road construction and land shaping can mitigate erosion hazards. This soil has a site index of 70 for northern red oak and a woodland ordination symbol of 4A.

Access

This tract has good access. Fire trail # 22 borders it in the north. The fire trail connects to Carmel Ridge Rd to the east by Cooks Hill Rd.

Boundary

The tract is bordered by state property on three sides. The northern boundary is bordered by fire trail # 22. Drainages separates tract 13 from 14 on the east. The southern boundary grades into private ownership and is clearly marked with orange paint. The western boundary follows the western most ridgetop north to connect with fire trail # 22.

Wildlife

Wildlife on tract is typical for this area. Many tracks and signs of common species such as deer, squirrels, raccoons, mink, rabbits, and coyotes were observed on the tract. Due to the presence of course woody debris on tract, it most likely supports a diverse herp population

The Natural Heritage Database noted no wildlife species of special concern within tract boundaries, however there were a few species noted in surrounding tracts.

Clonophis kirtlandi or the Kirtland's Snake is a threatened species in the state of Indiana. Population decline stems from habitat conversion and urban encroachment to the snake's wetland prairie habitat. Any forest management activities will not alter the snake's natural habitat.

Crotalus horridus or the Timber Rattler is also a species of special concern in Indiana. This species suffers from triad of obstacles. Namely habitat destruction and fragmentation, sport hunting, shading over, and road mortality. Future management activities will most likely employ group selection harvesting. The will not only increase the tract's horizontal heterogeneity but it will also increase viable breeding grounds for the snake in this area.

Indiana Bat Strategy

The Indiana Division of Forestry recognizes the potential to enhance the Indiana bat habitat on its lands by implementing comprehensive management principles. These management principles include obtaining data on size, species, and numbers of snag trees. Snag trees and some specific species are an integral part of the Indiana bat policy as they are prime roosting sites for maternal colonies.

Indiana Bat Habitat Guidelines

Live Tree's-Entire Tract – Desired Species Only*

| | Required | Inventory | Available for Removal |
|----------|-----------------|------------------|------------------------------|
| 11" DBH+ | 675 | 555 | -120 |
| 20" DBH+ | 225 | 330 | 105 |

Snags – Entire Tract – All Species

| | Required | Inventory | Available for Removal |
|----------|-----------------|------------------|------------------------------|
| 9" DBH+ | 450 | 53 | -397 |
| 19" DBH+ | 75 | 15 | -60 |

***Desired Species include:** AME, BIH, BLA, BLL, COT, GRA, REO, POO, SAS, SHH, ZSH, SHO, SIM, WHA, WHO

Current inventory stocking exceeds requirements in 20"+ DBH in preferred species, but is lacking in other areas. Single tree selection methods will release understory trees and increase advancement into 11" + DBH size classes. Post harvest TSI should consider snag creation to further promote the extent of viable Indiana Bat habitat.

Communities

As stated earlier, the main cover types of the tract are oak-hickory and mixed mesophytic. These species coincide with a mixture of mesic herbaceous cover such as Christmas fern and spicebush. The 2008 recon also noted some patches of greenbrier, grapevine, and multi-flora rose.

Juglans cinerea or the butternut was once common species of the central hardwoods, but is now a relatively rare in today's forest communities. Its decline is due to the spread of butternut canker disease. Even though there have been isolated cases of resistant specimens, this disease has no known cure. Butternut propagates best with canopy openings and soil disturbance. Group selection harvesting methods would provide suitable areas for new establishment.

Recreation

This area does not have any developed recreational facilities. Due to relative ease of access and evidence on tract, the area is most likely used for hunting, hiking, and wildlife viewing.

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 Description and Silvicultural Prescription

The dominant cover type on this tract is oak hickory (60 acres or 80%), followed by mixed mesophytic (14 acres or 18%), and a small pocket of planted Virginia pine (<2 acres or <2%). The inventory conducted in 2006 reported 6,010.7 bf/acre. Out of this volume, 4.7 trees per acre containing 1,251 bf/acre were tallied as harvest. This would leave 4,759.7 bf/acre in 20.4 saw timber trees. Present basal area is 95.45 square feet per acre. The stand is fully stocked (83%) with an average diameter of about 9.2".

Dominant overstory species include chestnut oak, scarlet oak, white oak, black oak, yellow poplar, sugar maple, and red maple. To a lesser extent American beech, white ash, basswood, bitternut hickory, and shagbark hickory were also noted.

Prevalent understory species include chestnut oak, red maple, and white oak, sugar maple, yellow poplar, bitternut hickory, and blackgum. A smaller portion was made up of black cherry, black oak, largetooth aspen, sassafras, shagbark hickory, and white ash were noted.

Regenerating saplings were dominated by red maple, sugar maple, dogwood, and black gum. Other minor contributors included American beech, chestnut oak, pignut hickory, and shagbark hickory were noted.

The 2006 cruise reported heavy harvest volumes in scarlet oak, yellow poplar, white oak, and chestnut oak. Volumes in white ash, red maple, black oak, and American beech were also reported.

Based on past field notes and onsite reconnaissance in February 2008, a harvest is not recommended at this time. Although some areas could benefit from a harvest, current tree mortality on tract is minimal. It is recommended that this area be reinventoried in the 2016/2017 fiscal year. This will give the stand time to grow and increase average diameter.

Summary Tract Silvicultural Prescription and Proposed Activities

It is recommended that the stand be reevaluated in the 2016/2017 fiscal year. If harvest is deemed appropriate at this time, special attention should be placed on pre harvest TSI. Past records indicate the Autumn Olive was planted in log yards in the 90's. Although the 2008 recon did not report any findings, the site should be reevaluated preceding harvest for both this and grapevines. Harvesting methods should employ single tree and group selection to increase wildlife habitat potential. Snag densities and preferred species should also be reevaluated. Both snag creation and retention should be considered.

Proposed Activities Listing

Proposed Management Activity

Inventory/Management Guide

Proposed Date

2016/2017

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

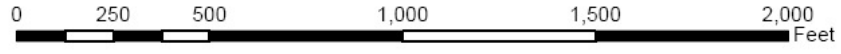
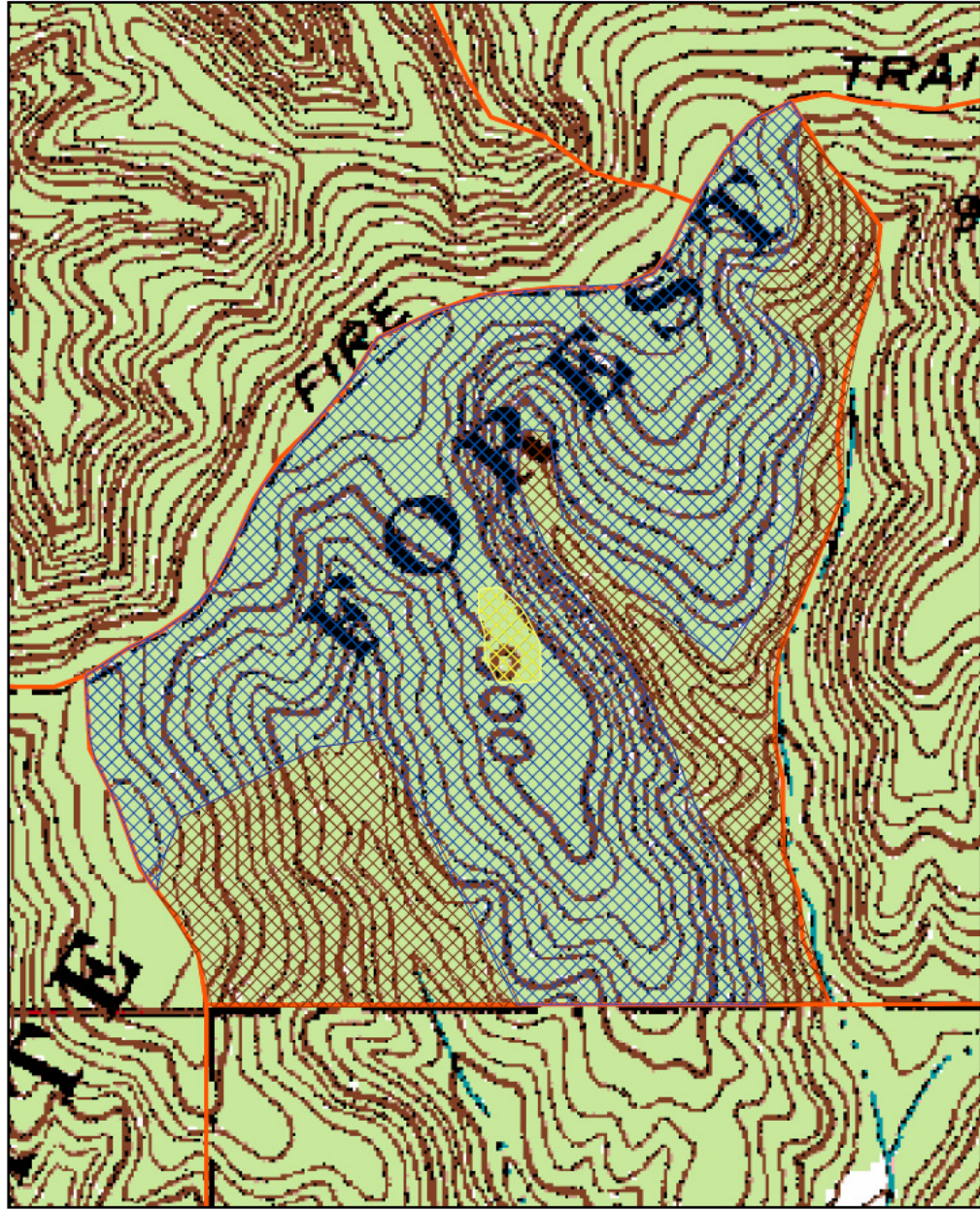
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You **must** indicate “Yellowwood C14 T13 ” in the “Subject or file reference” line to ensure that your comment receives appropriate consideration. Comments received within 30 days of posting will be considered.

Stand Type Map Compartment 14 Tract 13

Morgantown Quadrangle

Yellowwood State Forest



Legend

-  Mixed Mesophytic
-  Oak Hickory
-  Pine
-  Tract Boundary



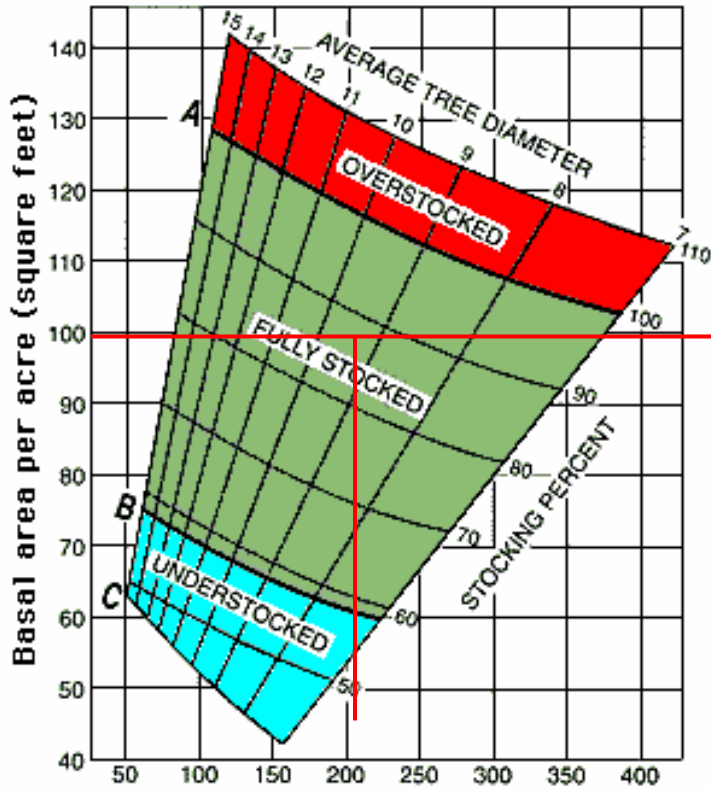
Soils Map Compartment 14 Tract 13

Morgantown Quadrangle
Yellowwood State Forest

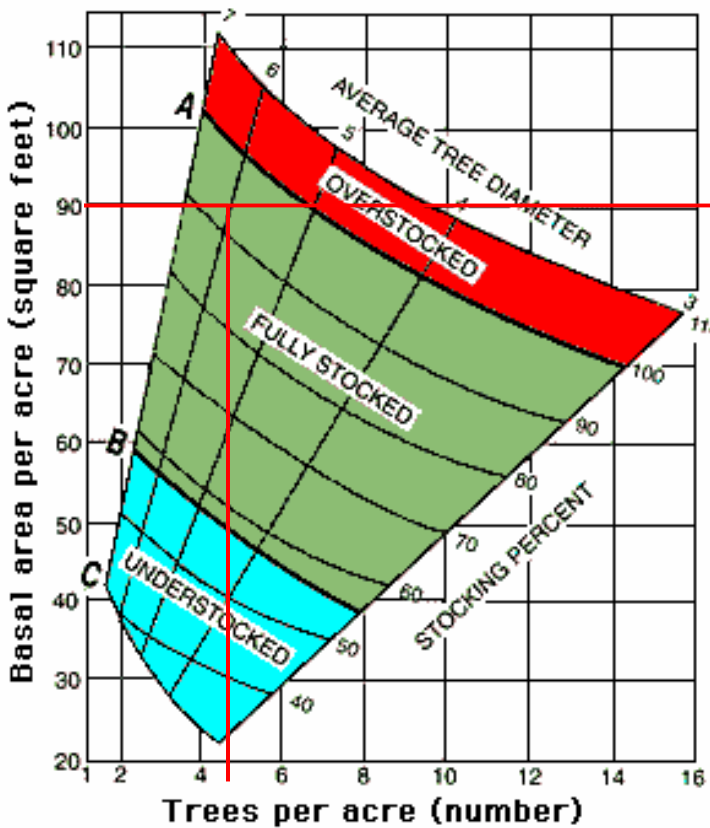


Gingrich Stocking Chart
 Yellowwood State Forest C14 T13
 75.3 Acres March 4, 2008

Sawtimber (over 50% BA in saw)



95.45 BA
 204.1 trees/ac
 83% Stocking
 Average Diameter 9.1"



95.45 BA
 495.6 trees/ac
 96% stocking
 Average Diameter 5.9"