Resource Management Guide

State Forest: Owen-Putnam
Forester: R. Duncan
Management Cycle End Year: 2029
Compartment: 05 **Tract:** 07
Date: September 2009
Management Cycle Length: 20 Years

Location

Compartment 5, tract 7 lies in the southwest quarter of section 14, the southeast quarter of section 15, the northeast quarter of section 22 and the northwest quarter of section 23, township 11N, range 4W, Morgan Township, of Owen County, Indiana. It is approximately 10 miles northwest of the town of Spencer.

General Description

This tract is a 117-acre managed, multiple use parcel located at the south end of the 610 acres contained in compartment 5. The Timber type is predominantly closed canopy oak-hickory with some mixed upland hardwoods and approximately 2-acres of Virginia Pine. This area exhibits good opportunities for multiple use management, including timber management, wildlife management, soil and water conservation and public recreational activities, such as, hunting, hiking, gathering, viewing and interpretation. In addition, the tract contains a power line right-of-way.

History

Owen-Putnam State Forest was established in 1948 with most of its landholdings purchased as smaller non-contiguous tracts in the 50's and 60's. Compartment 5 tract 7 has been managed for several years having a property wide TIMPIS inventory conducted in 1988, a tract inventory conducted in 1989, a timber sale conducted in 1990, pre-harvest timber stand improvement in the form of grapevine control conducted in 2005, regeneration opening maintenance conducted in 2008 and a tract inventory conducted in 2008**.**

Landscape Context

Generally the area surrounding this tract is predominantly closed canopy deciduous forest with some small isolated pine stands, some small early successional areas, some pasture, some hayfields and some small open water wetlands with scattered single family dwellings and very little agriculture.

Topography, Geology and Hydrology

This tract is generally comprised of ridges and valleys of moderate to steep north, northwest and northeast slopes with some level ground along the major ridge top plateaus.

The soils are generally comprised of deep, fragipan free, well-drained soils on steep slopes with some outcroppings of sandstone and shale. These soils occur throughout the Illinoian glaciated areas of the county. In the event a harvest operation is performed, the existing haul road and log yard can be utilized. However, care must be taken during the planning and execution of skid trails due to the highly erosive nature of these soils. Best Management Practice (BMP) guidelines should be followed to preserve soil and water quality (Forest Practices Working Group, Indiana Woodland Steward Institute).

Water sheds generally from the south to the north into a mapped intermittent stream.

Soils

The tract is composed primarily of shallow to deep, fragipan free, well to excessively drained soils often underlain with sandstone, siltstone and shale with moderate to severe erosion on slopes from 6% to 35% contained within the Hickory, Muskingum and Wellston soil series. In addition, the tract contains soils from the Zanesville, Cincinnati and Pope Series. Most of the soils in this tract are found in large areas of forest and are often well suited to timber production.

Specifically, the tract is composed of the following soils:

- HcF - Hickory Silt Loam, 25-35% Slopes
- MmG - Muskingum Stony Silt Loam, 35-70% Slopes
- WmD - Wellston Silt Loam, 12-18% Slopes
- WnD3 - Wellston Soils, 12-18% Slopes, Severely Eroded
- ZnC3 - Zanesville Soils, 6-12% Slopes, Severely Eroded
- ZnD3 - Zanesville Soils, 12-18% Slopes, Severely Eroded
- ZaB -Zanesville Silt Loam, 2-6% Slopes
- ZaC2 - Zanesville Silt Loam, 6-12% Slopes, Moderately Eroded
- CcD - Cincinnati Silt Loam, 12-18% Slopes
- Pp - Pope Silt Loam

(Soil Survey, Owen County USDA, SCS - Series 1959 No. 38)

Access

To access the tract take S.R. 46 approximately 5-miles west of the town of Spencer to Fish Creek Rd., then travel north on Fish Creek Rd. approximately 4.0 miles to Atkinsonville Rd. / Hale Hill Rd., then travel east on Hale Hill Rd. approximately 0.75 miles to a parking lot on the left hand (north) side of the road. Another 0.25 miles further east on Hale Hill Rd. is a log yard on the left hand (north) side of the road. The tract may also be access via the fire trail on the left hand (west) side, just before the second creek crossing, on Surber Rd. Management and logging access as well as public recreational access to this tract is very good.

Boundary

Tract boundaries follow predominant topographical features with Hale Hill Rd. delineating the east half of the southern tract boundary, a mapped intermittent stream delineating the tract boundary to the north. Private property borders this tract along the western and eastern boundary with a small section of Surber Rd. delineating the boundary to the northeast.

Line J to K has been painted in the past and flagged recently and follows an old fence line with corner J marked with a steel fence post and rebar and corner K marked with a steel fence post. Line K to L has been painted in the past and flagged recently and follows an old fence line with corner L marked with a 2" metal pipe. Line I to H has been painted in the past and flagged recently with a steel fence post set at the midpoint and corner I marked with a rectangular cut limestone. Corner H is marked with a steel fence post and a 2" metal pipe.

Wildlife

Wildlife resources in compartment 5 tract 7 seem abundant. Common species and sign observed include Eastern Grey Squirrel, Fox Squirrel, Chipmunks, White-Tailed Deer, Wild Turkey, Opossum, Raccoon, Eastern Box Turtle, raptors, woodpeckers, songbirds, toads, frogs and various small stream aquatic life.

This tract contains habitat for a variety of wildlife species. Habitat includes the oak-hickory cover type with some mixed hardwoods containing beech that provide mast for deer, turkey and squirrel. The pine stands provide some benefits such as winter cover, roosts for grouse and turkey and browse for deer. Snags and cavity trees provide nesting, bugging and roosting opportunities for woodpeckers, songbirds, and small mammals. Rotten logs, crater knolls and the mapped intermittent stream provide habitat for herptiles and aquatic vertebrates.

A review of the Natural Heritage Database was conducted on July 11, 2007 to locate and identify any known endangered, threatened or rare animal species. The review did not identify any endangered, threatened or rare (E.T.R.) species within the project area. However the review did identify 1 E.T.R. animal species (Sharp-shinned Hawk) within 1 mile of the tract (Carl Hauser, Division of Forestry – Property Program Specialist). The recorded sighting is over 20 years old. In addition, the Sharp-shinned hawk occupies a wide variety of forests throughout North America and is not solely dependent upon unmanaged Old-Growth forest habitat for their existence or survival.

Communities

Most of this tract is of the mesic forest community type with some isolated more wet sites located along the lower slopes and drainages.

A review of the Natural Heritage Database was conducted on July 11, 2007 to locate and identify any known endangered, threatened or rare plant species or communities. The review did not identify any endangered, threatened or rare (E.T.R.) species or communities within the project area. However, the review did identify two E.T.R. plant species and one E.T.R. community

within 0.5 miles of the tract (Carl Hauser, Division of Forestry – Property Program Specialist). The two plant species and plant community records are over 20 years old. One of the plant species is a grass (Sharp-Scaled Manna Grass, Glyceria acutiflora). The other plant species is a sedge (Cypress-Knee Sedge, Carex decomposita). None of these species are typically found in the forest interior and as such should not be directly affected by forest management activities.

Exotic species are present in and around the tract with small scattered occurrences of Multi-Flora Rose and Autumn Olive. Control measures should be proposed, possibly during post-harvest timber stand improvement activities, whereby herbicides could be applied to treat these occurrences before their populations expand.

Recreation

The tract is easily accessible to the public via the parking lot on Hale Hill Rd. and various parking lots along Surber Rd.

This area exhibits good opportunities for multiple use management, including timber management, wildlife management, soil and water conservation and public recreational activities, such as, hunting, hiking, gathering, viewing and interpretation.

Cultural

Cultural resources such as old building sites, homes, barns etc. and their location on state forests are protected. To the best of our knowledge this tract does not contain any cultural resources. There is some old fence line adjacent to private property along the western boundary and the west half of the southern boundary.

Tract Description and Silvicultural Prescription

This tract was not divided into subdivisions.

Between 1988 and 1989 a property wide inventory (TIMPIS) was conducted, including Compartment 5 tract 7. The results estimated the tract to contain 6419 Bd. Ft. of total sawtimber per acre with 2711 Bd. Ft. of harvest sawtimber per acre and a harvest proposed in the year 1990. The tract was again inventoried in 1990 before it was harvested. That inventory showed 6413 Bd. Ft. of total sawtimber per acre with 2702 Bd. Ft. of harvest sawtimber per acre with a total basal area of 108 Sq. Ft. per acre and a harvest proposed in 1990 and in 2009.

The tract was harvested in 1990 with 223,009 Bd. Ft. of sawtimber removed in 950 trees. The tract was again inventoried in 2008. The data estimated the tract to contain approximately 8040 Bd. Ft. of total sawtimber per acre with an estimated 2780 Bd. Ft. of harvest sawtimber per acre with 118.6 Sq. Ft of basal area per acre, in trees $\geq$ 6 inches in diameter at breast height (d.b.h.), and a stocking level of 95 % with an average tree diameter of 13.3 inches.

The Timber type is predominantly closed canopy oak-hickory with some mixed upland hardwoods and approximately 2-acres of Virginia Pine. The over-story consists of medium to

large sawlog sized Northern Red Oak, White Oak, Yellow Poplar, Bitternut Hickory, White Ash, Sugar Maple, Shagbark Hickory, Pignut Hickory and American Beech. The quality of merchantable timber is good to very good. The pole-sized under-story consists mostly of Sugar Maple, Shagbark Hickory, American Beech, White Oak, Northern Red Oak, Bitternut Hickory and Sassafras. Advanced regeneration is represented mostly by Maple, Beech, Ash, Cherry and Sassafras. However, Red and White Oak are well represented in the earlier stages of regeneration.

The current stocking level of 95% indicates the tract is essentially fully stocked and approaching an overstocked condition. The dominant sawtimber sized oak, poplar and hickory are overly competing for resources between themselves and with the over mature and less desirable species such as American Beech and Sugar Maple. With the overcrowded mature sawtimber species, a good oak-hickory residual stocking and the presence of less desirable species this tract would benefit from an intermediate harvest in the form of a thinning and improvement cut.

The recommendation is to perform an intermediate harvest using the single tree selection method whereby thinning and reducing competition amongst the maturing quality trees and preferred species, in addition to improving the species composition of the tract by harvesting the low quality, damaged, diseased, dying and poorly formed trees as well as harvesting less desirable species.

Management in the form of Timber Stand Improvement (TSI) should be performed to control grapevines, release preferred crop trees through the culling of low volume, poorly formed trees and less desirable species and to encourage early successional (Oak) regeneration through the creation of canopy gaps and a reduction in understory shade tolerant species (maple, beech, pine). Standing dead trees (snags) and cavity trees will be given consideration for retention as habitat for wildlife. Legacy trees as defined by the Resource Management Strategy for the Indiana Bat will be given consideration for retention as habitat for the Indiana Bat. In addition, the girdling of select cull trees $\geq$ 19 inches in diameter could be performed through post harvest TSI to address the suggested guidelines of the Strategy for the Consideration of the Indiana Bat (IDNR – Division of Forestry, Resource Management Strategy for the Indiana Bat on Indiana State Forests, April 2008).

The overall goal of this prescription is to thin the tract and reduce competition among the larger trees, improve timber species composition and to create favorable growing conditions for early successional timber species, while providing forest wildlife habitat. As with all forest management activities, Best Management Practice (BMP) guidelines will be followed to protect soil and water resources (Forest Practices Working Group, Indiana Woodland Steward Institute).

Proposed Activities Listing

2005 - Tract Inventory
2007 - Pre-Harvest TSI
2008 - Tract Management Plan
2008 - Harvest Marking and Sale Layout
2009 - Timber Sale
2012 - Post-Harvest TSI and Exotic Control
2012 - BMP Monitoring

Attachments (on file in the property office)

1. Topographical Map (USGS - 7.5 Minute Series, Cataract Quadrangle)
2. Soil Type Map (USDA, SCS - Series 1959 No. 38 Soil Survey, Owen County)
3. Aerial Photograph (2003)
4. Upland Central Hardwoods Timber Stocking Guide (USDA-Forest Service,
5. Northeastern Area NA-MR-7)
6. Timber Inventory Summary Reports (Two2Dog Brand Software)
7. Natural Heritage Database Review Map (10/08/2008, C. E. Hauser)
8. Archaeological Clearance Application (Feb. 4, 2009)
9. Archaeological Clearance Letter (A. J. Ariens, Forest Archaeologist)
10. Maine Dept. of Conservation, Natural Areas Program – Rare Plant Fact Sheet, Sharp-scaled Manna Grass
11. Ohio Dept. of Natural Resources, Division of Natural Areas and Preserves – Conservation Assessment for the Cypress-knee Sedge
12. http://www.peregrinefund.org/explore raptors/hawks/sshnhawk.html
13. http://www.allaboutbirds.org/guide/Sharp-shinned Hawk/lifehistory
14. http://www.inhs.illinois.edu/animals plants/birds/ifwis/birds/sharp-shinned-hawk.html#habitat

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Owen-Putnam State Forest

Topographic / Sale Layout Map
Compartment 5 Tract 7
117 - Acres

USGS - 7.5 Minute Series
Cataract Quadrangle

N
W E
S

Tract Boundary - Haul Road - Log Yard - **Y** Primary Skid Trails -

Pines - Intermittent Stream -