RESOURCE MANAGEMENT GUIDE

Morgan Monroe Sate Forest | Compartment 04 Tract 01 | Property Forester: D. Ramey
Total Acres: 59 | Commercial Acres: 59 | Date: 01/24/09

Location

Compartment 04, Tract 01 is located in Morgan Monroe State Forest of Sections 33 and 34, Township 10N, Range 1E in the southern part of Morgan County. The majority part of the tract is in Sections 3and 4 Township 11N, Range 1E in the northern part of Monroe County. The access to this tract is excellent, located on the intersection of Main Forest Road and on Rosenbaum road, north of Oak Ridge Campground .

General Description

MC04T01 is 59 acres of closed-canopy mixed hardwood forest. The dominate timber type is Oak/Oak-Hickory. Specific overstory species include CHO, YEP, WHO, BLO, and PIH.

History

Land purchased 1930-31. In 1979 this tract was identified as a study area for oak regeneration by the U.S. Forest Service. The task of this project was to inventory, burn, treat the understory, cut the overstory, and re-inventory, studying oak regeneration. More information on this research project is located in the file labeled "F.S. Study and Oak Plots" in the Resource Management file cabinet. The only recorded timber sale was in 1980, sold to Barnett Lumber Company (576 trees, 320 culls 127,970 bd.ft. $17,660.00). The tract was inventoried in 1994 and a resource management guide was prepared by Marty Calvert. The current inventory was conducted in 2008.

Landscape Context

The land surrounding this tract is part of Morgan Monroe State Forest. It is due north of Oak Ridge Campground and east of Rosenbaum Road.

Soils

This tract is primarily Berks-Weikert Complex. Ridge tops are of the Gilpan silt loam soils. The soils map is on file in the property office.

	Management Concerns (across from color code) *Erosion Hazard, Equipment Limitations, Seedling Mortality, Windthrow Harzrd
BkF	Berks-Weikert complex 25 – 75% slope Sandstone-Bedrock – 38"
SI – 70	Well drained. Most areas woodland. Soil suited to trees.
40 Acres	Severely limited to dwellings with basements due to slope and bedrock.
Yellow	*Moderate, severe, moderate, slight.
GpE	Gilpin silt loam 18 – 25% slope Sandstone-bedrock – 36"
SI – 80	Well drained. Most areas woodland. Soil suited to trees.
12 Acres	Not suited for building sites.
Blue	*Moderate, Moderate, Moderate, Slight.
Soils Con.	
BdB	Bedford silt loam 2 – 6% slope Fragipan at depth of 20-30"
SI – 75	Moderately well drained. A few areas in woodland. Soil suited to trees.
7 Acres	Moderately limited to buildings because of wetness, shrinking and swelling.
Pink	*Slight, Slight, Slight, Slight.

Topography, Geology and Hydrology
The topography ranges from one main ridge top with steep to moderately steep slopes to bottomlands. Aspect is primarily north facing and south facing with one main ridge running northeast and a smaller ridge running east. Average gradient is 30-60%. There are two intermittent streams on the tract boundary and one ephemeral in the tract.

Access
Access to this tract is excellent, north end of the Main Forest Road, east on Rosenbaum Road.

Boundary
This tract is completely surrounded by Morgan Monroe State Forest property tracts. Approximately 80% of the tract is in the recreational Safety Zone, just north of the campground. The Safety Zone boundary line is clearly marked and is also located on the Morgan Monroe County line.

Wildlife
Wildlife habitat documentation and analysis is an important element of tract level forest management. Considering that wildlife species vary greatly in habitat use, the management goal is to maintain the highest level of wildlife habitat diversity. Wildlife habitat features include: snags, live trees, cavity/den roosting trees, culls, downed woody material, ponds, water pools, mast trees, shrubs and fruit producing vines. Standing dead or dying trees (snags), provide bat roosts, cavities and sites for wildlife dens and nests. They also contribute through decomposition as food reservoirs both above ground and on the forest floor. It is recommended that whenever possible all snags are left standing during timber harvest operations, especially on upper slopes and ridge tops. Live tree retention is also important for most forest wildlife species, as they depend on live trees for shelter, escape cover, roosting, mast and foliage. Specific tree densities are essential for tree roosting Indiana bats and cavity nesting/denning wildlife species. Live cavity trees are used by a wide range of wildlife species as they provide long term nests, dens, and create potential future snags. Cull trees are damaged and/or decayed trees that also provide sources of future cavity trees and roosts. Live culls with cavities and decay should be retained for wildlife value. If an adequate number of snag trees are not present, girdling live culls during post harvest timber stand improvement will assist in satisfying guideline requirements. Downed woody material may include tree stems, logs, limbs and tree tops. The advanced stages of decay provide cover and foraging habitat for small mammals, ground-dwelling birds, reptiles, and amphibians. Wildlife ponds are small impoundments designed to permanently hold water throughout the year. These ponds are relatively shallow and often shaded by forest cover. They are also free of fish and provide foraging activity, drinking, cover and most important breeding habitat for forest amphibians. Natural water pools are seasonal and typically occur on poorly drained soils or in places where the water table is close to the ground surface. Mast trees and shrubs and fruit producing vines are hard and soft food resources that are essential for a wide variety of forest wildlife. Wild grape vines are retained except where their growth jeopardizes the integrity of regeneration openings or future stand development. In tract level forest management every effort will be made to meet or exceed target densities of snags, roost trees and cavity trees described to ensure that wildlife habitat benefits the highest number of individuals and populations possible.

Wildlife con.

Live Trees - Entire Tract - Desired Species Only*

	Required	Inventory	Available For Removal
11" DBH+	522	589	67
20" DBH+	174	247	73

Snags - Entire Tract - All Species

9" DBH+	348	754	406
19" DBH+	58	106	48

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

Inventoried: REO, SAS, SHH, WHA, WHO

Wildlife resources appear to be abundant within this tract. Recent observations include wild turkey, white-tailed deer, timber rattlesnake, small furbearing mammals and wide diversity of songbirds. The Natural Heritage Database has identified in the nearby vicinity of this tract: Timber Rattlesnake, Trailing Arbutus, Black and White Warbler and Worm Eating Warbler, Indiana Bat and Bobcat sightings. Tree species composition in this tract is diverse ranging from disturbed site species such as sassafras on the ridge tops along the road to bottomland hardwoods near the streams. Shagbark hickory present on this tract will provide excellent bat habitat. Larger mast trees are present and many will be retained for wildlife foraging. Log landings will be seeded with species favorable to wildlife such as Orchard grass, wheat, and or oats following harvest activities.

Communities

The Natural Heritage Database Review for this tract reported no threatened plant communities. Nearby tract records include reports of butternuts, Dry Mesic and Mesic upland forests, timber rattlesnakes, Indiana bats, warblers, trailing arbutus and butternuts. Harvesting should not affect the bobcats' use of the tract except when the loggers are working. Harvesting will create habitat for their main food source as well as create auxiliary den sites. The timber rattlesnake usually prefers south slopes and rock outcrops. A dominant south slope is present in this tract and no rock outcrops were observed during inventory. Many tops leftover from a harvest will provide habitat for prey that snakes can forage for. The black-and-white and worm eating warblers both prefer fragmented canopies and dense under story sites. Harvesting will increase density of the understory plants temporarily. Butternut trees were not observed during the inventory, but if regeneration openings are created, this may give the species an opportunity to regenerate. Indiana bat habitat may be enhanced by the creation of snag trees. Trailing arbutus prefer pine stands' acidic soils which are found in small patches. The low harvest in the pine will limit the possibility of harming any unobserved plant species.

Recreation

This tract is easily accessible to recreational visitors as it lies adjacent to Rosenbaum road. However, as the tract lies within the Safety Zone, game hunting is not permitted. Most visitors utilize the area for recreational opportunities such as: nature study, mushroom, berry and nut gathering. This area can also serve as an area for school groups to visit and learn about forest management activities.

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 Prescription and Proposed Activities
The field inventory was completed in June 2008. The inventory yielded the following information:

Total Tract Acreage	59 acres		Present Volume per Acre	9,690 bd. ft.
Basal Area per Acre	101.0 sq. ft.		Harvest Volume per Acre	4,550 bd. ft.
Number Trees per Acre	94		Residual Volume Per Acre	5,140 bd. ft.
Stocking Percentage	80 %		Average Tree Size	13.8" Diameter

This tract last received a harvest in 1980. This tract has been selected as a potential harvest area for the fiscal year of 2008-09. The inventory completed in 1994 had indicated 7,550 bdft per acre. Current inventory results indicate a total volume of 9,690 bd.ft. per acre. Therefore, a growth estimate for the forest resource is 2,140bd.ft. per acre for the past 15 years or about 142 bd.ft. per acre per year. The primary volume comes from CHO(27%), YEP(23%) and WHO(20%). The overall quality of the sawtimber is good. The volume harvestable is 4,550bd.ft. per acre and leave volume of 5,140 bd. ft. per acre. The tract was estimated to be 80% stocking. Given the information provided, this tract is adequately stocked. Species available for harvest consist of chestnut, red and white oaks, yellow poplar, American beech, hickories and red maple. The trees are of large sawtimber with modest amount of quality sawtimber. With a stocking level of 80% this tract could be thinned with great care so as to not reduce the stocking level below 70%. An intermediate harvest and one group selection is recommended for this tract. The harvest will be followed up with a proper close out according to Best Management Practices. Timber stand improvement is planned after the harvest to complete early successional openings and removal of vines. Girdling of cull trees to promote Indiana Bat populations can also be done. Ridgetop roads will need to be improved prior to and following the sale.

Proposed Activities Listing
Timber Harvest planned in 2008-09 fiscal year.
Timber Stand Improvement to be completed after timber sale closeout.
Re-Inventory work scheduled for 2028.

Attachments:
On file in the property office:

1 A property and topography map of the tract.
2 A map showing the soil types in the tract.
3 A stocking guide chart.
4 Natural Heritage Database Review map.

To submit a comment on this document, click on the following link:
http://www.in.gov/surveytool/public/survey.php?name=dnr_forestry

You **must** indicate "Morgan-Monroe C4 T1" 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.