

Draft Resource Management Guide

Morgan-Monroe State Forest
Tract Acreage: 186
Forester: Andrea Wallis

Compartment: 8 **Tract:** 1
Commercial Acreage: 108
Date: October 22, 2009
Revised: February 4, 2010

Location:

Compartment 8 Tract 1 is located in Monroe County and includes portions of Sections 3, 4, 9, and 10 of T10N, R1E. It is located approximately 6 miles due south of Martinsville, IN. A large acreage, this tract includes the major recreational facilities: State Forest Headquarters Complex, the Fire Headquarters Complex, Cherry Lake and Shelterhouse, Poland Cabin and garage, and the Property's lumber shed and storage area. Trailheads for the Mason Ridge, Tree Identification, Low Gap and Three Lakes hiking trails also reside within the tract.

General Description:

The dominant cover type in this tract is mixed hardwood although there are also small areas of oak-hickory, oak, Norway spruce, and white pine. There are approximately 186 total acres in the tract. There are approximately 17 acres of developed property consisting of buildings, roads, lakes, ponds along with some cultural resource and home sites. Cover type is as follows, excepting the acreage that makes Cherry Lake: 154 acres of mixed hardwoods, 4 acres each of Norway spruce, white pine and sugar maple, and 9 acres each of oak and oak-hickory. Only 108 acres of the 186 is harvestable due to restrictions caused by trails, structures, possible home sites, or unmerchantable timber. The following canopy structure was noted during the 2009 inventory, listed according to relative frequency:

Overstory	Understory	Regeneration
Sugar Maple	White Ash	White Ash
White Ash	Sugar Maple American	Red Maple
Chestnut Oak	Beech Mockernut	Sugar Maple
White Oak	Hickory	American Beech
Black Oak	American Elm	Pawpaw
Red Oak	Yellow Poplar	Redbud
Chestnut Oak	Dogwood	Red Oak
Black Cherry	Pawpaw	Chestnut Oak
Black Walnut	Redbud	White Oak
Yellow Poplar	Red Maple	Red Oak
Shagbark Hickory	American Sycamore	Pignut Hickory
Pignut Hickory	Black Walnut	Shagbark Hickory
Mockernut Hickory	Chestnut Oak	Mockernut Hickory
Red Maple	White Oak	Yellow Poplar
American Elm	Dogwood	American Elm
White Pine	Black Cherry	Sassafras
Red Pine	Sassafras	Black Walnut
Norway Spruce		Ironwood
Sassafras		Dogwood
Basswood		
Blackgum		
Ironwood		
American Beech		
American Sycamore		

History:

This tract was acquired in a massive 1600 acre acquisition by the State in January of 1930 (D.R. #153.144) from Mr. Holliday. This portion of the State Forest has a significant historical record of prior use. The current tract includes portions of a small town called Sharpstown in the 1860s: it had a post office, tannery, and sawmill. A history of considerable stagecoach use is also noted. Travelers from Columbus to Gosport traveled along the well eroded roadway from the east (M0605) into this town. Deed records of property land transfers often contain the description of this commonly known roadway. The history of Sharpstown (also called Stringtown) was researched in the early 1990's and a copy is located in the Property's history file. Following the demise of Sharpstown, the acreage was sold to George Mason who planted an extensive area of this tract into peach orchard. Some remnant peaches and pear trees still remain to this day scattered through the Forest. The orchard's history is documented in a pioneer book authored by Rachel Peden and is available in the local county libraries. In later years portions of the area along Fire Headquarters road housed a substantial Civilian Conservation Corp (CCC) work camp in the 1930s. The large tuliptree along the south side of FHQ road is a remnant tree of this era and is readily apparent on the old aerial photos of that time period. The present Assistant Manager's residence was once known as the Forest Supervisor's residence when Morgan-Monroe State Forest property was first being acquired in the 1920's. During this early history of the Forest, the south area adjacent to the present residence and barn was also used to house albino white-tailed deer prior to the DNR's reintroduction of white-tailed deer in the state of Indiana.

The western portion of the tract was previously identified as tract's 1 and 2 of Compartment 1 prior to 1980. The remainder of the tract was part of the pre-1980 compartment 1 however tract designations could not be verified from current files.

Resource management history: The southern half of the present tract used to be classified as Compartment 1 Tracts 1, 2, 3 and Compartment 2 Tracts 1, 4, 9 and 10 prior to February 1980.

Plantations: Several plantations established by the Civilian Conservation Corp in years 1932-1934: approximately 3.4 acres of Norway spruce (4400 trees); 4.3 acres of Jack pine (4300 trees), 1.5 acres of white pine (WHP) and red pine (800 each), 2.3 acres of Scots pine (2650 trees) were planted and subsequently replanted in 1934. Some additional trees of WHP and yellow poplar were planted within the tract in 1944. The most recent plantation of black walnut trees southwest of the Forest Office occurred in the late 1970's.

Continuous Forest Inventory (CFI): During the 1960's many permanent inventory plots were established throughout the forest. One such plot exists along the Tree Identification Trail and several of the resident trees still show markings from the 1960's. The data for most of these forest inventory plots were destroyed in the Office fire that occurred in the late 1970's.

Timber Sales:

1975 – Timber sale of thirty-nine walnut trees

1976 – Management guide written by Julie Akard

1979 – Timber Sale of 99,340 board feet over 47 acres (Old C1 T2).

1990 – Salvage sale from wind damage in conjunction with salvage areas of Old Compartments 12 and 13. Harvest area (16,800 BF) included portion of area between FHQ and MMSF office along Tree ID trail.

Landscape Context:

Most of the land within this tract is used for Property administration or recreation. There are several recreational features distributed throughout the tract: past and present building structures, Cherry Lake, two ponds, old gravel pit, and hiking trails. This tract is nestled within the center of the main forest block and is totally surrounded by closed canopy hardwood forest. Harvesting within the tract has not occurred since 1990 however some adjacent tracts to the south and east have been harvested recently.

Topography, Geology, and Hydrology:

Most of the ridges slope from the northeast to the southwest on the tract with dominant aspects of northwest and south-west. There is a modest south aspect on the south ridge of the tract. Cherry Lake and 2

small mapped intermittent streams are located in the middle of the tract. These streams run from the northeast to the southwest. There are two northern ephemeral drainages that run into Cherry Lake. Most sites were found to be mesic with some of the ridge tops being xeric. Bedrock is mostly sandstone/siltstone or shale however modest areas of limestone also occur.

Soils:

Overall the soils in this area consist of approximately 56 percent BkF, 25 percent BdB, 10 percent CrC, and 9 percent WmC. The majority of the property is designated BkF whose properties indicate they do not have significant problems regarding drainage or for harvest operations. The flat area in the southeastern portion of the tract that would best suit a log landing is designated WmC. This soil type can have a bedrock layer between 2 to 4.5 feet. The bedrock layer combined with the silt loam and loam upper horizon indicates good drainage and stability. This area would be a reasonable site for a landing of a mutual tract harvest with tract 3 to the south.

According to the USDA NRCS Monroe County Soil Survey manual the majority of the tract is BkF followed by BdB, CrC, and WmC. Other land features comprise water sources.

Berks-Weikert (BkF) soils typically have steep to very steep slopes ranging from 25-75 percent. Berks soils constitute the upper slopes while Weikert is restricted to the gradually sloped and lower land areas. Available water capacity is low to very low with rapid permeability and surface run off and moderate organic matter; this indicates low soil moisture and the possibility of erosion. This soil type is not suited to any land management use however is recommended to be forest above all others. Bedrock depth limits the number of trees able to survive in the area and those that survive are generally not high quality trees. It is recommended that road construction follow contours to lessen erosion hazards. Berks-Weikert soils have a capability class of VIIe and woodland suitability subclasses of 3f (Berks) and 4d (Weikert), indicating Berks to have moderately high soil productivity and a high content of coarse fragments while Weikert has moderate soil production and restrictive root depths. Berks soils are a moderate erosion hazard, have severe equipment limitations, moderate seedling mortality, and have a slight windthrow hazard. Weikert soils have moderate erosion hazards, severe equipment limitations, severe seedling mortalities, and moderate windthrow hazards.

Bedford Silt Loams (BdB) have very slight slopes ranging from 2-6 percent with well-drained soils and a fragipan present in some areas at about 20 inches. There are areas of depressions that can create poor drainage. Water capacity and permeability are both moderate except permeability can be restricted above and within the fragipan. There is low organic material in this area with a seasonal high water table of 2-4 inches between March and April; also because of the fragipan root penetration is restricted. There is a perched water table. This soil type can become wet and seepy during the spring and is prone to frost action and low soil strength. This will restrict harvest activities to the middle of winter or dry summers in order to prevent erosion damage. The capability subclass is IIe and woodland suitability subclass is 3o indicating moderately high soil productivity and no other pertinent restrictions. Erosion hazard, equipment limitation, seedling mortality, and windthrow hazard are all slight for this soil type. There is no potential for flooding however the perched water table and high potential for frost action will need to be considered during haul road and skid trail construction.

Crider silt loams (CrC) have slopes ranging between 6-12 percent. It has moderate slopes and well drained soils located in narrow strips along ridge tops. The following other soils types may be included in mapped CrC areas: Caneyville, Hagerstown, Bedford, Crider, Hosmer, Haymond, Wakeland, and Wilbur. The Soil Survey of Monroe County Indiana (<http://soildatamart.nrcs.usda.gov/manuscripts/IN105/0/monroe.pdf>) has more specific information on these soil types. Crider has high available water capacity and moderate permeability; however the organic matter layer is low. The soil type is suited to many management uses from agriculture to forest management. The main concern with forest management is the high clay content of the soil which will restrict activities to dry months or when the ground is frozen. IIIe is the capability subclass and 1o is the woodland suitability subclass indicating very high soil productivity and no other pertinent restrictions. This soil type has medium infiltration rates with low runoff potential. Erosion hazard, equipment limitation, seedling mortality, and windthrow hazard are all slight for this soil type.

Wellston-Gilpin (WmC) soils have gentle to moderate slopes ranging from 6-20 percent and very well drained soils. Wellston has moderate water capacity and permeability with medium surface run off while Gilpin

has low water capacity, moderate permeability and rapid runoff. These characteristics combined with the low organic content of both soils and the acidic surface layer tendencies indicate high probability for erosion and moderate difficulty growing timber. This soil type is preferable to forest over any other land use type, if the following is observed: logging roads are constructed on the contours and management focuses on removal of mature trees and protection of healthy seed trees. The soils capability subclass is IIIe and woodland suitability class is 2o indicating high soil productivity and no other pertinent restrictions. Erosion hazard, equipment limitation, seedling mortality, and windthrow hazard are all moderate for Wellston and Gilpin soils.

White pine is the only species indicated to do well on all the above soils. Yellow poplar and most oak species are indicated to do well on three of the four soil types.

Access:

Access roads into and within the tract are in excellent condition. The Main Forest Road, Fire Headquarters Road and Cherry Lake Road are the major access routes for the tract. A fire trail and skid trail system make up the access into the southern ridge of the tract.

Boundary:

The eastern boundary is Main Forest Road. The northern tip boundary is the entrance to Fire Headquarters/ CCC Camp. The western and southern boundaries are comprised of drainages that may need to be marked before any management activity. There are no private land boundaries on the tract.

Wildlife:

The following wildlife presence was noted during tract inventory: various songbirds, woodland frogs, eastern Indiana box turtle, white-tailed deer, fox, hummingbirds, fish, crow, crickets, cicadas, raccoon, blue jays, chipmunk, and a pileated woodpecker. During the tract inventory for wildlife features it was noted that there is a deficiency of larger diameter snags beginning at nine inches therefore an effort will be made to minimize damage to snags on the tract. There is an abundance of legacy trees in all size classes, small diameter snags (5"-9"), and cavity trees in all size classes.

Legacy Trees*	Maintenance Level	Inventory	Available Above Maintenance
11"+ DBH	1674	3346	1672
20"+ DBH	558	904	346

* Species include: American Elm, Bitternut Hickory, Cottonwood, Green Ash, Red Oak, Post Oak, Red Elm, Shagbark Hickory, Shellbark Hickory, Silver Maple, Sugar Maple, White Ash, and White Oak

Snags (All Species)	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
5"+ DBH	744	1302	968	224	-334
9"+ DBH	558	1116	404	-154	-712
19"+ DBH	93	186	59	-34	-127

Cavity Trees (All Species)	Maintenance Level	Optimal Level	Inventory	Available Above Maintenance	Available Above Optimal
7"+ DBH	744	1116	1331	587	215
11"+ DBH	558	744	620	62	-124
19"+ DBH	93	186	301	208	115

According to the Indiana Natural Heritage Database the following have been sited inside the tract boundaries: timber rattlesnake (*C. horridus*, endangered) in 1998 in the eastern lower third of the tract and again

in the northern tip in 2003 and the northern half of the tract was noted as a bobcat (*L. rufus*, special concern) area. In the area surrounding the tract the following were noted:

To the north: Butternut (*J. cinerea*, 1969), Trailing Arbutus (*E. repens*, 1992), Indiana Bat (*M. sodalist*, 2004), Timber Rattlesnake (*C. horridus*, 2003, 1991), Hooded Warbler (*W. citrina*, 1998), and Cerulean Warbler (*D. cerulean*, 1998)

To the east: Timber Rattlesnake (*C. horridus*, 2002), Bobcat (*L. rufus*, 1989)

To the west: Trailing Arbutus (*E. repens*, 1991)

To the south: Green Adder's-mouth (*M. unifolia*, 1995), Timber Rattlesnake (*C. horridus*, 1992/93/95/98), Bobcat (*L. rufus*, 2003)

There is also an area of dry-mesic upland forest to the north of the tract with no recorded date and a mesic upland forest to the north (1975). The proposed management of this tract does not have an ill effect on any of the above species but may have beneficial effects for bobcat and hooded warbler.

Communities:

Multiflora rose, autumn olive, and Japanese stiltgrass were all noted in the northern third of the tract mainly located around trails and near facilities. A recorded location of American chestnut/Chinese chestnut, possible planting site, is also located on the north aspect of the tract's southern ridge. This area was last reviewed by Forester Vadas in 8-95: 12 individuals were alive, diameters were from 6-14". No other rare, endangered or threatened species observations of wildlife or plants have been noted. See attached map.

Recreation:

The area includes the following facilities: Morgan-Monroe Forestry Office, Poland Cabin, Fire Headquarters, Cherry Lake Shelter house, the Assistant Property Managers House and a portion of the Mason Ridge Camping Area. There are three trails that run through out the area: Tree Identification Trail, Three Lakes Trail, and the Mason Ridge Trail. The Tree Identification trail is confined to the area around the main office and Cherry Lake while Three Lakes Trail and Mason Ridge Trail run through portions of the tract. Poland Cabin is in the midst of an expansion and remodeling for use as Forest Research housing. There is a current Safety Zone established which needs periodic maintenance of safety signage and boundary line marking. Most of the tract is posted for No Hunting due to recreational and facility safety concerns.

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 Activities:

The northern third of the tract is bisected by multiple recreational opportunities and facilities with little timber of good quality or abundance. Harvests within these areas will be generally avoided. The middle northeastern portion of the tract along the Mason Ridge Trail was noted to have autumn olive, multiflora rose, grapevine, Japanese stiltgrass as well as a large undergrowth of spicebush out competing regeneration. It is recommended for this area to be intensively managed to remove invasives and promote better quality regeneration with selective timber stand improvement methods. The southern portion of the tract that was harvested in 1979 could also benefit from timber stand improvement (TSI) as there is a modest population of oak species along the ridgetop that would benefit a light selective cutting or TSI to remove trees with low vigor. A harvest could be planned for the area south of Poling Cabin and extended into the northeastern tip of the tract. There are already several old skid trails present through out the area and the flat knoll in the southeastern portion of the southern third of the tract would provide a suitable landing area. This previously used log landing site has not been identified as of yet. If a harvest is planned the portions of the Mason Ridge Trail and Three Lakes Trail that run through it will have to be closed and rerouted. Logging restrictions for harvest activities in the heavily used recreational portions of the tract should be addressed.

A tractwide harvest is not feasible at this time due to the many recreational and administrative facilities within the tract as well as the vast cultural sites that need protected. However there are some small areas within the tract wherein a harvest is feasible. One such area is located on the tract's south ridge. The oak stands in this area are becoming crowded and would benefit from a thinning. Another small sale area may include the Fire Headquarters (FHQ) access road between the FHQ Office and Main Forest Road. A small area of pine is located near the right of way off of FHQ road on the south eastern side. The pine has acted as a shelter wood for the oak growing beneath it. The oak is in good health and would benefit from a release. A harvest of the south ridge area is expected in the next 5 years with other areas receiving an extensive TSI operation.

Volume Estimates:

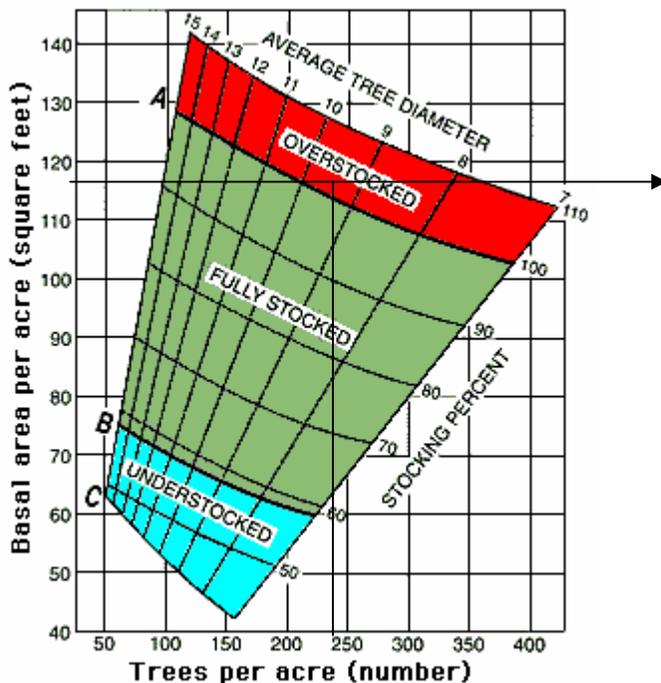
Table 1: Overall Tract (186 Acres) Stocking Chart for M0801

Species	Harvest BF	Growing Stock BF	Total BF
American Beech	6,640	6,610	13,250
American Elm	1,500	3,630	5,130
American Sycamore	3,950	8,420	12,370
Basswood	0	1,660	1,660
Bitternut Hickory	0	8,520	8,520
Black Cherry	3,670	6,860	10,530
Blackgum	0	14,150	14,150
Black Locust	0	1,500	1,500
Black Oak	31,580	40,790	72,370
Black Walnut	20,130	39,860	59,990
Chestnut Oak	28,310	36,810	65,120
Norway Spruce	10,450	16,890	27,340
Eastern White Pine	0	4,890	4,890
Mockernut Hickory	0	6,480	6,480
Red Oak	4,460	65,710	70,170
Pignut Hickory	2,870	9,460	12,330
Red Maple	8,700	0	8,700
Sassafras	6,620	0	6,620
Shagbark Hickory	4,800	34,860	39,660
Sugar Maple	44,550	36,260	80,810
White Ash	28,530	9,450	37,980
White Oak	19,070	103,950	123,020
Yellow Poplar	137,020	121,490	258,510
Total	362,850	578,250	941,100
Totals Per Acre	1,930	3,110	5,040

Table 2: Harvestable Area (108 Acres) Stocking Chart for M0801

Species	Harvest BF	Growing Stock BF	Total BF
American Beech	6,630	3,780	10,410
Basswood	0	1,660	1,660

Black Cherry	0	3,320	3,320
Blackgum	0	3,240	3,240
Black Oak	14,750	35,710	50,460
Black Walnut	10,910	32,930	43,840
Chestnut Oak	26,480	34,570	61,050
Norway Spruce	4,710	5,730	10,440
Mockernut Hickory	0	2,910	2,910
Red Oak	0	65,630	65,630
Pignut Hickory	2,860	7,790	10,650
Red Maple	8,690	0	8,690
Sassafras	2,610	0	2,610
Shagbark Hickory	4,790	31,650	36,440
Sugar Maple	29,600	11,520	41,120
White Ash	5,670	5,900	11,570
White Oak	19,050	77,830	96,880
Yellow Poplar	66,300	30,910	97,210
Total	203,050	355,080	558,130
Totals Per Acre	1,880	3,288	5,168



The overall tract is between fully stocked and slightly overstocked being at 245 trees per acre with an average of 116 basal area per acre.

Proposed Management Activities:
 Exotic/Invasive Species Control
 Timber Stand Improvement
 Timber Harvest – southmost portion
 Inventory and New Management Guide

Proposed Dates:
 2009-2010
 2011
 2013-2014
 2029

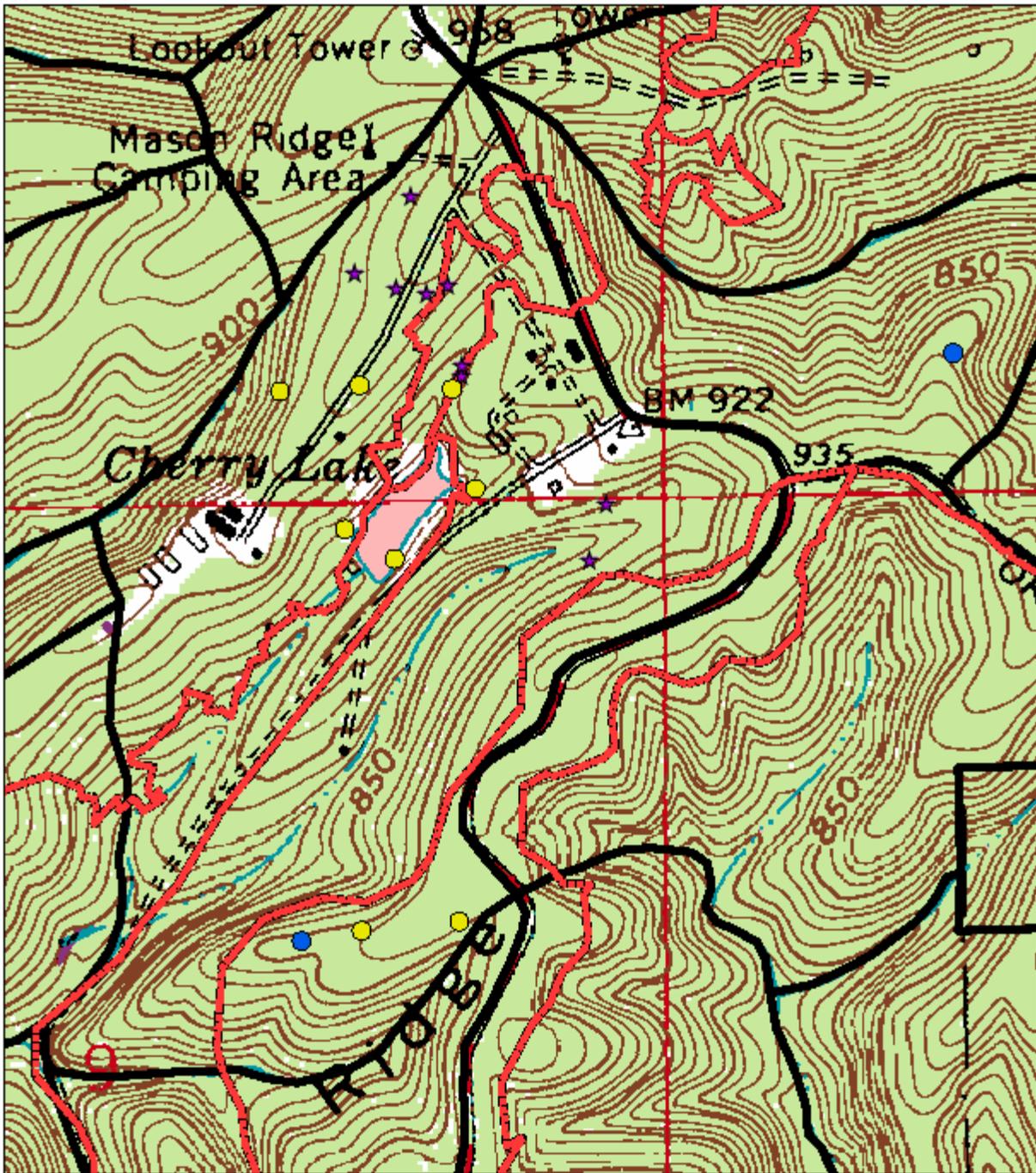
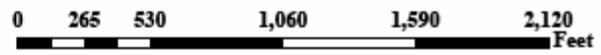
The following attachments are kept in the tract file:

- Ecological Resource Review
- Aerial photo map with noted special features
- Aerial photo map with noted unique areas
- Soil type tract map
- Indiana Natural Heritage Database Map
- TCruise reports

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 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

Property Features of 6370801



● American Chestnut Locations (1995)

--- Active Trails

● Invasive Species

