TM 903

RESOURCE MANAGEMENT GUIDE

FORESTER'S NARRATIVE

(Describe the area, timber and wildlife including condition, soils, regeneration, boundaries, etc.)

Jackson-Washington State Forest
Compartment 2 Tract 6
Date: April 19, 2002
Forester: Brad Schneck

Tract 6 is located approximately 1 mile northeast of the Jackson-Washington State Forest office and ¾ mile north of Highway 250. It encompasses 100 acres of diverse forestland with a general aspect of south. Topography consists mainly of a broad ridge with gentle sloping points and side-slopes reaching 10-15%. Steeper side-slopes (i.e., 40-45%) are present along the western tract boundary, but represent very little of the tract area. Some areas are convoluted such as old field sites and areas where pine was planted to control erosion. State forest property is located to the northwest, west and south with private forestland to the northeast and pasture to the east. A mapped intermittent stream serves as the southern tract boundary, while private land dictates the east and northeast. Natural features such as ridgelines and ravines serve as boundaries to the west and northwest.

Access to the tract is good. Fire-access road #130, also known as boot loop horse trail provides direct access from Highway 250. Fire-access road #101, also known as boot loop horse trail, provides access to the tract as well. It provides access from Highway 250 to fire-access road #133. Road #133, also known as gobbler loop horse trail then provides access to the tract. Both fire-access roads are maintained road containing little to no gravel. Access across private land to the east is possible.

The creation of tract 6 was made possible through two large land acquisitions. On July 15, 1933 the state purchased 200 acres from Arnold and Florence Clare Armstrong Paasch. Then January 26, 1963 160 acres was purchased from John H. and Mary A Vondielingen. Since the tract's establishment few management activities have taken place. An inventory was conducted in August 1971 showing a harvest stock of 1,859 bd.ft./acre and 3,562 bd.ft./acre total. Total volume was 124,670 bd.ft. In 1978, 50 white oak trees were removed and sold for $11, 260. Some of these trees came from the north and west portion of what is known today as tract 6.

There are six soil types present: Bonnell silt clay loam, Coolville silt loam, Burnside silt loam, Kurtz silt loam, Stonehead silt loam and Rarden silty clay loam. These soil types will support harvesting equipment. Bonnell silt clay loam comprises approximately 20% of the area and is located in the eastern half of the tract on flat broad portions where pine was planted. Coolville silt loam, representing 30% of the area, is found in drainages throughout the western portion of the tract. Burnside silt loam is located along the intermittent stream comprising 5% of the area. Kurtz silt loam is found

on the western side-slopes comprising approximately 5% of the soil present. Stonehead silt loam is located along the broad sections of the main ridgeline covering approximately 20% of the area. Rarden silty clay loam comprises 20% of the area and is located in the east portion of the tract where pine was planted. Site Index ranges from 66 to 95 with an average of 74.

Wildlife[1] present includes, but doesn't restrict to, the following: white-tailed deer, eastern wild turkey, gray and fox squirrels, chipmunks, mice, raccoons, woodpeckers, blue-jays, crows, and song birds. An improvement harvest followed by timber stand improvement (TSI) would benefit both game and non-game species by creating additional forage and nesting habitat as well as improving the overall health and vigor of the stand. Using both single tree and group selection provides habitat for early-, mid- and late-successional wildlife species.

Inventory data indicated 7.6 snags per acre with diameters ranging from 6" to 25". The most frequent size was 11" (1.6 snags/acre) followed by 6" (1.4 snags/acre) then 8" (0.8 snags/acre). Virginia Pine was the most frequent species tallied followed by white oak, cedar and sassafras respectively. Currently, there is 5.4 snags/acre ≥ 9" d.b.h. (5.2 snags/acre ≥ 9" and 0.2 snags/acre ≥ 19"). This is slightly less than the 6 snags/acre required under the Division of Forestry's Resource Management Strategy for Indiana Bats. The strategy requires 5 snags ≥ 9" and 1 snag ≥ 19" to be maintained or created per acre within each compartment or tract. As the stand matures and management activities occur, such as periodic harvesting and TSI, diameter distribution and snags per acre will improve.

It is my opinion that an improvement harvest using single tree and group selection will have little impact on the current number of snags/acre. The low number of snags present makes the potential snag loss to felling and skidding minimal. The number of snags created during post harvest TSI should offset those lost during the harvest operation. In fact, one of the goals of post-harvest TSI is to improve the number of snags/acre and diameter distribution. The data indicates there is 1.2 culls/acre ≥ 9" and 0.5 culls/acre ≥ 19". If these trees and others are deadened during the TSI operation then the required 6 snags/acre will be met at the tract level. The majority of snags present appear to be victims of recent drought and overstocking, thus additional snags may be created prior to a timber harvest operation.

The Resource Management Strategy for Indiana Bats also requires the retention of 9 live trees ≥ 11" inches d.b.h. per acre to be maintained (6 trees ≥ 11" and 3 ≥ 20"). Currently, there are 67 trees per acre ≥ 11" d.b.h., of which 10 trees are ≥ 20 inches d.b.h.; thus the current number of live trees per acre exceeds the strategy requirements. Based on inventory information, the number of live trees to be removed ≥ 11" d.b.h. is 21.6 per acre (16.0 trees ≥ 11" and 5.6 trees ≥ 20"). These removals would have little effect on the requirements for live tree retention. Overall, a harvest will not adversely

[1] Wildlife listed as present is a result of visual sightings, tracks, fecal matter, etc. by forestry personnel or other qualified individuals.

affect the requirements for the retention of live trees for the compartment or tract. In fact, a reduction in competition would ensure a sustained presence of diverse diameters within the stand.

Recreational use of the area is high. Portions of the Gobbler and White Pine Loop horse trail traverse through the tract. These loops are heavily used throughout the spring, summer and fall by horse riders and hunters. Hunters use the horse trails as walking paths to hunting areas to seek deer, turkey, squirrel, grouse and mushrooms. A harvest in this tract should be planned for late summer or early fall to avoid conflict with a majority of the recreational users.

The current Indiana Natural Heritage Database has no documented sightings of rare, threatened or endangered plants, animals or communities within or near tract 6. It is my belief that an improvement harvest using single tree and group selection will have little affect on the current population of forest wildlife known to occupy this particular tract. An improvement harvest and TSI operation would benefit both game and non-game species by improving both nesting and foraging habitat. Further more, this type of harvesting method could potentially help avoid additional reductions in the abundance of certain forest dwelling birds (Annand and Thompson 1996). Resident and migratory birds within a central hardwood landscape use a variety of forested and semi-forested habitats (Dessecker and Thompson 1997). Using single-tree and group selection where applicable provides a variety of forest habitats for a multitude of forest wildlife.

Below you will find a list of letters. These letters correspond with those located on the tract map providing detailed descriptions of that particular area.

AREA A

This area consists primarily of small and medium sawtimber chestnut oak, white oak, black oak and hickory. Stocking is high with many trees showing signs of stress (i.e., crown dieback, snags, compressed crowns, etc.). Several nice white oak throughout the area. A light thinning to release the better white oak, black oak, chestnut oak and hickory is recommended. Other quality species should be released where possible to promote diversity. The canopy is mostly closed with a rather open understory consisting mainly of pole size sugar maple. Beech and dogwood are present in the understory, but the minority. A harvest would create canopy gaps allowing additional sunlight to penetrate the forest floor promoting the regeneration of a variety of ground floras including trees. Following the harvest TSI is recommended to control grapevines and release trees not benefited by the harvest. The western portion of this area contains evidence of a previous timber harvest (i.e., old stumps and tops). Fewer trees require removal from this area due to the previous harvest.

AREA B

Currently, this area contains a mixture of pole and small to medium sawtimber Virginia pine, yellow poplar, sassafras, red maple and white ash. Very little oak is

present in the overstory. Some oak seedling and saplings are present in the understory, but fire or TSI will be needed to release them from the quicker growing species and thick understory. The area appears to have been planted with pine and through natural mortality (i.e., wind, snow, overstocking, etc.) hardwood species have regenerated. Most of the remaining pine is healthy and vigorous looking, but certain areas will require removals. Recommendations are to release the younger more vigorous hardwoods and pine where applicable and conduct post-harvest TSI. Other trees that are diseased, defective or lacking in vigor or are undesirable should be removed to release the more vigorous species. The understory consists mostly of poplar, sweetgum, sassafras, ash, cherry and dogwood. There are patches, some dense, of raspberry and blackberry where the canopy has been opened significantly. A regeneration opening may be created in this area during the marking operation. Following the harvest TSI and/or a pre-scribed fire is recommended to control ground vegetation allowing oak species a chance to survive. TSI is also recommended to control grapevines and release trees not benefited by the harvest.

AREA C

This area appears to have previously been an old field/pasture that was let go to naturally convert back to forestland. Cedar can be found throughout the understory both dead and alive. The overstory consists mostly of black oak, yellow poplar, hickory, sweetgum, ash, cherry and red oak. Most of the cherry are of poor quality (i.e., gum pockets, poor form, etc.). There are several short logged trees with poor form or a wolfy appearance. Recommendations are to remove these trees. The understory consists of cedar, maple and beech with lesser amounts of dogwood. A harvest is recommended to release the more vigorous oak, ash, hickory and poplar. TSI should following to control grapevines and release trees not benefited by the harvest.

AREA D

This area appears to have been planted with red oak. Several are located along the flatter portions adjacent the stream. Sweetgum, poplar and ash are also present in the overstory. The area contains a diverse mixture of pole, small and medium sawtimber trees. Many of the red oaks are of good quality, but need released. Several partial volume trees (i.e., multiple stems, forks, hollow butts, etc.) exist in the area. Their removal is recommended to release the healthier more vigorous trees. A harvest is recommended to release the oak species and remove the low quality trees. TSI is recommended to control grapevines and release trees not benefited by the harvest.

AREA E

These two areas appear to have most recently been old fields or pastures. The overstory is sparse consisting of pole to small sawtimber Virginia pine, poplar, blackgum, hickory and red maple. Sassafras, cedar, dogwood and maple dominate the understory. TSI may be the best option for this area, but the removal of large wolfy trees is recommended.

AREA F

Typical chestnut oak-hickory forest type. The area is dominated by small to medium sawtimber chestnut oak. Sugar maple dominates the understory. A harvest is recommended to release the healthier more vigorous oak and hickory. TSI is recommended to release trees not benefited by the harvest and control vines.

AREA G

This area lies primarily on a bench located below the peak of the ridge. The overstory contains a mixture of yellow poplar, red elm, black cherry, hickory, red maple and minor amounts sugar maple and beech. Grapevines need to be controlled in this area. Paw-paw is dominant in the understory. A harvest is recommended to release the healthier more vigorous species where applicable. TSI should follow to control vines and release trees not benefited by the harvest. A small regeneration opening in this area may be an option upon further field review.

AREA H

This area contains small and medium sawtimber sugar maple, white oak, ash and hickory. A light harvest is recommended to release the better oak, hickory and maple. TSI should follow to control vines and release trees not benefited by the harvest.

OVERALL

The overall recommendation for this tract is to conduct an improvement harvest using single tree and group selection. The harvest should take place within the next 5 years. TSI should follow to control grapevine, hollow trees and release desired crop trees not benefited by the harvest. The marking objective is to remove mature/over-mature stems, low quality stems and stems of less desire in an effort to improve the overall health, vigor and composition of the stand. White oak, red oak, black oak, hickory, ash, maple and beech should be favored where applicable. A couple regeneration openings may be applied upon further field review in the eastern and western portions of the tract. These areas showed potential for openings during the collection of field data. The eastern portion may be a potential test site for a pre-scribed burn to release oak seedlings from the dense ground vegetation and faster growing tree species.

The reduced stocking level will provide ample space for pre-selected crop trees to move forward into the next cutting cycle. A healthier, more vigorous stand with good species composition will be less susceptible to insect and disease infestation a common problem with unhealthy homogeneous stands. These management techniques will improve the overall health, vigor and quality of the residual stand, while capitalizing on stems dropping out due to natural mortality from overstocking and maturity. Silvicultural systems, such as these will provide sustainable yields by thinning the various age classes

to maintain correct proportions. All management activities in this tract must take aesthetic values into consideration.

Additional sunlight penetrating the forest floor will simulate the development of new ground flora, subsequently increasing nesting and foraging habitat for many wildlife species. This is essential for both game and non-game species as well as continued forest development. TSI will increase snags per acre while diversifying diameter distributions of both snags and growing stock trees. Currently, the number of soft mast producing species is low (i.e., blackgum, cherry, persimmon, etc.). An improvement harvest will provide opportunities for such species to regenerate or increase current production levels. Forest structure manipulation in this manner should increase wildlife sightings by recreational users.

A harvest in this tract will provide public education opportunity on the various components of timber management. Its proximity to recreational activities such as horseback riding makes it ideal for demonstrating sustainable forest management.

LITERATURE CITED

Annand, M. Elizabeth and Frank R. Thompson, III. 1996. Forest bird response to regeneration practices in central hardwood forests. J. Wildl. Manage. 61(1):159-171.

Daniel R. Dessecker and Frank R. Thompson, III. 1997. Management of early-successional communities in central hardwood forests with special emphasis on oaks, ruffed grouse, and forest songbirds. U.S. For. Serv. Gen. Tech. Rep. NC-195. 33pp.

TM 901

RESOURCE MANAGEMENT GUIDE

INVENTORY SUMMARY

Compartment: 2
Jackson-Washington State Forest — Tract: 6
Forester: Brad Schneck — Date: April 18, 2002

ACREAGE IN:			
Commercial Forest	100	Average Site Index	74
		Total B.A./Acre	120
		B.A. Trees 14" & Up	79
		B.A. Trees < 14"	41
TOTAL AREA	100		

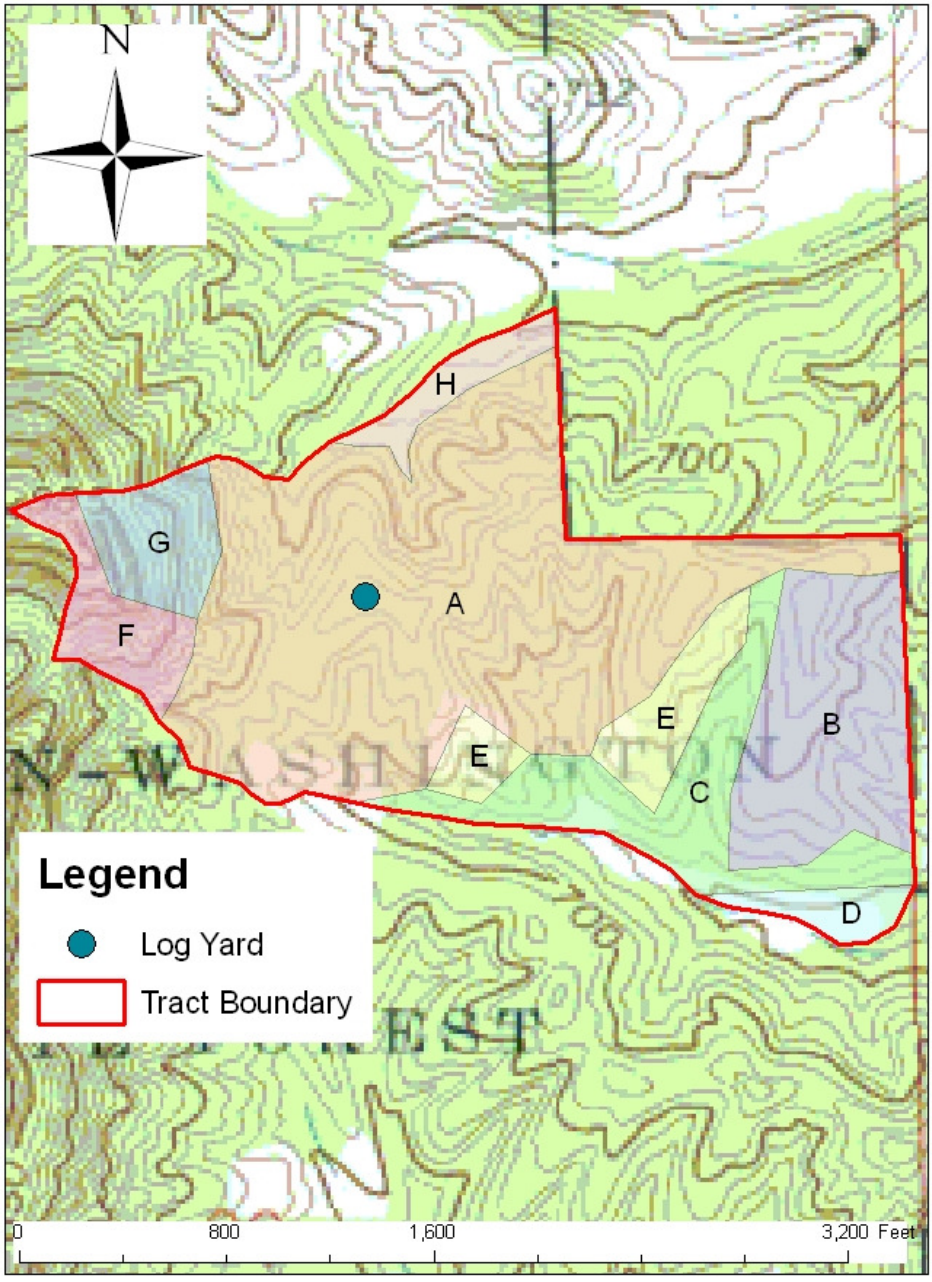
(Estimated Tract Volumes for Commercial Forest Area-Bd.Ft., Doyle Rule)

SPECIES	GROWING STOCK	HARVEST STOCK	TOTAL VOLUME
Black Cherry	3,350	1,480	4,830
Blackgum	0	3,720	3,720
Black Oak	39,530	40,870	80,400
Chestnut Oak	126,800	116,990	243,790
Eastern Redcedar	1,480	0	1,480
Largetooth Aspen	0	2,700	2,700
Pignut Hickory	20,090	17,760	37,850
Red Maple	5,890	9,830	15,720
Red Oak	19,040	3,400	22,440
Scarlet Oak	0	7,580	7,580
Sugar Maple	20,520	7,710	28,230
Sweetgum	12,150	12,840	24,990
Virginia Pine	27,020	13,400	40,420
White Ash	10,350	0	10,350
White Oak	121,890	28,540	150,430
White Oak Prime	6,700	0	6,700
Yellow Poplar	21,680	9,820	31,500
TRACT TOTALS	436,490	276,640	713,130
PER ACRE TOTALS	4,365	2,766	7,131

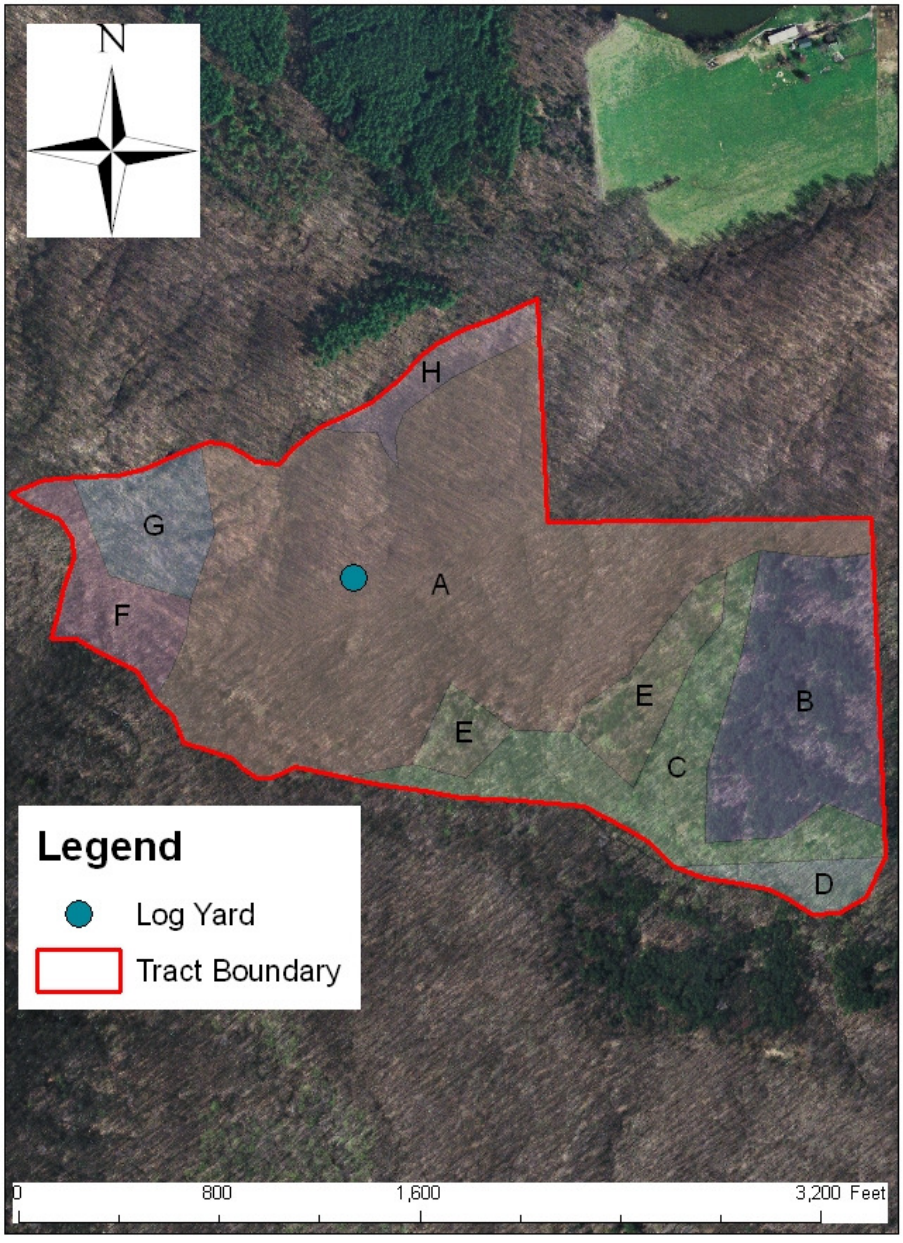
PREVIOUS CRUISE DATA

DATE: Aug-71	GROWING STOCK	HARVEST STOCK	TOTAL VOLUME
PER ACRE TOTALS	1,703	1,859	3,562

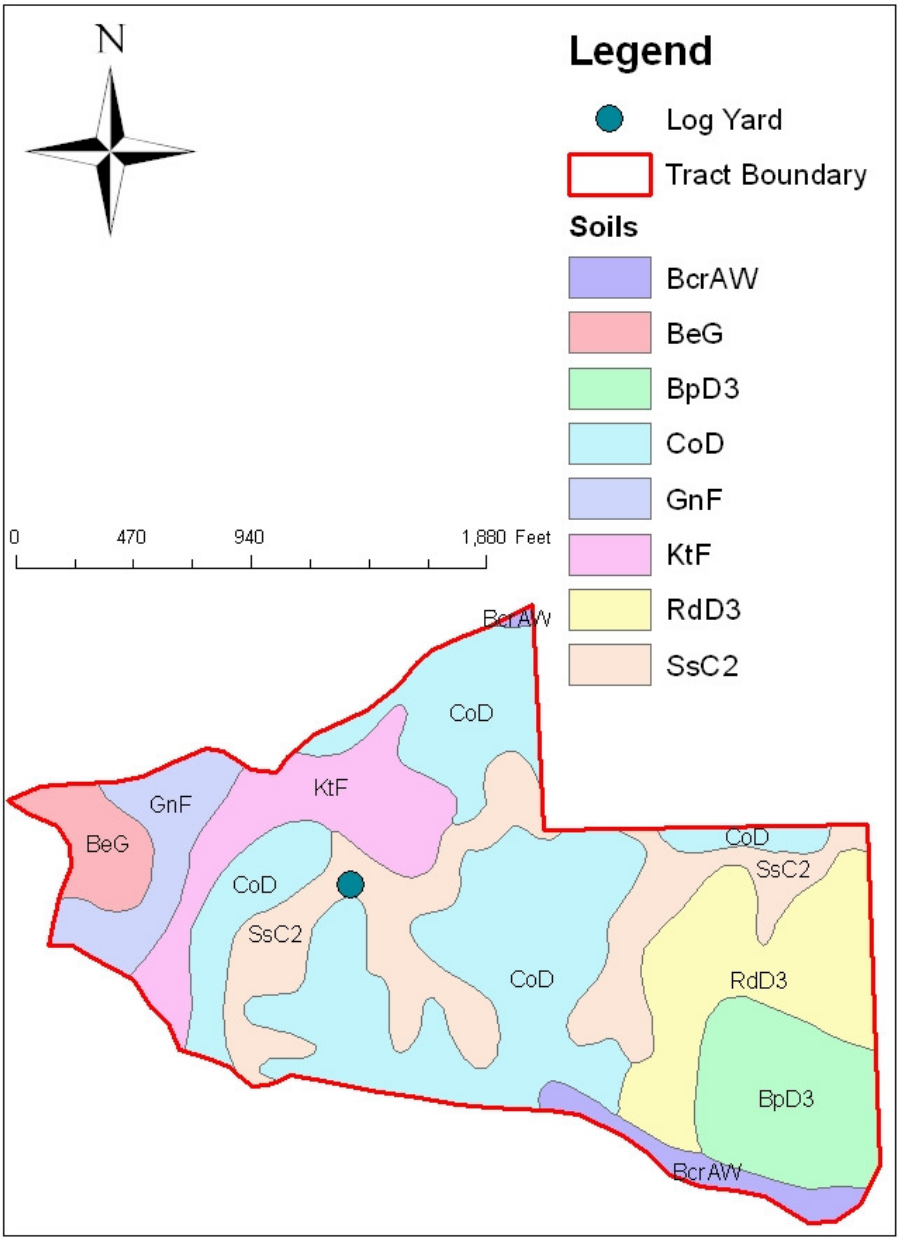
Jackson-Washington State Forest
Compartment 2 Tract 6
Tract Subdivisions



Jackson-Washington State Forest
Compartment 2 Tract 6
Tract Subdivisions



Jackson-Washington State Forest
Compartment 2 Tract 6
Soils Map



Resource Management Guide Amendment
Forester: Michael Spalding
Date: December 17, 2008

Virginia Pine Management: Although Virginia pine is not native to Jackson County, IN, it was planted on many re-claimed farm fields. These fields cleared by early settlers were often placed on very unsuitable soils for row-crop agriculture. After years of soil erosion from farming, the soils were in many cases too poor to immediately grow native hardwood trees. The Virginia pine planted on these fields has for the most part stabilized the soils to the point where quality native hardwood trees can once again grow and thrive. Virginia pine is a much less durable species than other pine species that were frequently planted on the state forests (white, loblolly, short leaf, pitch, and red). My recommendation is to remove all of the Virginia pine in this tract. This will serve two functions. In the case where the Virginia pine have blown over or died throughout the years, hardwoods have grown in. By removing these pine trees, it will provide release to the hardwoods. In areas that have an overstory that is still completely dominated by Virginia pine, the removal of all the pine will create regeneration openings to allow these areas to convert to native hardwoods.

Ash Management: The inventory conducted by forester Brad Schneck in 2002 indicated no ash harvest volume present. Emerald Ash Borer has become an imminent threat in the time since the inventory was conducted. The exotic invasive beetle was first discovered near Detroit, MI, in the summer of 2002. Tens of millions of ash trees have already been killed in the Midwest, eastern US, and Canada (http://www.emeraldashborer.info/). This year alone the beetle has been discovered in three southern Indiana Counties (Floyd, Brown, and Monroe). It is now the policy of the Division of Forestry to remove nearly all ash trees in the sawtimber size classes during ongoing forest management operations.

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http://www.in.gov/surveytool/public/survey.php?name=dnr_forestry

You **must** indicate "Jackson-Washington C2 T6" 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.

TM 904

RESOURCE MANAGEMENT GUIDE

SPECIFIC PRACTICES FOR ACCOMPLISHMENT

(tree planting, TSI, harvest, special product sales, wildlife work, erosion control, unique areas, recreation, etc.)

Jackson-Washington State Forest
Compartment 2 Tract 6
Date: December 15, 2008

Year Planned	Practice	Year Accomplished
FY 2009	Boundary line work	
FY 2009-2010	Mark and sell timber	
FY 2012	Post-harvest TSI	
FY 2032	Inventory and Management Guide	

Stocking Chart
Trees Per Acre = 71
Basal Area = 88 sq. ft.
Stocking Percent = 69%
Average Tree Diameter = 14.5”