## GOALS AND OBJECTIVES

The primary objectives for this property are quality timber production and to maintain the property as a family legacy and improve the stewardship of the resource. The secondary objectives are wildlife habitat improvement and maintaining the quality of the soil and water resources. Cultural treatments for timber stand improvement, wildlife openings, wetlands, and timber related activities will be implemented where compatible with the resource and the other objectives.

## PROPERTY DESCRIPTION OVERVIEW

The property lies west of Old Route 13 between Carbondale and Murphysboro and is the center of the south half of Section 15, 10S, 2W. Access is via an owned easement from Pump House Road. (37.736740 x 89.307553) The woodland has other woodlands on the north, east and south sides, and woods and residential parcels on the west. An intermittent stream traverses the property running across the northwest corner toward the northeast. The property is rolling with gentle to moderate slopes. The woodland sustained some wind damage five years ago. An adjacent neighbor's salvage cut and heavy harvest encroached onto a portion of the north end of the woodland. That encroachment removed much of the overstory in that part of the woods. There was a marked timber harvest carried out in the early 2000s. No recent fire damage was observed. The potential for timber production is still good. Adequate desirable tree regeneration covers the bulk of the property. Wildlife habitat improvement potential is good. Deer and turkey sign was evident throughout the property.

No evidence of threatened or endangered species was observed, nor were any sighted in the woodland. The Illinois Natural History Database has no record of listed species nor any INAI sites in the vicinity of this woodland.

Hosmer, Hickory, Belknap, and Hickory-Menfro silt loams are the main soil types in the woodland. Restrictions for use because of soils should be minimal except for normal slope and wet season restrictions. Future woodland management cultural practices should not present any problems as long as standard best management practices are followed.

## FOREST STAND DESCRIPTIONS AND RECOMMENDATIONS

### Stand A – South Oak-Hickory – 67.6 acres

This oak-hickory stand runs across the south end of the woodland, along gentle to moderate, generally south and westerly facing slopes, and has good timber production potential. The overstory is a mix of white, black, and red oaks, hickory, and scattered sugar maple, yellow poplar and an occasional walnut. The understory and shrub layers are much more diverse. Sugar maple, yellow poplar, and white oak are the main understory species with a mix of walnut, elm, black gum, Paulonia, and others. The stand has adequate natural regeneration with the potential to continue to grow as a quality woodland. The stand is fully stocked with a total basal area of 78 square feet and 260 trees per acre. The average diameter (QMD) is 7.7 inches and the stand contains approximately 3560 board feet of sawtimber volume per acre. Site Index for this stand is 70 for red oak.

The recommended treatment for this stand is to have a light timber harvest followed by a crop tree release/timber stand improvement (TSI) operation. The harvest should be designed to be a combination salvage improvement cutting. This harvest would remove about 1500 to 2000 board feet of sawtimber volume per acre. This cutting would remove 15 to 20 square feet of basal area per acre. The trees to be harvested should be those that have been damaged by the past wind storms and others grouped to created small openings that will favor the regeneration of the oaks and hickories. There are adequate seed trees of these species in the stand. Allow the stand to grow for 8 to 10 years after the harvesting and then carry out a combination crop tree release – timber stand improvement (TSI) operation designed to give more growing space to the preferred crop trees that should be selected on a desired spacing of about 20 by 20 feet. Species to favor as the preferred crop trees are red, white, and black oak, cherry, hickory and yellow poplar. There are a few scattered exotics, oriental bittersweet, bush honeysuckle, and Japanese honeysuckle, that do not warrant control treatment at this time but should be monitored to see if control is needed in the future. The stand also contains a wide variety of native forbs and shrubs, blatternut, blackberry, pawpaw, spice bush, sumac and others. These native species are important for plant diversity and as wildlife food sources.

Stand A
Stand Table Number of Trees Per Acre

| | Species | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DBH | Hickory | Black & Red Oak | White Oak | Yellow Poplar | Sugar Maple | Walnut | Elm | Black Gum | Misc. * |
| 2 | - | - | - | 91.7 | - | 30.5 | - | - | 30.5 |
| 4 | - | - | - | 38.2 | 15.3 | 7.6 | - | - | 7.6 |
| 6 | - | - | - | 20.1 | 6.7 | - | - | - | 3.4 |
| 8 | - | - | 1.9 | 3.8 | 3.8 | - | 1.9 | 1.9 | 1.9 |
| 10 | 4.8 | - | 1.2 | - | 4.8 | 1.2 | 3.6 | 1.2 | 1.2 |
| 12 | 0.8 | - | 0.8 | - | 0.8 | - | - | 0.8 | 0.8 |
| 14 | 2.5 | - | - | - | - | - | 1.3 | - | - |
| 16 | 2.9 | 1.0 | - | - | 0.5 | - | - | - | 0.5 |
| 18 | 2.3 | 1.1 | 0.8 | - | 1.5 | - | - | - | - |
| 20 | - | 0.9 | 0.6 | 0.3 | - | - | - | - | - |
| 22 | 0.3 | 1.8 | 0.3 | 0.5 | 0.8 | 0.3 | - | - | - |
| 24 | 0.2 | 0.6 | - | 0.4 | - | - | - | - | - |
| 26 | - | 0.5 | - | - | - | - | - | - | - |
| 28 | - | - | - | - | - | - | - | - | - |
| | | | | | | | | | |
| Total | 13.8 | 5.9 | 5.6 | 155.0 | 34.2 | 39.6 | 6.8 | 3.9 | 45.9 |
| BA/A | 15 | 14 | 5 | 14 | 13 | 3 | 4 | 3 | 5 |

Misc. * – Sycamore, Paulonia, Sassafras, Persimmon, & Beech

Stand A
Stock Table Board Foot Volume per Acre Doyle Scale

| DBH | Species: Hickory | Black & Red Oak | White Oak | Yellow Poplar | Sugar Maple | Walnut | Elm | Black Gum | Misc. * |
|---|---|---|---|---|---|---|---|---|---|
| 12 | 17 | - | 17 | - | 17 | - | - | 17 | 17 |
| 14 | 50 | - | - | - | - | - | 50 | - | - |
| 16 | 230 | 67 | - | - | 48 | - | - | - | 58 |
| 18 | 324 | 172 | 114 | - | 160 | - | - | - | - |
| 20 | - | 178 | 148 | 68 | - | - | - | - | - |
| 22 | 71 | 459 | 86 | 101 | 157 | 43 | - | - | - |
| 24 | 61 | 260 | - | 182 | - | - | - | - | - |
| 26 | - | 266 | - | - | - | - | - | - | - |
| 28 | - | - | - | - | - | - | - | - | - |
| | | | | | | | | | |
| Total | 753 | 1402 | 365 | 351 | 382 | 43 | 50 | 17 | 75 |

Stand B – North Oak-Hickory – 62.4 acres

This Oak-Hickory stand is very similar to Stand A with the predominate overstory species hickory and mixed oaks. The site quality would lend itself to a potential mixed hardwood classification and may gradually modify to this classification as the yellow poplar and red oak components grow into the overstory layers. Understory species is more complex with higher numbers of sugar maple, yellow poplar, Paulonia, ash, sycamore, and other minor miscellaneous species. The stand is fully stocked with 72 square feet of basal area and 370 trees per acre and an average diameter (QMD) of 6.3 inches. The stand contains just over 2730 board feet volume per acre. Site index for this stand is 67 for red oak. The recommendation for this stand is similar to Stand A conduct a light timber harvest followed by a TSI – crop tree release operation. The harvest would remove 1000 to 1500 board feet of sawtimber volume per acre which would equate to removing about 15 square feet of basal area per acre. Species to favor would be the same as Stand A. This stand also has a few scattered patches of exotics that do not need control at this time but should be monitored to determine if control becomes necessary in the future.

Stand B
Stand Table Number of Trees Per Acre

| DBH | Species: Hickory | Black & Red Oak | White Oak | Yellow Poplar | Sugar Maple | Paulonia | Walnut | Misc. ** |
|---|---|---|---|---|---|---|---|---|
| 2 | - | - | 38.2 | 267.4 | 76.4 | 38.2 | - | 76.4 |
| 4 | - | - | - | 9.6 | - | 9.6 | - | - |
| 6 | - | - | 4.2 | 8.5 | 4.2 | 4.2 | - | - |
| 8 | - | - | - | - | 2.4 | 4.8 | - | 2.4 |
| 10 | - | - | - | - | 1.5 | - | - | - |
| 12 | - | - | - | - | - | - | 1.1 | 1.1 |
| 14 | 0.8 | 0.8 | 1.6 | - | 0.8 | - | 0.8 | 0.8 |
| 16 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | - | 1.2 | - |
| 18 | 2.3 | 0.5 | 0.5 | - | 0.5 | - | - | 0.5 |
| 20 | 0.4 | - | 2.0 | - | - | - | - | - |
| 22 | 0.6 | - | 0.3 | - | - | - | - | - |
| 24 | 0.3 | - | 0.3 | - | - | - | - | - |
| 26 | - | - | 0.5 | 0.2 | - | - | - | - |
| 28 | - | - | - | 0.2 | - | - | - | - |
| | | | | | | | | |
| Total | 5.6 | 2.5 | 48.8 | 287.1 | 87.0 | 56.8 | 3.1 | 81.2 |
| BA/A | 10 | 3 | 13 | 12 | 8 | 4 | 3 | 5 |

Misc.** – Ash, Sycamore, Black Gum, & Sassafras.

Stand B
Stock Table Board Foot Volume per Acre Doyle Scale

| | Species | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DBH | Hickory | Black & Red Oak | White Oak | Yellow Poplar | Sugar Maple | Paulonia | Walnut | Misc. ** |
| 12 | - | - | | - | - | - | - | - |
| 14 | 39 | 39 | 47 | - | 39 | - | 24 | 39 |
| 16 | 84 | 120 | 120 | 120 | 102 | - | 102 | - |
| 18 | 337 | 95 | 76 | - | 48 | - | - | 62 |
| 20 | 69 | - | 307 | - | - | - | - | - |
| 22 | 140 | - | 73 | - | - | - | - | - |
| 24 | 115 | - | 131 | - | - | - | - | - |
| 26 | - | - | 162 | 117 | - | - | - | - |
| 28 | - | - | | 119 | - | - | - | - |
| | | | | | | | | |
| Total | 784 | 254 | 916 | 356 | 189 | 0 | 126 | 101 |

Stand C – Yellow Poplar Old Field – 3.4 acres

This stand is a mix of yellow poplar, sycamore and other mixed hardwoods that have grown into this old field. The stand contains 113 square feet of basal area and over 650 trees per acre. The stand contains about 1700 board feet of sawtimber volume per acre and has a site index of 95 for yellow poplar. The recommendation for this stand is to have a light thinning harvest at the same time as the harvest in Stands A & B. This thinning would remove 20 to 30 square feet of basal area and would release the better quality larger yellow poplar and sycamore.

Stand C
Stand Table Number of Trees Per Acre

| | Species | | | | |
|---|---|---|---|---|---|
| DBH | Sycamore | Yellow Poplar | Boxelder | Elm | Persimmon |
| 2 | 152.6 | - | 458.4 | - | - |
| 4 | 76.4 | - | 152.8 | 38.2 | - |
| 6 | 16.9 | - | - | - | - |
| 8 | 38.3 | - | 19.1 | - | - |
| 10 | 12.2 | 6.1 | - | - | - |
| 12 | 4.2 | - | - | - | - |
| 14 | - | 9.3 | - | - | 3.1 |
| 16 | 4.8 | - | - | - | - |
| 18 | 1.9 | 3.8 | - | - | - |
| 20 | - | - | - | - | - |
| 22 | - | - | - | - | - |
| | | | | | |
| Total | 307.3 | 19.2 | 630.3 | 38.2 | 3.1 |
| BA/A | 47 | 20 | 30 | 3 | 3 |

Stand C
Stock Table Board Foot Volume per Acre Doyle Scale

| | Species | | | | |
|---|---|---|---|---|---|
| DBH | Sycamore | Yellow Poplar | Boxelder | Elm | Persimmon |
| 12 | 85 | - | - | - | - |
| 14 | - | 407 | - | - | 157 |
| 16 | 336 | - | - | - | - |
| 18 | 304 | 494 | - | - | - |
| 20 | - | - | - | - | - |
| | | | | | |
| Total | 725 | 901 | 0 | 0 | 157 |

Stand D – Windstorm Mixed Hardwoods – 19.3 acres

This stand was damaged by the windstorm of May 2008 and was heavily cut in the subsequent encroachment by the neighbor's salvage cutting operation. The remaining overstory is sparse running about 30 to 35 square feet of basal area per acre. The main overstory species are sugar maple, chinkapin oak, sycamore, hickory and ash. Most of the current overstory trees were midstory trees in the stand prior to the windstorm and logging. The stand has more than adequate natural regeneration with the potential to grow into a high quality woodland. Total regeneration is over 5000 stems per acre. This includes a wide variety of species and over 2500 stems per acre of desirable species, red oak, chinkapin oak, hickory, ash, black cherry, sweetgum, hackberry and yellow poplar.

The recommended treatment for this stand is to allow it to grow for 10 to 15 years and then examine the stand to determine if enough tree crown differentiation has occurred for a crop tree release treatment. This treatment would favor the better quality more desirable species by removing the competing trees within five to fifteen feet of the selected crop trees. There are a few scattered exotics, oriental bittersweet, bush honeysuckle, and Japanese honeysuckle, that should be monitored to see if control is needed in the future. The stand also contains a wide variety of native shrubs, sumac, blackberry, blatternut, pawpaw, spice bush, and others. These native species are important as wildlife food sources and for plant diversity.

Stand D – Stand Table – Regeneration – Trees less than 2" DBH
Stems per acre

| Sugar Maple | Black Cherry | Chinkapin Oak | Red Oak | Hickory | Persimmon | Cottonwood |
|---|---|---|---|---|---|---|
| 112 | 98 | 94 | 940 | 97 | 112 | 87 |

| Ash | Sweetgum | Yellow Poplar | Hackberry | Elm | Box Elder | Black Gum | Sycamore | Sassafras |
|---|---|---|---|---|---|---|---|---|
| 276 | 884 | 1260 | 230 | 262 | 244 | 97 | 1447 | 94 |

PLAN IMPLIMENTATION

The following schedule has been developed in order to give you direction and help prioritize the recommended practices in your plan. This schedule is flexible and may vary depending upon your financial and labor constraints.

| YEAR | PRACTICE | STAND | ACREAGE |
|---|---|---|---|
| 2015-16 | Harvest | A, B & C | 133 |
| 2016 | Harvest | A, B & C | 133 |
| 2017 | Check growth of exotics | All | |
| 2020 | Check growth of exotics | All | |
| 2024 | Re-examine for plan update | All | |
| | Check for TSI/Crop Tree Release | A&B | 130 |

Consulting foresters and contractors are available to perform many of the practices recommended in your plan. You may carryout the work yourself. Regardless of how the work is carried out, you are responsible for seeing that the practices are carried out according to the specifications in your plan.

OTHER RESOURCES

There are numerous values and benefits associated with proper forest management. Native plant and animal species, water quality, recreational opportunities and aesthetics are all influenced by the composition and structure of the forest. If threatened or endangered species are discovered in the future, this plan will be reviewed and modified, if needed, to protect these species.

***FOREST HEALTH & PROTECTION:***

Protecting your woodland to ensure optimum growth and vigor is the first and most important step in initiating a forest stewardship program.

- Any form of grazing absolutely ***must*** be excluded from your woodland for fear of soil compaction, root damage, and browsing of desirable regeneration and native understory herbaceous plants.

- Fire should also be excluded from your woodland unless prescribed by your District Forester.

- Avoid the introduction of non-native species into your woodland such as autumn olive, black locust, sawtooth oak, buckthorn, honeysuckle species, oriental bittersweet, etc.

No major insect or disease problems were identified during the initial forest inventory.

Protection of the forest resource is the first and most important step in initiating a forest management program. Although no specific problems or concerns have been identified in your woodland, there are several practices that can have detrimental impacts to your forest. Your eligibility to participate in the forest management/stewardship programs requires that you avoid: Converting woodland areas to other types of use (i.e. real estate development, pasture, etc.); livestock grazing of your woods; burning your woodland unless prescribed burning has been recommended in your plan; or harvesting your woodland without following this plan. In addition there are naturally occurring disturbances such as wildfire, or insect and disease outbreaks which need to be controlled as they occur. Insect and disease outbreaks are usually first noticed in the foliage of the trees. Inspect your trees periodically during the growing season and contact your forester should you experience any problems. Contact your local fire protection organization for assistance regarding wildfire suppression. Avoid the introduction of non-native species into your woodland. Do not plant exotic trees or shrubs in your woods or in adjacent areas.

## ***FISH, WILDLIFE, AND BIODIVERSITY:***

One goal of this plan is to create, restore, and enhance wildlife habitat. The types of silvicultural systems recommended in this plan are chosen with this goal in mind. Through the management techniques applied to the Mixed-Oak stand, the available plant and wildlife diversity on the property will be enhanced.

Small 1/4 acre plots can be left in corn and other grains, or can be planted to specifically mixed wildlife food plots to help wildlife over the winter. Also, any uneven corners, or irregular areas can be planted to pine, wildlife shrubs, and small seeded mast trees, eg. Shingle oak, pin oak, chinquapin oak, and black cherry, to serve as cover and a source of food.

WOODLAND MANAGEMENT PRACTICES THAT ARE BENEFICIAL TO WILDLIFE INCLUDE:

Selective cutting in all woodlands, leaving two (2) den trees per acre, keeping stands thinned, piling brush near the edge of the woods, leaving fallen hollow logs, clear cutting small areas in large woodlands, planting log landings and skid trails to "deer clover" - and maintaining fence rows through the use of a root plow. Leave one tall, large crowned oak tree per two to three acres.

## ***Air, Soil and Water Management:***

Another goal of this plan is to accomplish management objectives in such a way as to minimize the effects of erosion. This factor played a large role in selecting the Silvicultural method used in management of the upland Mixed-Oak stands. In addition, harvesting should only be conducted during the dry season or when the ground in frozen and skidding trails should be kept to a minimum.

Some soil erosion may occur on logging and access trails that are developed through the Mixed-Oak stand. A combination of grass seeding and water bars can be used to control erosion problems. Specifications for diversions and seeding are located in the Technical Appendix.

Questions concerning conservation cropping systems eg., conservation tillage, zero till, chisel planting, contour farming grassed waterways, farm pond construction and water control structures, etc., should be addressed to:

Your County Natural Resource Conservation Service (NRCS)District Conservationist (DC).

Recommendations to benefit wildlife may include putting up nest boxes, to converting fescue/brome grass fields to prairie grasses or hardwood trees, to some form of harvest to stimulate young growth on the forest floor, to intermediate cuts to favor hard mast producing trees by selectively removing soft mast producing trees (maple, elm, ash, etc.), to creating snags to enhance habitat for den and cavity nesting wildlife. When wildlife habitat improvement is chosen as the landowner's first priority, recreation, aesthetics, water quality, and timber are still considered but with the emphasis on wildlife.

## ***RECREATION & AESTHETICS:***

There are numerous values and benefits associated with proper forest management. Native plant and animal species, water quality, recreational opportunities and visual experiences (aesthetics) are all influenced by the composition and structure of the forest. These values were considered in this plan. Personal use of your woodland is very important to your enjoyment of nature, trees, wildlife, etc. Uses vary from hunting to bird watching to hiking. Hiking trails or small roads wide enough for a small tractor will provide access to your woods and help you enjoy your woodland.

## *WETLANDS:*

Wetlands are classified as those areas which include biotic communities that are flooded or have a hydric soil component (permanently inundated with water) and that have a vegetative cover. Forested wetlands provide a natural means of flood control and storm damage protection, recharge aquifers, and offer critical habitat essential for the life-cycle of many species of wildlife, fish, and aquatic organisms. Forestry Best Management Practices (BMP's) in wetlands protect water quality from erosion and minimize changes to the surface and sub-surface water movement.
Activities in wetlands are often subject to municipal, county, state and federal permit and regulatory requirements. If you suspect your project may involve a wetland and want to know whether regulations apply, contact the Natural Resources Conservation Service (NRCS).

## *STATE & FEDERAL CONSERVATION PROGRAMS & COST-SHARE ASSISTANCE:*

State and Federal cost-share programs are sometimes available to help you accomplish various forestry practices such as Tree Planting, Crop Tree Release, TSI, Fencing and Pruning. These practices must be approved prior to any work being done. For more information on availability of these programs contact my office. These are reimbursement programs, expenses must be documented and bill paid before a repayment can be made. Cost-share payments are subject to practices being completed as outlined in this plan and approved by the District Forester. Cost-share monies are limited and available on a first-come, first-served basis.

## *PROGRAM BENEFITS & RESTRICTIONS:*

### Important Considerations Specific to IDNR Program

A. Management Plan entitles owner or subsequent owners, pending availability
   1.) Eligible for technical assistance from the IDNR forester
   2.) Eligible for no-cost IDNR state nursery stock, pending availability
   3.) Eligible for cost-share funds to help implement planned practices

B. Management Plan requires owner or subsequent owners
   1.) Afforested/reforested areas must maintain minimum stocking level of 300 live, desirable trees per acre during establishment
   2.) Repay all cost-share monies if property is decertified
   3.) Never remove IDNR state nursery stock with the roots attached
   4.) Approve timber harvest marking or operations with your IDNR Forester if not specifically outlined in approved plan
   5.) Modify the plan or practices within plan period only with approval by both the landowner and IDNR Forester and documented in writing
   6.) Return biennial review letter to retain participation in IFDA program
   7.) Protect plan acreage from wildfire
   8.) Exclude any plan acreage accessible to livestock unless approved
   9.) To implement this plan according to the activity schedule and not contingent upon state or federal funding
   10.) Notify IDNR within 30 days of address or ownership changes

# APPENDIX

**General Information**

For forest management purposes trees can generally be classified as good, medium, poor, or cull growing stock based on species desirability, health, size, and quality. Good growing stock trees should generally be grown to economically mature size (22" to 26" in diameter at breast height); medium growing stock trees are neither typically good nor bad and could be harvested within 10 to 20 years unless needed to maintain proper density; poor growing stock trees are economically mature, defective or high risk and are not providing an adequate return on investment; cull trees are trees with more than 50 percent volume defect, with no present economic value and a very uncertain future economic value. For optimum tree health and growth, stocking (density) should be maintained at moderate levels with good growing stock trees making up at least half of the total. If stocking is too high, the trees may become unhealthy and will grow slowly. If it is too low, volume growth and tree quality will be reduced. Stocking (density) of trees is generally measured in terms of basal area. Basal area is the cross sectional area of a tree measured 4.5 feet above ground and is expressed as square feet per acre. Optimum basal area is generally between 60 and 80 square feet per acre.

The long term health, productivity and value of a woodland ultimately depends on the successful replacement of the dominant over story trees with a new age class of desirable trees. Small trees (regeneration) need openings that are at least 120 to 150 feet in diameter to give them enough sunlight and space to grow into the over story. The tree species that will eventually dominate any openings created by timber harvesting or natural disturbance is largely determined by the species, size and density of the under story trees and shrubs (advance regeneration) and/or the availability of seed sources for establishment of new trees. Most desirable hardwoods species such as oak, hickory, ash, cherry and others have a much better chance of surviving in openings if they have a head start on the competition by being present in the under story as advance regeneration before an opening is created. We should be most concerned about the status of the advance regeneration if a harvest is planned within 10 to 15 years and/or the dominant trees are starting to decline because of age or poor health.

Maintaining a Healthy Oak-Hickory Forest

In most forests in our region efforts should be made to sustain a dominance or at least significant component of oak and hickory species with the possible exception of some of the most mesic and productive sites. Mast from oak and hickory species are a critical food source for a variety of wildlife. There is also evidence that conversion of oak-hickory forests to beech-maple or mixed mesophytic forest results in a substantial loss in overall plant diversity. In addition, oak species are among the most valuable for timber production in the region.

***Development of healthy, well established oak and hickory seedlings and saplings (advance reproduction) in the understory is absolutely critical for the maintenance of an oak-hickory forest. On the driest sites the forest tends to be fairly open and oak species can usually be maintained without much effort. On more productive (mesic) sites, there is often a dense subcanopy of sugar maple, elms, beech and other shade tolerant species that creates too much shade for oak reproduction to develop. In this situation if the dominant trees are eliminated by natural disturbance such as wind or they are harvested the forest composition may rapidly shift to non-oak species. Once its determined that there is enough oak advance reproduction in the understory, then moderate size openings of at least 1/5 to*** «cre in size can be created to allow the young oaks to grow into the main canopy. Openings much smaller than this will favor the growth of shade tolerant species, such as sugar maple. Developing oak reproduction is often a long term process that may require considerable patience and persistence. In some cases it may require 10 or more years.

***Management aimed at maintaining a healthy, productive oak-hickory forest results in a more "natural", open forest. The primary tools available to accomplish this might include prescribed burning, forest stand improvement and timber harvesting.***

**Definitions**

Advance Regeneration - seedlings and saplings established and growing in a forest understory.
Afforestation - the establishment of forest trees by planting or seeding an area not previously forested.
Basal Area (BA) - a measurement of the cross-sectional area of a tree, including bark, taken at breast height (4 1/2 ft.); a term commonly used as a measure of forest density and expressed in ft2/ac.
Diameter Breast Height (DBH) - the diameter of a tree's trunk measured at 4 1/2 feet above ground level on the uphill side.
District Forester, Regional Administrator, Forest Management Program Manager - are employees of the Department of Natural Resources who are designated by position title per official position description and specification on file with the Department of Central Management Services.
Forest - a biological community whose dominant vegetation is trees.

Forestry Best Management Practices (BMP's) - practical and economically achievable practices for preventing or reducing nonpoint source pollution. http://www.siu.edu/~ilbmp/
Forest Stewardship Plan - a written document prepared by a professional forester or natural resource manager to guide and direct the use and management of a forest property.
Forest Stewardship Program - a voluntary program to assist private forest landowners to more actively manage their forest and related resources; to keep these lands in a productive and healthy condition for present and future owners; and to increase economic and environmental benefits of these lands. The Forest Stewardship Program is a partnership between the United States Dept. of Agriculture - Forest Service, the Illinois Department of Natural Resources, and private forest landowners.
Illinois Forestry Development Act (FDA) - an act to promote forestry development in the State of Illinois effective September 17, 1983. http://www.legis.state.il.us/legislation/ilcs/ilcs2.asp?ChapterID=44
Reforestation - the re-establishment of forest cover by natural or artificial means on areas recently or historically supporting forest cover.
Regeneration - the replacement of one forest stand by another as a result of natural seeding, sprouting, planting, harvesting, or other methods; also young trees which will develop into the future forest.
Silviculture - the art, science, and practice of establishing, tending, and reproducing forest stands for the production of goods and services; the theory and practice of controlling forest establishment, composition, and growth.
Special Sites - sites offering unique archaeological, cultural, ecological, or historical value.
Stand - a group of trees that, because of their similar age, condition, composition, past management history, or soil characteristics, are logically managed together as a single unit.
Stewardship - the wise management and use of forest resources to ensure their health and productivity for the future with regard for generations to come.
***Stewardship Forest- a privately owned forest tract that exhibits integrated forest management to protect and enhance wildlife, timber, recreation, aesthetics, and soil and water quality.***

Stocking - a function of the number of trees, basal area, and quadratic mean diameter per acre in a specific forest area compared to the optimal level to best achieve management objectives. Stocking may be expressed as a percentage, or in relative terms as understocked, fully stocked, or overstocked.
Timber - trees, standing or felled, and parts thereof with commercial value excluding Christmas trees and firewood.
Timber Grower - owner, tenant, or operator of land in this state who has an interest in, or is entitled to receive any part of the proceeds from, the sale of timber grown in this State and includes persons exercising the authority to sell timber.

Timber Stand Improvement (TSI) - a combination of intermediate cultural treatments designed to improve the growth, condition, and composition of the forest.
Wetlands - those areas inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions.

***Adapted from materials from IDNR.***

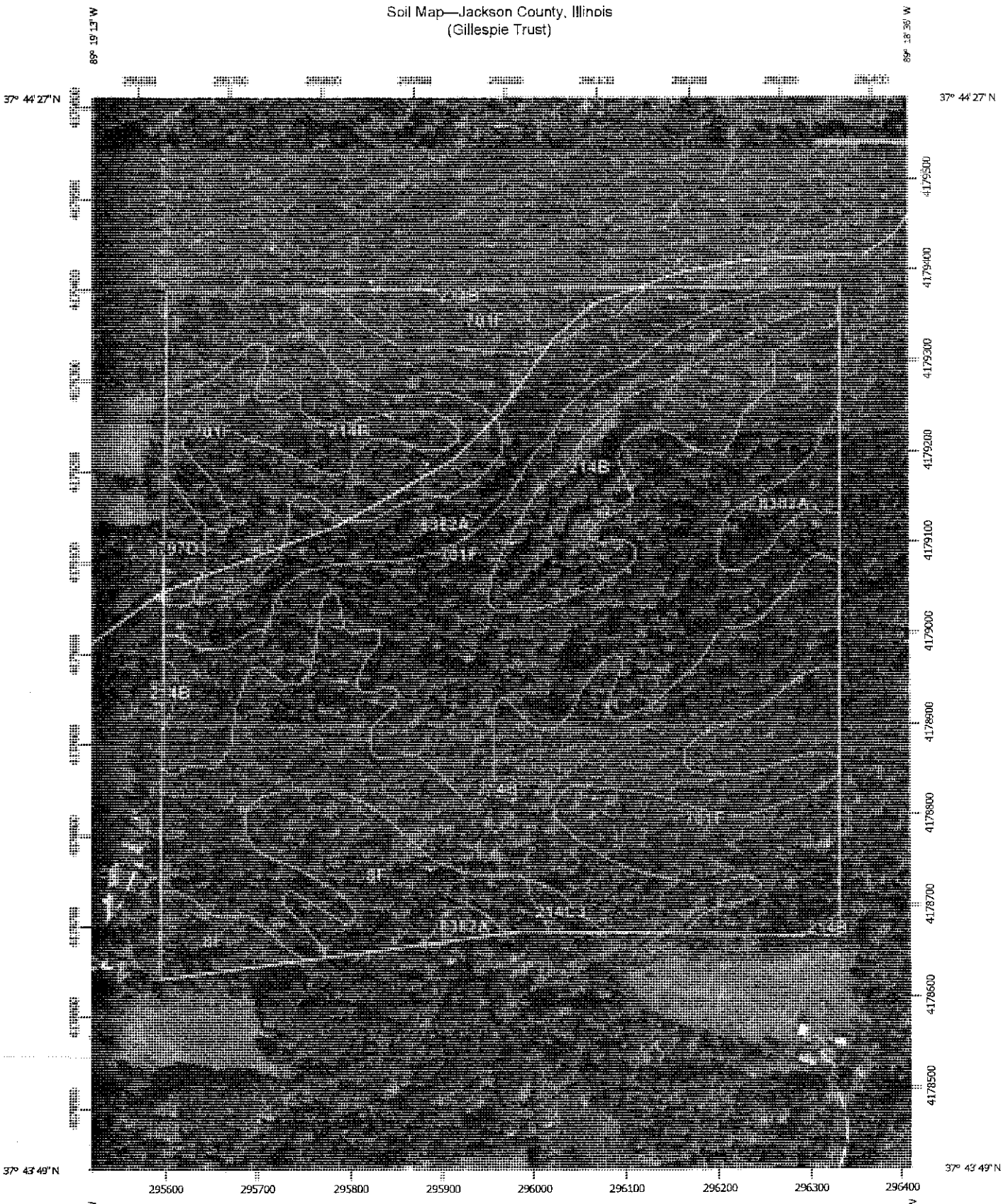
GILLESPIE SPRINGS & 77017


Google earth

feet 3000
km 1

PROPERTY BOUNDARY

Soil Map—Jackson County, Illinois
(Gillespie Trust)




Map Scale: 1:5,750 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Jackson County, Illinois
Survey Area Data: Version 14, Sep 13, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 13, 2011—Oct 7, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend

| Jackson County, Illinois (IL077) | | | |
|---|---|---|---|
| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
| 8F | Hickory silt loam, 18 to 35 percent slopes | 9.6 | 7.3% |
| 214B | Hosmer silt loam, 2 to 5 percent slopes | 43.4 | 32.9% |
| 214C3 | Hosmer silt loam, 5 to 10 percent slopes, severely eroded | 0.6 | 0.4% |
| 701F | Hickory-Menfro silt loams, 18 to 35 percent slopes | 61.2 | 46.4% |
| 797D3 | Hickory-Homen silty clay loams, 10 to 18 percent slopes, severely eroded | 1.2 | 0.9% |
| 8382A | Belknap silt loam, 0 to 2 percent slopes, occasionally flooded | 15.8 | 12.0% |
| **Totals for Area of Interest** | | **131.9** | **100.0%** |

## SIGNATURES AND APPROVALS

This *Forest Management Plan* was specifically crafted to meet the forest landowner's management goals and objectives. Success in achieving the forest landowner's stated management goals requires implementation of the specific management objectives and practices outlined in the *Plan*. This signed and approved *Forest Management Plan* makes the Illinois forest landowner eligible to voluntarily participate in the Illinois Forestry Development Act (FDA), US Forest Service's (FS) Forest Stewardship Program, USDA Natural Resources Conservation Service (NRCS) Cost-Share programs, and American Tree Farm System™ (ATFS).

Please note: The Signatures & Approvals sheet is **not** a program enrollment form. It is a declaration of approval and acceptance related to the standards and criteria set forth by the aforementioned forestry programs. Enrollment or application forms specific to the programs you are interested in will be required. Contact your plan writer.

### Forest Stewardship Program

I certify that this *Forest Management Plan* meets the requirements of the US FS Forest Stewardship Program.

| | | |
|---|---|---|
| Professional Forester / Plan Preparer | Printed Name | Date |
| IL-DNR District Forester | Printed Name | Date |

### Illinois Forest Development Act Program

☐ IL-DNR Forester will indicate with a check if this plan is eligible and will be utilized for enrollment into the Illinois FDA Program. A FDA Certification sheet must be completed for enrollment.

FDA/Stewardship Plan Number: _____

### American Tree Farm System™ (optional)

I hereby certify that this *Plan* meets the requirements and standards of the American Tree Farm System.

| | | | |
|---|---|---|---|
| Certified Tree Farm Inspector | Printed Name | ATFS Inspector # | Date |

### NRCS Cost Share Programs

I certify that this *Forest Management Plan* meets the requirements of the USDA Environmental Quality Incentives (EQIP) Program and/or the Quality Criteria for (Practice/Activity Code 106) Forest Management Plan in Section III of the USDA NRCS Field Office Technical Guide.

| | | | |
|---|---|---|---|
| Technical Service Provider | Printed Name | TSP # | Date |
| NRCS District Conservationist | Printed Name | | Date |

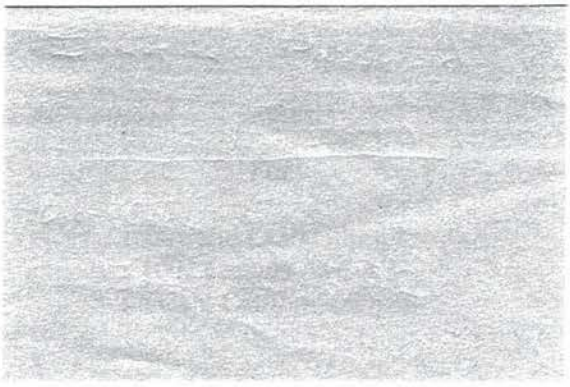
### Landowner Review & Acceptance

I hereby certify that I have reviewed this *Forest Management Plan* and approve the content and requirements.

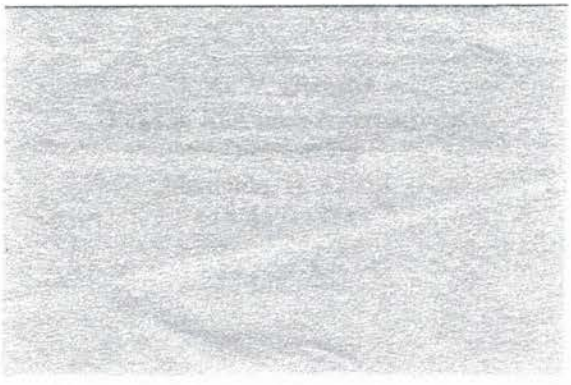
| | | |
|---|---|---|
| Landowner / Power of Attorney | Printed Name | Date |
| Landowner / Power of Attorney | Printed Name | Date |

PARCELS – 14-15-326-001
14-15-401-001

FOREST MANAGEMENT STEWARDSHIP PLAN



130++ acres in
Sect. 15, T.9 S.; R. 2 W.
Jackson County, Illinois



GOALS AND OBJECTIVES

The primary objective for this property is maintain the property as a family legacy and improve the stewardship of the resource by improving quality, growth and aesthetics. The secondary objectives are wildlife habitat improvement, particularly for birds, deer, and other game animals, timber production, and family recreation. Where compatible with the resource, habitat will be developed to encourage upland game, rabbits, quail, etc. and forest edge songbirds. Owls and other birds of prey are also of

interest and should benefit from the increased habitat for the smaller prey animals. Other objectives are maintaining the quality of the soil and water resources. Cultural treatments for timber stand improvement, wildlife openings, wetlands, and timber related activities will be implemented where compatible with the resource and the other objectives.

## PROPERTY DESCRIPTION

The property lies west of Old Route 13 between Carbondale and Murphysboro. Two intermittent streams traverse the property running from the southwest toward the northeast. The woodland had considerable wind damage three years ago and the subsequent salvage cut and very heavy harvest that accompanied the salvage the removed most of the overstory. No recent fire damage was observed. The potential for timber production is still good. Adequate desirable tree regeneration covers the bulk of the property. Wildlife habitat improvement potential is good. Deer and turkey sign was evident throughout the property. No evidence of threatened or endangered species was observed, nor were any sighted in the woodland.

Hosmer silt loam and Hickory-Menfro silt loams are the main soil types in the woodland. Bonnie and Belknap silt loam soils are in the flats next to the streams. Restrictions for use because of soils should be minimal except for normal slope and wet season restrictions. Future woodland management cultural practices should not present any problems as long as standard best management practices are followed.

## STAND DESCRIPTIONS

### Stand A – South-central Mixed Hardwoods – 56.5 acres

This stand runs across a couple of ridgetops and along gentle to moderately steep north-facing slopes. The overstory is sparse running about 22 square feet of basal area per acre. The main overstory species are sugar maple, chinkapin oak, sycamore, hickory and ash. Most of the current overstory tree were midstory trees in the stand prior to the windstorm and logging. The stand has more than adequate natural regeneration with the potential to grow into a high quality woodland. Total regeneration is over 6000 stems per acre. This includes a wide variety of species and over 3000 stems per acre of desirable species, red oak, chinkapin oak, hickory, ash, black cherry, sweetgum, hackberry and yellow poplar.

The recommended treatment for this stand is to allow it to grow for 10 to 15 years and then examine the stand to determine if enough tree crown differentiation has occurred for a crop tree release treatment. This treatment would favor the better quality more desirable species by removing the competing trees within five to fifteen feet of the selected crop trees. There are a few scattered exotics, oriental bittersweet, bush honeysuckle, and Japanese honeysuckle, that should be monitored to see if control is needed in the future. The stand also contains a wide variety of native forbs and shrubs, blatternut, blackberry, pawpaw, spice bush, sumac and others. These native species are important for plant diversity and as wildlife food sources. Other than maintaining the trails and occasionally checking the status of the exotics no other treatment is needed in this stand.

Stand Table – Regeneration – Trees less than 2" DBH
Stems per acre

| Sassafras | Sugar Maple | Black Cherry | Chinkapin Oak | Red Oak | Hickory | Persimmon | Cottonwood |
|---|---|---|---|---|---|---|---|
| 97 | 118 | 118 | 94 | 1000 | 97 | 118 | 97 |

| Ash | Sweetgum | Yellow Poplar | Hackberry | Elm | Box Elder | Black Gum | Sycamore |
|---|---|---|---|---|---|---|---|
| 294 | 824 | 1470 | 235 | 294 | 294 | 97 | 1647 |

Stand B – Central mixed hardwoods – 53.3 acres

This mixed hardwood stand is very similar to Stand A, having been heavily cut with a residual basal area of less than 30 square feet per acre. This stand has more red and white oak in the overstory than other stands in the woodland. Hickory is the main overstory species with the oaks, scattered walnut, black cherry, and a number of paulownia. Paulownia is an exotic but can be a quality timber tree that has good value for good quality trees.

This stand also has more than adequate regeneration in the understory with a species distribution similar to Stand A, but with a greater red and white oak component. This additional oak component should benefit the woodland in the future as desirable timber trees that also provide high quality mast for many species of wildlife. Recommendations for this stand are to let it grow for 10 to 15 years and then examine for a crop-tree release treatment. Species to favor would be the oaks, hickories, walnut, and the better quality black cherry and paulownia. This stand has a few scattered patches of exotics that do not need control measures at this time but should be monitored to determine if control becomes necessary in the future. The regeneration is putting on good growth and should grow into a nice quality woodland.

Stand C – Mixed Pine-Hardwoods – 16.2 acres

This stand is a mix of planted pine and natural mixed hardwoods that have grown in what was likely an old field, probably pasture. The stand contains 102 square feet of basal area and just over 250 trees per acre. The pine are primarily loblolly with scattered white pine along the edge of the stand. The main hardwood species are sycamore, sweetgum, sugar maple, and walnut, with scattered ash, sassafras, elm, hackberry and shingle oak. The stand contains just over 2800 board feet of sawtimber volume.

The recommendation for this stand is to let it grow for 10 to 12 years and then conduct a timber stand improvement (TSI) operation. This TSI treatment would favor the better quality trees and should remove approximately 30 square feet of basal area per acre.

Stand D – East Bottom – 18 acres

This stand lays north and east of the house and is a stream bottom and the adjacent slopes. Part of the stand is what could be called a dog-hair patch of small sweetgum and sycamore that runs between the stream and the highway. This part of the stand is very thick with several thousand trees per acre. The other portion of the stand is a rich slope facing north and east with somewhat scattered walnut, sugar maple, ash, sweetgum, and elm. This quality site contains a number of desirable native medicinal forbs and shrubs, including ginger, golden seal, spice bush and pawpaw. It might be worthwhile considering planting ginseng on this site. The stand contains 75 square feet of basal area per acre with over 500 trees per acre and on the sloped portion of the stand just under 2000 board feet of sawtimber volume per acre.

The recommendation for this stand is to let it grow for ten years. After that time individual trees in the sycamore-sweetgum patch should be exhibiting dominance and would be ready for a crop tree release treatment. This treatment would select the better quality trees on a spacing of about 15 by 15 feet and open the crowns of the selected trees on at least three sides by removing the competing trees within 5 to 10 feet of the crop tree crown. The remainder of the stand may be ready for a light crop tree release/TSI operation also. Trees to favor in this portion of the stand are the walnut and ash and the better quality individuals of the other species.

Stand F – Wildlife Food Plots – 4.1 acres

This stand is composed of a number of established food plots with a good cover of grass, clover and other herbaceous plants. These food plots should be mowed twice a year to keep down any encroaching woody plants. Mow once in late June or early July and again in late September. This mowing cycle should stimulate the growth of the desirable plant species. Examine the species composition every five years to see if replanting or supplemental seeding is needed. The goal is to maintain a good species mix of the clovers, grass and other preferred herbaceous wildlife forage plants.

PLAN IMPLIMENTATION

The following schedule has been developed in order to give you direction and help prioritize the recommended practices in your plan. This schedule is flexible and may vary depending upon your financial and labor constraints.

| YEAR | PRACTICE | STAND | ACREAGE |
|---|---|---|---|
| 2012 | Mow food plots | F | 1 |
| 2013 | Mow food plots | F | 1 |
| 2014 | Mow food plots | F | 1 |
| 2015 | Mow food plots | F | 1 |
| 2016 | Mow food plots | F | 1 |
| 2017 | Mow food plots | F | 1 |
| | Check growth of exotics | All | |
| 2018 | Mow food plots | F | 1 |
| 2019 | Mow food plots | F | 1 |
| 2020 | Mow food plots | F | 1 |
| 2021 | Mow food plots | F | 1 |
| 2022 | Re-examine for plan update | all | |

Consulting foresters and contractors are available to perform many of the practices recommended in your plan. You may carryout the work yourself. Regardless of how the work is carried out, you are responsible for seeing that the practices are carried out according to the specifications in your plan.

### Cost Share Assistance

State and federal cost share programs may be available to help you implement your plan. Practices must be approved prior to any work being done. For information on cost share programs see your district forester or contact the USDA FSA or NRCS. These are reimbursement programs. Expenses must be documented and the bills paid before a payment can be made. Cost share payments are also subject to practices being completed as outlined in the management plan and approved by the district forester.

## RESOURCE PROTECTION

Protection of the forest resource is the first and most important step in initiating a forest management program. Although no specific problems or concerns have been identified in your woodland, there are several practices that can have detrimental impacts to your forest. Your eligibility to participate in the forest management/stewardship programs requires that you avoid: Converting woodland areas to other types of use (i.e. real estate development, pasture, etc.); livestock grazing of your woods; burning your woodland unless prescribed burning has been recommended in your plan; or harvesting your woodland without following this plan. In addition there are naturally occurring disturbances such as wildfire, or insect and disease outbreaks which need to be controlled as they occur. Insect and disease outbreaks are usually first noticed in the foliage of the trees. Inspect your trees periodically during the growing season and contact your forester should you experience any problems. Contact your local fire protection organization for assistance regarding wildfire suppression. Avoid the introduction of non-native species into your woodland. Do not plant exotic trees or shrubs in your woods or in adjacent areas.

## OTHER RESOURCES

There are numerous values and benefits associated with proper forest management. Native plant and animal species, water quality, recreational opportunities and aesthetics are all influenced by the composition and structure of the forest. If threatened or endangered species are discovered in the future, this plan will be reviewed and modified, if needed, to protect these species.

### Program Benefits

-
- Continued technical assistance from IDNR
- Eligible for cost share assistance to implement recommended practices.
- IFDA acreage guaranteed the lowest possible tax assessment rate.
- May be eligible of federal reforestation tax credit.