White Horse Access/WMA
Long Term Woodland Stewardship Plan
Management Goals: woodlands, oak savanna, prairie, wildlife

Prepared for: Clint Maddix, Black Hawk Wildlife Unit

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Tree Farm history:
Re-inspection:
Recertified:

NRCS Natural Resources Conservation Service

LEGAL LOCATION: T87N, R35W, part of Section 34, of Coon Valley Township, and T86N, R35W, part of Section 3, of Sac Township, all in Sac County.

TOTAL ACRES OF PLAN: 201
TOTAL FORESTED ACRES: about 120
TOTAL ACRES OF OWNERSHIP (optional): null

Do you reside on the property? No

Which watershed is the property located in: Raccoon River

LANDOWNER'S OBJECTIVES:
FIRST PRIORITY: improve wildlife habitats.
SECOND PRIORITY: restore mixed oak savanna.
THIRD PRIORITY: reduce or eliminate invasive shrub and tree species.
FOURTH PRIORITY: improve or restore tall grass prairie.
FIFTH PRIORITY: manage available tree crops for habitat, mast production, and eventual harvest.
SIXTH PRIORITY: reforestation when available.
SEVENTH PRIORITY: maintain or improve erosion control.

DESCRIPTION OF WOODLAND; LAND FEATURES; RARE, THREATENED & ENDANGERED SPECIES:
The river access's soil types have two main origins: glacial till and water deposition from flowing water and/or floods. Please see black and white soil maps for approximate locations of your soil types.

Alluvial land, #315 is found on either side of the north fork of the Raccoon River from the north end then south and west to the boundary line. It is easily flooded and is a blend of loams, silts and sand. It has broken thin layers of soil called strata but it does not have distinct horizons (think thicker layers). It is found under Stands 2, 3, 7, and 8.

Clarion loam, #138 B to D slope is found in the southwest corner, Stand 5, within the small yellow circles and was connected to larger areas southeast of the railroad tracks. It is high quality for tree crops with good fertility, good organic matter content, acidic pH level, and holds water. Clarion loam formed in glacial till by the decomposition of tall grass prairie.

Cylinder loam, #203 is found in Stand 1 on the west side of the old farmstead site. It is high quality for tree crops and was formed in glacial sediments on uplands. It is 32 to 40 inches down to sand and gravel. The tree rooting zone is slightly acidic to neutral in pH.

Flagler sandy loam, #823B was formed in glacial sediments on the uplands or benches above a drainage. The tree rooting zone is deep but in drought periods, you can expect it to be very dry and expect tree or grass mortality. The organic matter content is low to moderate. The pH is calcareous from too much calcium carbonate. The excess calcium could cause some plants to turn yellow in the growing season especially when the soil is dry. It is found between Stands 4 and 5 along the southeast edge.

Spillville loam, #485 is found in Stand 2 and loops south into the direct seeding area. It was formed in alluvial sediments by the decomposition of tall grass prairie. For the most part, cottonwood, Silver maple, willows, Green ash and mulberry are common tree species. But where the depth is more, you will find Black walnut. The rooting zone for bottomland hardwoods is deep BUT is limited by high water tables. Organic matter content is high at 4 to 5 percent. A neutral pH extends below most tree rooting zones.

Storden loam, #62 E to G slope is found in Stand 5. Storden loam supports your Oak savanna with Bur oak, Red oak, and Black oak. It contains clay, silt, some sand, stones, rocks, and some loam. It is generally alkaline from the surface and downward. Rooting zone is deep. Organic matter content is low to moderate. Its water holding capacity is high from fine

soil particles. The soil duff layer is thin because leaves, forbs, and twigs rot rapidly. All sorts of prairie grasses decomposed to form the topsoil layer.

Terril loam, #27 and 323B is found at the foot of benches and slopes. It is composed of topsoil (local alluvium) which eroded from upper slopes. It is one of your best soil types. The surface layer may be 30 inches thick due to decomposition of tall grass prairie. The soil pH is neutral. The water holding capacity is high due to a high content of organic matter. Available plant nutrients are high. It is found beneath Stand 4 and a strip of it under the prairie planting in Stand 6.

Wadena loam, #108B is well-drained and nearly level on benches above water or on uplands. Wadena was formed in medium textured glacial outwash and in the underlying sand and gravel. Its pH is slight acidic down to 18 inches and then turns neutral/acidic down to 36 inches. It is located under the old farmstead in Stand 1 and most of Stand 6. Tall grass prairie was native vegetation.

Bottomland hardwood trees include: Silver Maple, Green Ash, Cottonwood, Hackberry, Mulberry, American Elm, Red Elm; native, invasive and thorny Honeylocust; and Black Walnut. A color infrared field map is provided which locates the Honeylocust trees by green dots, and Black walnut trees by purple dots. Brush is native gooseberry. It is only found on sites with good internal drainage for water and root respiration. It is NOT found on wet or soggy sites because the roots cannot breathe or respire. Common vines are native grape and Green Briar (covered by thousands of thorns). I did not find Poison Ivy or Virginia Creeper vines which surprised me.

Upland hardwood tree species are: Bur Oak, Red Oak, Black Oak, Black Cherry, Black Walnut, Green Ash, Hackberry, American Elm, Red Elm, Ironwood, and Mulberry. There is much less invasive Honeylocust in Stand 5 than on the wet bottomlands. But, there is a huge problem with prolific female trees. There is a surprising amount of native Black cherry trees from tiny seedlings (in shade) to 10 -12 inches in diameter. There appears to be good seed-producing female trees over the entire access. Native Ironwood trees are few and scattered in the shady understory. Ironwood has been replaced by Hackberry and Elms and has formed an additional canopy below the main overstory oak canopy. Because of grazing, there are not middle tree canopies. Grazing also provided large amounts of native gooseberry which shade the ground and effect (reduce) the forb layer. Bur Oak Blight (also known as BOB) shows on fallen Bur oak leaves. Re-instating fire into the ecosystem will probably reduce this leaf blight.

Endangered Species: because I have worked in the area for 35 years, I have seen Bald Eagles on a regular basis and many more Redtail hawks. There was an active eagle nest a little northwest of Auburn, Iowa, years ago.

OTHER CONSIDERATIONS:
When conducting woodland activities, be aware of any creeks or streams cutting across the work area. Be selective when choosing a creek crossing for heavy equipment. If at all possible, construct a rock or bridge crossing, to reduce down-stream sedimentation. Ground disturbance can be minimized during tree planting, timber stand improvement, or timber harvesting by timing the work when the ground is dry, firm, or frozen. Further improvement is seen in locating vehicle roads or trails along ridge tops, or following the contours of the slopes.

If human remains are uncovered while moving dirt, call the county sheriff. You may have uncovered an old family burial plot, pioneer cemetery, or pre-settlement burial ground. Be respectful of these areas. Another reason to avoid them is based on state law. These areas have a life-time easement on them. For details on this subject, ask your sheriff.

Enhancement and Protection

Recreation: this is a public fishing access and public hunting area on the North fork of the Raccoon River. At the time of this recon and plan preparation, the river was in flood stage.

Access: the public has good road access for all directions.

Streams, wetlands, ponds, lake shore: the south half of the access is crossed by a small creek that starts in the SW quarter of Section 3, Sac Township. It was running strong and clear at the time of the reconnaissance.

Fish and wildlife: these species were found over two days in November of 2015: one Downy woodpecker, one sparrow, two pheasants, two large owls, 4 deer, and two Blue jays.

Protection from pests: the Bur Oak Blight fungus was found on fallen Bur oak leaves. Chemical control is not possible. Prescribed fire use may be the best control method for BOB.

Prescribed Fire/Burns: no doubt the access has a historic fire history but I only found signs of fire use in Stand 7.

Plan implementation constraints: limiting factors are available dollars, available man hours, and cooperative weather.

SITE/STAND DESCRIPTIONS AND RECOMMENDATIONS: (See attached photo-map for site locations)
Timber production, needed habitat, aesthetics, and soil erosion control are acceptable reasons or goals for forest management. Techniques will be changed slightly while working towards these goals.

STAND ONE. 12.3 Acres
Current conditions. Grasses occupy most of the stand. On the infrared map, the pinkish color indicates an agriculture field and the grey color indicates smooth brome grass. The tree and brush area was an old farmstead site. Green ash is the common tree and invasive honeysuckle (still with green leaves in November) is growing below the ash.

Recommendations. Cut down all honeysuckle bushes and treat their stumps to prevent sprouting. Scatter the brush or pile and burn that fall or the next spring. Schedule fire use every 3 to 5 years or sooner if time and labor allows. Other tree species may be selectively removed based off the desired stand make up.

STAND TWO. 56.46 Acres
Current conditions. At the south end of Stand 1, a drop-off or escarpment separates Stand 1 from Stand 2. The north edge of Stand 2 has a ring of honeysuckle which must be controlled. Within the Stand are small oxbows or water courses, still holding recent flood water, which separate low rises of dry soil. Within and around the standing water are willows and some Silver maple. On the low rises of dry soil are more Silver maple plus Green ash, invasive Honeysuckle, thorny Hawthorn, thorny Honeylocust, Black walnut, and Hackberry. I did not find any natural reproduction. The shading is dense and the soil varies in wetness. Black walnut vary in trunk diameter from 6 inches to large sawtimber (20 inch diameter and larger). Walnut trees could be released for faster growth, better plant vigor and health, and mast production (as a food source and reforestation). The average tree trunk diameter is 6 to 8 inches (all species). Because of this low average tree trunk diameter range, the density or Basal Area is far too high to be healthy for all tree species. The Basal Area range is 120 to 160 square feet of total truck cross-sectional area per acre. The Basal Area should be lowered to 100 square feet per acre, allowed to rest for several years, and then lowered again to 80 to 90 square feet per acre. The black dot on the color photo refers to image number 3189 showing two large Black walnut trees needing release from competition. (Basal Area is defined as the sum total of all of the cross-sectional trunk diameters per square acre.)

Next comes two openings which are food plots. The third opening is different. The south half was a mixed hardwood (oak, walnut) Direct Seeding. After nut germination, Boxelder seedlings volunteered into the seeding. Boxelder dominates the site. Wildlife personnel have wrapped blue flagging on surviving Swamp White oak and Black walnut seedlings and saplings. Some surrounding Boxelder must be thinned out to release the oak and walnut trees. See image numbers 3190, 3191, and 3192. The north half of this field was sunflowers in 2015. After the harvest of sunflowers new tree seedlings were direct seeded by nature. Your small seedlings are Silver maple, Green ash, elms, and a few cherry.

East and west of the direct seeding are native ash/silver maple woods. The quality of the trees is better along the river. West of the direct seeding is cottonwood, Silver maple, Green ash, Hackberry, mulberry, thorny Hawthorn, and very thorny Honeylocust. The west end of the west portion is mostly hawthorn and Honeylocust.

Recommendations. Initially, locate and thin around each walnut tree giving room to grow and to improve tree vigor. The forester or wildlife personnel can make the initial markings. Large trees competing with equally large walnut trees (shown in photo 3189) should be double girdled with a chainsaw making sure the ends of each girdle are connected. The depth of each cut should 1.5 to 2 inches. If you are thinning out trees competing with the Black walnut trees, between July 1 and October 15, carefully squirt Tordon RTU (or Glyphosate due to sandy soils and water) into each chainsaw cut in the competing trees. Also, locate every honeysuckle bush and every Honeylocust tree and cut and treat each stump, or each chainsaw girdle. At this time, I cannot recommend a general thinning of the Silver maple and Green ash bottomland trees. A thinning would help the growth and vigor of the remaining trees unless you have a specific goal in mind, such as, managing Silver maple trees to produce 18 to 20-inch diameter sawlogs for harvest as one example, it's not recommended at this time. General thinning needs further thought. Point: If general management is continued, Silver maple and Green ash trees can be girdled and kept as woodpecker trees, or cut into firewood, or allowed to rot. Either employ a forestry contractor with experience, or use similar tools. One tool other than a chainsaw is a very sharp hand axe (for example Fiskers which holds its edge), make two to four cuts into the bark, and meter spray a mixture of 25% Garlon 3A plus 3% Arsenal and 72% water) into each cut. This herbicide mixture can be changed.

- This is called hack and squirt or injection, and the herbicide you use, will determine the interval of "hacks" and the dosage of chemical. For example, if you use only triclopyr amine (Garlon 3A), you place hacks about 3 inches apart all around the tree, and only ½ mL of concentrated herbicide or 1 mL of diluted herbicide goes in each slit. This is extremely hard to meter, and you can overdose the site quickly if improperly used. While this method is fast, easy, and effective, specific PPE and equipment is needed. I use a 10 mL graduated cylinder to calibrate a chem-lab dropper bottle. Usually, one drop out of the dropper bottle is equal to ½ mL. Concentrated Garlon 3A is can cause blindness, so chemical gloves and goggles should be used. Finally, this treatment only works when the sap is actively moving in the tree (mid-June through late September is best). I have found dormant season treatments to be ineffective.

Native Hawthorns should be protected as this species is becoming frequently rarer in the state.

Since I think food plots are needed for the winter months, the 5-acre openings should be kept free of trees.

Further south is your Direct Seeding where you have flagged your future Crop Trees of Black walnut and Swamp White oak. Some of the seeded and native walnut trees have signs of deer rubbing and browsing or are deformed due to competition for growing space. Trees normally do not 'heal' deer damage. Each damaged tree can be started over using the Coppice Method. While the trees are still dormant, early fall or late spring (preferred), cut them off at the ground surface. Place a stake by each stump, to find them when it's time to choose a stump sprout. Allow each stump to sprout and choose the best sprout and the lowest one on the stump. If surrounding trees were competing with the original trees, they must be thinned back, or removed. You can expect a 4 to 6-foot stump sprout by the end of the first growing season.

Between the Direct Seeding and the river to the east is one walnut tree that needs releasing. You have at least 6 Honeylocust trees around the Direct Seeding that need girdling and herbicide treatment. Several of the Honeylocust trees are female bearing heavy seed crops. West of the Direct Seeding is a triangular timber with alluvial soils. The middle portion is low and holds a few merchantable cottonwood and Silver maple trees. On either side of the low spot are uplands, one or two feet higher than the low spot. My only recommendation is to remove all of the seed-bearing Honeylocust trees by girdling and frilling with herbicide. One Honeylocust tree is 24 inches in diameter and would yield about 140 board feet of reddish heartwood. If you wish to fall small-diameter Honeylocust trees, choose those with few thorns. When thorny trees are lying on the ground, anyone could step on the decaying thorns and puncture their feet.

STAND THREE. 24.97 Acres

Current conditions. The bottomland is a dense stand of timber with Silver maple, Green ash, Honeylocust, Hackberry, American elm, and willows. The 1938 photo shows very few trees and the river makes a large loop to the south and back north. The east end ends at the foot of steep slope where the oak savanna begins. There are quite a few volunteer Honeylocust that need to be controlled. There are several groups of Silver maple trees, six to eight inches in diameter, with densities up to 110 square feet of Basal Area. The best of these maples can be managed as Crop Trees. The opening

along southwest edge has been invaded by a dense stand of Reed Canary grass. At the black dot on the photo is a fallen maple tree with an unusual fungal growth.

Recommendations. For the immediate future, kill the Honeylocust and wait on thinning the maple trees.

STAND FOUR. 7.88 Acres

Current conditions. A tall grass prairie planting of Switch Grass, Big Blue Stem Grass, and Indian Grass. The grass planting have been invaded by some sumac and other brush, native elms, perennial Blue grass, and Prickly ash. The west fence line is volunteer trees of mulberry, elms, and seed-bearing Honeylocust (remove these). The southeast and east edges are part of Stand 5. This edge is Prickly ash, plum, Honeylocust, and other species and is difficult to walk through. Prescribed fire has not been used in a long time judging from the amount of Blue grass showing.

Recommendations. Any volunteer trees, larger than 2 inches in diameter, should be cut down then stump treated with herbicide. Smaller trees and brush can have their foliage sprayed with Garlon 3A to kill their root systems. Remove every tree in the west fence line. Cut the branches and trucks into short 3 to 5-foot long and scatter it in the prairie grass to dry out rapidly. A grinder may be used in place of hand cutting. Either treat stumps after grinding or implement fire to set back re-sprouting. Fall prescribed burn this Stand using a very strong west wind, right after the oak trees along the creek have dropped their leaves. Use the wind to carry fire through the brushy edge and into the oak stand. Fall fire is recommended for several years to lower the cost of removing the brushy edge between Stands 4 and 5. In lieu of fire to kill the brush edge, you may use your Fecon brush cutter but I was trying to save you money and time.

STAND FIVE. 28.05 Acres

Current conditions. This Stand is remnant, high-quality mixed oak (Bur, Red and Black) woodland which was probably an oak savanna many years ago. If you wish, I can try to age the largest Bur oak when it's found after a careful inventory, or when you finish thinning and understory work. A core sample can be taken, up to 4 inches long, and the age interpolated from the average number of rings per inch in the sample. Please notice, your Bur oak trees tend to have the same average trunk diameter, plus or minus 4 inches, with few exceptions. Foresters consider this sort of timber stand, even aged, and the same age class. Associated tree species are Black cherry, Hackberry, Basswood, Green ash, American elm, Red elm, cottonwood, Ironwood, Honeylocust, and mulberry. At the moment, I do not think the oak trees are over-stocked or too many per acre. We will find some damaged and low-quality oak trees in the oak understory which should killed on the stump and become wood pecker habitat or den trees. I easily found Bur Oak Blight fungus on fallen leaves. Once you start and maintain periodic fall burning, the amount Bur Oak Blight fungus will decrease. During the next growing season this Stand must be checked for Oak Wilt fungus and dieback only on the remaining Red oak and Black oak (you have very few still alive). The amount of live and growing Black cherry is amazing and was unexpected. During any work, try to avoid damaging the better cherry trees whose crowns are in the dominant canopy (mixed with the oaks). These cherry trees will continue to provide mast for songbirds if their bases are protected during the fall burns. If left unprotected, the cherry trees will eventually die out. Some Black cherry trees can be found in small, sunny openings where elm trees have died out.

The entire east edge (along Stand 6) is a combination of brush, fallen trees, Honeylocust, Prickly ash, and some Brome grass. This entire edge needs to be cleaned up.

On the photo, you will find two small yellow circles. These are remnant prairie/oak savanna openings which still show some prairie characteristics. You can find Bur Oak Wolf trees with large, massive, dominant crowns usually in full sunlight. Fifty percent of the volunteer trees are invasive Honeylocust. Black walnut, Black cherry, Green ash, and Hackberry make up the remaining 50%. The most common shrub is invasive Honeysuckle still holding green leaves in November.

You will see a black dot which is within the creek channel. Photo number 3203 shows clear soil layers. The top layer is very black but a sandy loam and capable of growing good quality trees. Lower layers are sand, then hard blue clay, and glacial rocks and stones in the creek channel.

Recommendations. Control the invasive brush and trees along the east edge and within the yellow circles using hand labor, your grinder head, and herbicides. Next, along the upper edge, keep the dominant Bur oak, Red oak, Black oak, Black cherry and occasional Black walnut trees. All other trees and woody species are removed. On the slope leading down to the flood plain evaluate Hackberry trees. Cut down or girdle Hackberry trees, including mature trees, if they are in direct competition with more desirable Oak species. Remove every Honeysuckle bush and chemically treat the stump. Dealing with the volunteer Honeylocust trees will be difficult because of the thorns. You can kill them on stump, or fall them and cut the logs and branches into small pieces to dry out, rot, or burn away. It is imperative that you find every female locust tree and kill it. Start fall burning, and burn every two to four years to keep invasive brush and trees under modest control. Expect to lose some of the Black cherry seedlings and larger trees since the basal bark is NOT fire tolerant.

STAND SIX. 38.36 Acres
Current conditions. The stand is a mix of hay, crop, and native prairie. Access is easy from the east gate on the gravel road. No work is needed except for regular prescribed burning.

Recommendations. You can fall burn the prairie planting along with the oak savanna to save labor, time and cost.

STAND SEVEN. 24.35 Acres
Current conditions. Stand 7 is divided into parts B1 & B2. B1 is the 5 wooded acres at the north end. It is located on the first natural bench above normal water flow in the Raccoon River. The main canopy layer is 80 to 100 foot tall cottonwood trees along with mature Silver maple, Green ash, Black walnut, and Hackberry. Since this was pasture in the past, you do not have a canopy layer between 60 and 80 feet tall. The 30 and 45-foot canopy layer is Hackberry, Black walnut, Red elm, American elm, and Green ash. At the 15 to 20-foot level, you have Hackberry, American elm, and Green ash. Saplings between 2 and 4 inches in diameter are mulberry, Hackberry and American elm. Photo number 3199 shows one of four better- quality, fairly mature Black walnut trees with a decent, commercial grade butt log. You do not have any desirable seedlings of walnut or oak but you do have Hackberry. The common shrub is gooseberry. This stand has a good forb layer but it's limited to Virginia Waterleaf and Dutchman's Britches. A common vine is Green Briar. Since the stand does not have any Bur oak, you will find it very hard to burn the ground layer. All of the ground litter fuels come from trees whose leaves lay flat and have a very thin layers of wax. This one-hour fuel type will burn in the fall after a prolonged drought as we just had this past fall.

B2-A mixed, tall grass prairie planting very heavy with Switch Grass and invaded by elm and Green ash trees along with sumac brush and Amur Honeysuckle bushes. Native wild plum brush is volunteering along the south edge. Brome grass and Blue grass are moving in around the edges. The absence of fire plus natural tree and brush succession is changing the appearance of the prairie planting.

Recommendations.
B1-There are enough Black walnut trees to apply 'Crop Tree' management if so desired. Each walnut tree can be managed as a future Crop Tree. Thinning work would be done around these selected trees every 8 to 15 years as needed. Once management starts, and added height or trunk diameter growth is observed, the time period between thinning will change. Pruning may be needed on walnut trees between 4 and 8 inches in diameter to establish higher value commercial trees while increasing mast. Pruning would be based on individual trees. If a wood buyer approaches you to buy the cottonwood trees, sell them. You can also add more trees from Stand 2.

B2-To restore the prairie, hand labor can be used, a grinder head, herbicide application, or frequent prescribed fire (when the grass has regrown enough to carry fire). Burning may be the least costly method since hand labor and machine time is not used. The choice of methods is up to you.

STAND EIGHT. 8.11 Acres
Current conditions. This is flood plain is alluvial land, number 315 soil type, with a tree cover of Green ash, Silver maple, mulberry, a few cottonwood trees, Hackberry, and American elm. These tree species can be seen in photo number 3188 taken at the black dot in the middle of the stand. Honeysuckle brush is around west edge where full sunlight is available. You can see some Honeysuckle bushes in photo number 3187, the lower black dot in Stand 8. I did not find any desirable

natural tree reproduction. I did find a few small Black walnut trees on the west edge. The largest walnut trees are six inches in diameter. It is still possible to raise their quality by careful pruning of some lower branches. The pruning rules for Black walnut are strict to prevent internal wood rot, and enable faster sealing of any pruning wounds. If you decide you want to produce higher-quality trees for harvest 40 and 50 years from now, you should be starting now. Without pruning, their quality will stay the same. We can review these special rules on site. In general, the 8 acre is over-stocked with trees. Basal Area varies from 80 to 130 square feet per acre. At an average trunk diameter of 6 to 8 inches, the site is over-stocked and needs thinning.

Recommendations. A general thinning needs one or two specific goals and must be thought through. Do you want to favor seed-bearing ash trees as a minor food source of wildlife? Or, do you wish to favor Silver maple trees for commercial harvest in 30 to 40 years, or when they reach 18 to 20 inches in diameter, whichever comes first, or another goal.

FIRE PROTECTION: The danger from fire is always present. Around the perimeter of open plantings, a 25-foot wide strip of ground cover is not planted with trees and required unless noted below. This barrier is your primary firebreak and must be kept free of volunteer trees. It also provides room for vehicle access and tractor use. The barrier can be mowed periodically if fire prevention can be enhanced. Notes:

CHEMICAL USE: **It is a violation of Federal Law to use any pesticide in a manner inconsistent with its labeling, insure the label is understood before use.**

ANIMAL PROTECTION: In addition to fire protection, protection from livestock grazing is required when state or federal costshare funds are used. Grazing livestock trample and eat the desirable seedlings and damage older trees. The soils upper-most duff layer is removed speeding soil erosion and sedimentation in lower areas. Soil compaction is increased which restricts the movement of water into and through the soil profile. The upper root systems of all trees are crushed under the weight of the animals. All stresses make the trees more susceptible to insect and disease attacks. The intent of reforestation with costshare is to permanently establish a stand of trees. Subdividing a cost shared tree planting or a stand of larger trees is not allowed during the period of the contract because subdividing into smaller lots or parcels defeats the purpose of cost shared reforestation.

PROPERTY TAXES: After your tree planting is established, you may eliminate property taxes where the trees are planted. The Iowa Forest Reserve Law permits the removal of this land from the county tax rolls. The Law has very low minimum requirements to meet for enrollment. Apply at the County Assessors office between January 1 and January 31 of any year. You cannot be turned down if the planting meets the minimum requirements. If trees have been planted on land enrolled in the CRP program, you must wait until the contract expires before receiving the tax benefits.

OTHER TAX INFORMATION: Landowners planting trees for long-term investment can make use of federal Reforestation Tax Incentives Act originally passed in October 1980. It allows the amortization of a large portion of tree planting expenses, with limitations, from personal income taxes. Information is available upon request.

When selling standing timber, Iowa Forestry Extension has published several excellent pamphlets on federal taxation which you may find very informative. They are available from me.

TREE FARM PROGRAM SPONSORED BY UNITED STATES FOREST INDUSTRY: You may join the American Tree Farm System if you intend to actively manage for a wood crop. This forest industry program publicly recognizes landowners for their achievements. You must meet minimum ownership standard for Iowa: 10 acres for hardwoods and/or evergreens. If you wish more information, I will send it.

Any timber harvested from a designated Tree Farm is considered to be Certified Timber because the woodland is under forest management techniques and goals. Certified Timber may bring higher market values during a regular harvest.

ADDITIONAL MANAGEMENT CONSIDERATIONS

Historical/Cultural

Historical and cultural sites such as old home sites or old cemeteries are a look into the past and can give insight to past management of your land. These areas should be identified so that you can protect them with management activities. There are no known unique archeological sites on the property. If any unique archeological, cultural, or historical sites are found, current or proposed management practices may need to be altered.

Recreation & Aesthetics

Woodland management can decrease the short term recreational and aesthetic values of your property. Harvesting large trees will leave tops on the area and remove large trees that may have more value for you to look at. Timber stand improvement work that removes undesirable trees will allow more sunlight to reach the ground. Increased sunlight to the ground results in more weeds and brushy species for 5-10 years until young trees grow up and shade out the brush. Identify areas on your property that you value highly for recreation and natural beauty. You can manage these areas specifically for these values. Buffers of woodland can be left around critical areas and you can plant seedlings to create buffers and screens to reduce the visual impact of areas you are managing intensively.

Or

Woodlands such as yours have a natural and appealing look. This is enhanced by the diversity of tree species and diameter classes within the woodland. Based on your objectives, woodland management practices should be conducted to minimize disturbing this "natural look" and to promote maintaining this mixture of wooded areas in close proximity to brushy or more savanna like areas. This makes your woodland an excellent area for hiking, nature study, or hunting.

Water Quality/Wetlands

Woodlands and tree plantings greatly improve water quality. Trees reduce erosion and filter silt and chemicals from the water entering the streams. It is wise to maintain a good tree buffer along your streams and plant trees in areas that will help reduce soil erosion and improve water quality. Trees can be harvested in buffers along rivers and streams, but it should be a selective harvest that maintains good tree cover.

Wetlands are excellent filtering systems that are important to maintaining good water quality. Wetlands also provide good habitat for a variety of wildlife species. If possible, do not route roads through wetlands and maintain a good buffer of trees and grasses around the wetland area.

If you have a wetland on your property, avoid running equipment in these areas and limit logging activity.

Fish and Wildlife Considerations

Your woodland does not contain any perennial streams or ponds that are deep enough to support a native fish population, but it is the home of deer and turkeys and many other species of game and non-game wildlife. As such, the management recommendations to improve your woodland for deer and turkey habitat will also impact other wildlife in the area. Tree cutting, such as thinning, should be geared to maintaining tree species diversity as well as maintaining homes, such as den and nesting trees for other wildlife species. Thinning around some trees will let more light into the woodland understory to enhance the growth of lower and mid-sized woody vegetation. This vegetation will provide added cover and food for deer, turkeys, and other wildlife species.

Endangered Species Considerations

Threatened and endangered plant and wildlife species and their habitats should be protected when conducting woodland management activities. A visual reconnaissance of your woodland area was completed before writing the management plan to find out if any threatened or endangered species are present and if they would be adversely affected by woodland management activities.

There are no known threatened or endangered species on the property. If any threatened or endangered species should be found on the property, you may want to alter your current management practices.

American Tree Farm Program
I certify that this Forest Management Plan meets the requirements of the American Forest Foundation's American Tree Farm System.

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ATFS Inspection Forester Number Date

Certified Tree Farm Number: (e.g. IA 1234) ---------- Date of ATFS Certification:----------

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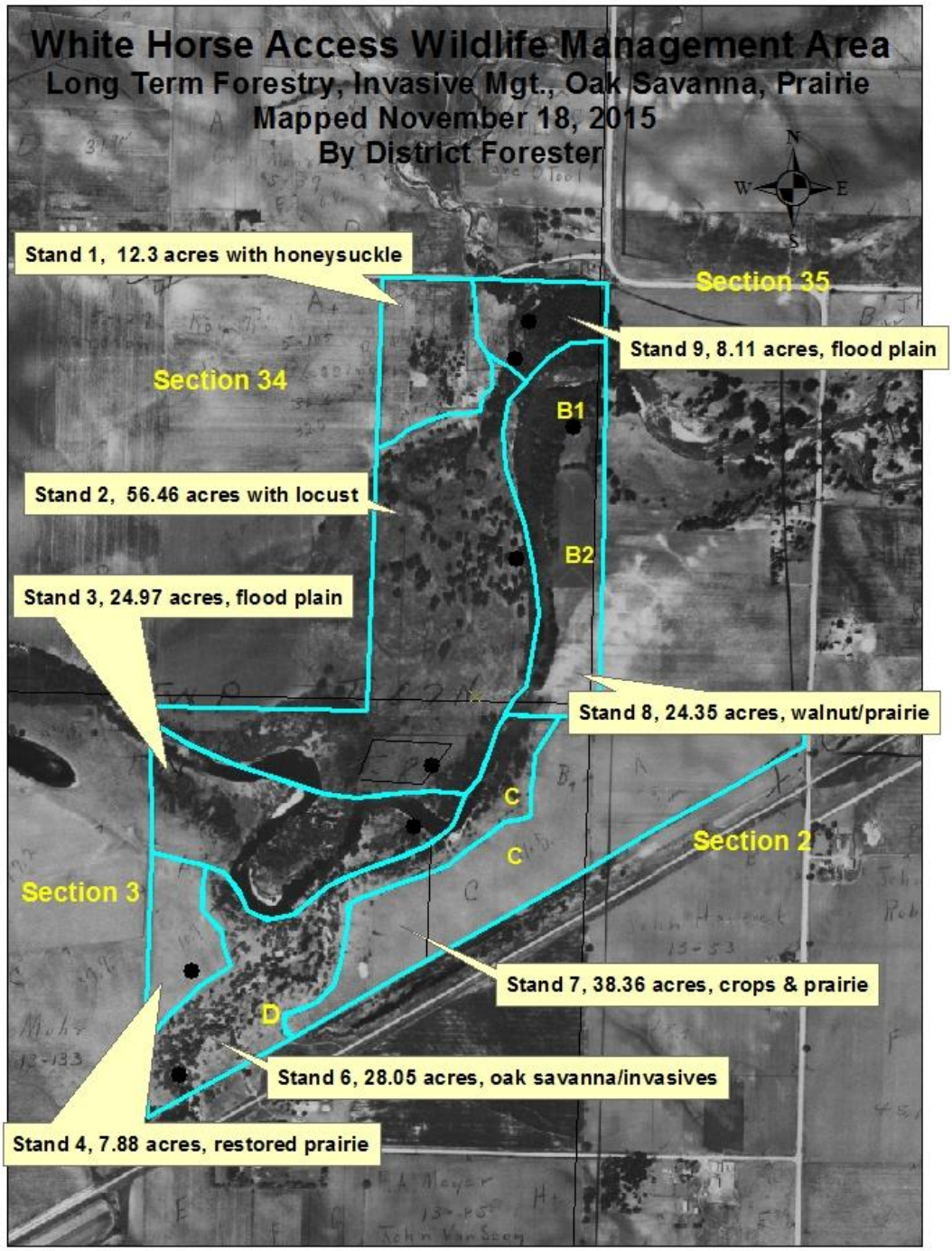
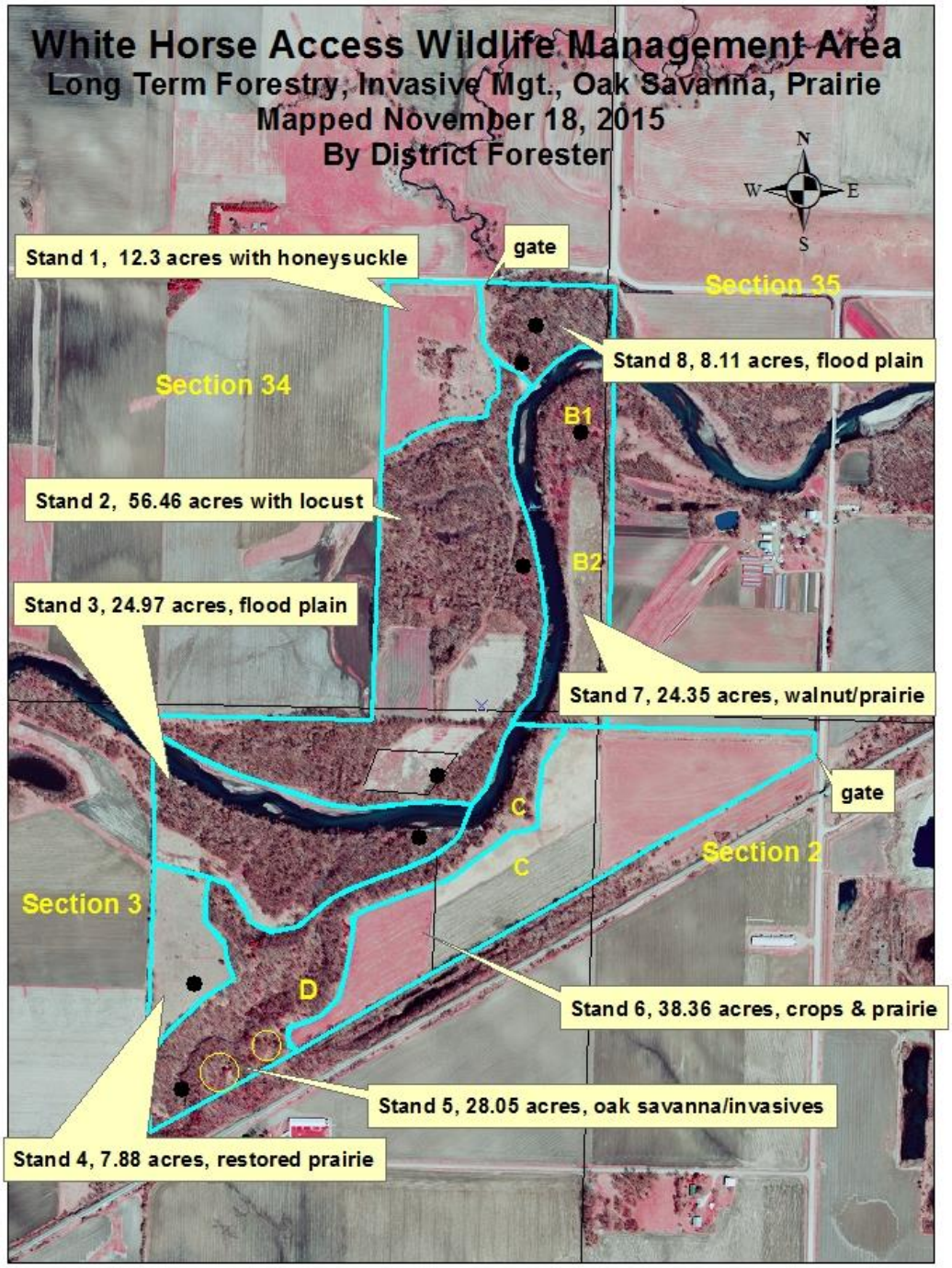
NAI List for Sac County

Summary by Species Report
Total Unique Listed Species In This County: 17

County	Common Name	Scientific Name	Class	State Status	Federal Status	Link To Species Profile
SAC	Mudpuppy	Necturus maculosus	AMPHIBIANS	T		PDF
SAC	Bald Eagle	Haliaeetus leucocephalus	BIRDS	S		PDF
SAC	Barn Owl	Tyto alba	BIRDS	E		PDF
SAC	King Rail	Rallus elegans	BIRDS	E		PDF
SAC	Northern Harrier	Circus cyaneus	BIRDS	E		PDF
SAC	Topeka Shiner	Notropis topeka	FISH	T	E	PDF
SAC	Creeper	Strophitus undulatus	FRESHWATER MUSSELS	T		
SAC	Cylindrical Papershell	Anodontoides ferussacianus	FRESHWATER MUSSELS	T		
SAC	Ozark Pigtoe	Fusconaia ozarkensis	FRESHWATER MUSSELS	E		
SAC	Round Pigtoe	Pleurobema sintoxia	FRESHWATER MUSSELS	E		
SAC	Yellow Sandshell	Lampsilis teres	FRESHWATER MUSSELS	E		
SAC	Regal Fritillary	Speyeria idalia	INSECTS	S		
SAC	Silvery Blue	Glaucopsyche lygdamus	INSECTS	T		
SAC	Spotted Skunk	Spilogale putorius	MAMMALS	E		PDF
SAC	Small White Lady's Slipper	Cypripedium candidum	PLANTS (MONOCOTS)	S		
SAC	Blanding's Turtle	Emydoidea blandingii	REPTILES	T		PDF
SAC	Smooth Green Snake	Liochlorophis vernalis	REPTILES	S		PDF



T87N, R35W, part of Section 34 of Coon Valley Twp, and T86N, R35W, part of Section 3, Sac Twp., all of Sac County. 200.3481 acres total.



T87N, R35W, part of Section 34 of Coon Valley Twp, and T86N, R35W, part of Section 3, Sac Twp., all of Sac County. 200.3481 acres total. Plan number is 400.