

WILDLIFE HABITAT MANAGEMENT PLAN

CLAY TRACT



INTRODUCTION

This document was prepared through a cooperative agreement between the Virginia Department of Game and Inland Fisheries, the US Department of Agriculture – Natural Resources Conservation Service, and the Conservation Management Institute. The recommendations provided in this document are best management practices that could be applied to the Clay Tract. The goal of this document is to provide the most effective approach for managing wildlife and conservation values while promoting recreational opportunities. Active management will be required at this tract to ensure it meets the Chesapeake Bay Public Access Authority (CBPAA) goals and objectives for the Clay Tract. The habitat practices outlined in this plan could be funded through timber sales as well as annual hunting/access fees.

MANAGEMENT PLANS

Stand 1 – 110 acres

Dominant species found in stand 1 include; loblolly pine (*Pinus taeda*), southern red oak (*Quercus falcate*), overcup oak (*Quercus lyrata*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), and tulip poplar (*Liriodendron tulipifera*) (figure 1). Overall the stand is dominated by approximately 25 year old loblolly pine. Tree core data from the loblolly pine, collected on 10 May 2010 by the Virginia Department of Forestry (DOF), indicates the pines are still putting on a fair amount of growth each year. However, the tops of the loblolly pines are starting to touch, indicating a second thinning is required. A second thinning will allow the loblolly pines to reach saw-timber size more rapidly, where they have the most commercial value. This thinning should occur in February of 2012.

There are several other advantages of conducting a second thinning. A second thinning could create more openings for habitat plots and hunting areas. The openings, roughly ½ - 1 acre in size each, will add habitat diversity to the stand, which promotes wildlife diversity. A mature oak forest should be the ultimate habitat goal for stand 1. Once the loblolly pines have reached their maximum growth potential, they can be harvested along with mature tulip poplars. During this final harvest however, the oaks within this stand need to be left intact (Appendix A, photos 1-2). The second thinning will also allow the oaks to proliferate and attain more growth. Many birds and mammals rely heavily on mast producing trees such as oaks for reproduction and survival. In addition to mast, the overall structure of hardwood forests differ from other habitat types and play an important role in winter and nesting cover for many species of birds and mammals. Lower King and Queen County, and the middle peninsula forest lands in general, are dominated by loblolly pine. Managing for an oak dominated forest at the Clay Tract will add much needed diversity to this region.

The old log decks and road in this stand are dominated by loblolly pines that are too dense for wildlife habitat or to be commercially valuable (Appendix A, photo 3-4). These areas should be cleared by the forestry crew conducting the thinning, or by a group of volunteers. Several young pines also grow along the road edge and in some cases have blown over the trail. These young pines along the edge of the road should be removed and managed for herbaceous vegetation to add additional wildlife habitat diversity.

If the second thinning is not performed, the stand should be re-evaluated in 5-10 years to see if the loblolly pines are still putting on growth, or if they are ready for harvest. In addition, if the pine thinning does not take place, a volunteer work crew should remove undesirable trees such as maple, sweetgum, young tulip poplar, etc. The highest priority area would be within 150' of the agricultural field to the west. This will open the understory to promote herbaceous vegetation and provide significantly improved breeding habitat for quail, turkey and songbirds. The crew could also create openings and expand the trails that exist within the stand. Productive trees will have to be marked prior to mobilizing

a volunteer work crew. When the pines are ready for harvest, the mast producing trees should not be cut.

We recommend performing this second thinning in February of 2012. The stand should be evaluated again in 2027 to see if remaining pines are ready to be cut. When this final cut is conducted, all oaks, hickories and blackgum trees need to be left. All other non-mast producing trees should be removed at this time as well. A prescribed burn rotation should be implemented starting 1-2 years after this final cut to promote open an oak woodland. Log decks and forest roads should be cleared and re-seeded.

Stand 2 – 44 acres

Stand 2 is comprised of various oaks, American beech (*Fagus grandifolia*), tulip poplar, some mature loblolly pines, and various hardwood species (Figure 1). This stand has the potential to provide exceptional wildlife habitat for deer, turkey, quail and migratory songbirds through a crop-tree release cut. In a crop-tree release, a forester, wildlife professional, or the landowner selects trees that are important mast producers. Competing trees and/or non-mast producing trees that are in close proximity to the selected trees are removed. Only trees that have branches touching the branches of the mast producers need to be removed. This “releases” the mast producing tree from competition and enables it to grow and produce more mast. We recommend removing some oaks in addition to all of the loblolly pine and mature tulip poplars found within this stand. This will encourage more vigorous forest shrubs such as blueberry (*Vaccinium spp.*), which is a highly desirable species for deer, woodcock and several other species of wildlife.

Several areas of young, dense regenerating stands of tulip poplars currently exist in the understory (Appendix A, pictures 5-6). These young poplar stands should be removed by either the forestry company conducting the thinning, a volunteer crew, or by using herbicides followed with a prescribed burn. Clumps of shrubs should be established approximately every 150’ in these locations. The clumps should be about 30’x 50’ wide. The shrub patches will provide food and cover for several species of wildlife. Shrub species that should be established, or managed for, include highbush blueberry (*Vaccinium corymbsum*), indigobush (*Amorpha fruticosa*), and American plum (*Prunus Americana*). If shrubs are planted, they will have to be protected from deer for the first few years.

Along the northeast corner of this tract there is an old log deck that is covered with a dense stand of young pines (Appendix A, photo 7). These pines should be cleared and the area should be managed as an opening, preferably with partridge pea, lespedeza (kobe or Korean), or ladino clover.

A few snags per acre should be created within this stand by girdling non-desirable trees such as sweetgum or pine.

Prescribed Burning

After the thinning is complete, initiating a prescribed burning rotation can maintain excellent wildlife habitat. Burning should be conducted by a certified burn manager 1 - 2 years after thinning and occur on a 3-year rotation. The prescribed burns should be applied in September. Prescribed burning will provide many benefits to wildlife such as:

- Keeping vegetation at a height where it is most useful for wildlife.
- Improve the nutritional value and digestibility of the vegetation.
- Help maintain herbaceous vegetation (i.e. grasses, forbs, and legumes).
- Provide for a diversity of food and cover types for wildlife.
- Provide nesting habitat for quail, turkeys and songbirds.

Firebreaks

Firebreaks should be incorporated into any planned burning activity. A firebreak is a strip or gap of bare land or vegetation that is established or created to act as a barrier to slow or stop the progress of wildfire and/or controlled prescribed burns. Firebreaks may be temporary or permanent and consist of fire-resistant vegetation, nonflammable materials, bare ground or natural geographic features such as rivers, rock outcrops, etc. Firebreaks should be located on the contour where practical, and stabilized in an appropriate manner to minimize the risk of soil erosion. Firebreak construction must comply with applicable federal, state, and local laws and regulations, including the state's Best Management Practices (BMP's) which can be viewed at the [Virginia Department of Forestry's web site](#). Firebreaks must be 50 feet wide within the forest to allow sufficient sun light for grass and legume plants to grow successfully.

Four types of firebreaks are adaptable to the various needs and conditions existing in Virginia. They are:

1. Forest roads
2. Plowed, disked, or bladed firebreaks
3. Burned firebreaks
4. Vegetated firebreaks

These firebreaks can also serve as trails for hiking, birdwatching, and/or hunting. Seeding firebreaks to lespedeza (kobe or Korean) or ladino clover will provide additional wildlife foods while still serving as trails for recreational users. If an annual is planted, light disking should occur every year or two. Annual plants require a disturbance to reseed and to prevent being out-competed by perennials.

Stand 3 – 14 acres

Stand 3 is a mixture of loblolly, southern red oak, tulip poplar, American beech and hickory (Figure 1). Tree core data shows that the loblolly pines in this stand are approximately 35 years old and are no longer putting on growth. The loblolly pine should be removed to take advantage of their commercial value. In addition, several mature tulip poplars exist within the stand and they can also be harvested. The goal for this stand is to manage for a mature oak-hickory forest. An oak-hickory stand is beneficial to several species of wildlife and can be achieved by removing the pines and poplars. In addition, removing those species will allow more sunlight to reach the forest floor, promoting herbaceous vegetation in the understory. Habitat management in this stand will compliment the management activities at stand 2 as well as in the field (Figure 1). Prescribed burns should be applied in this stand 1-year before or after stand 2 to create habitat diversity at the tract.

Stand 4 – 25 acres

Stand 4 is a stand of loblolly pine that is approximately 7 years old (Figure 1). The trees are adequately spaced and do not appear to be in competition with themselves or with other tree species. The recommendations for this stand are to cutback the edges along the "airport runway" strip. This will make the strip wider and more productive for nesting songbirds and quail. This area can provide nesting habitat for quail if the strip and the cutback areas are managed for herbaceous vegetation. To enhance this area, partridge pea can be seeded in the central part of the strip, approximately 10' wide. Best management practices for this strip will be to lightly disk the site in odd years starting in spring 2011. Light disking will expose pockets of bare soil and will not turn over all of the soil. If conducted in late February/early March it will promote annual vegetation which contains high seed yields. Managing this

area for warm season grasses, partridge pea, or lespedeza (kobe or Korean) will provide nesting and brood rearing habitat for quail. Cutting back the pines along the adjacent crop field will also create optimal nesting and brood rearing conditions for quail. The young pines will provide adequate escape cover and shelter fulfilling a quail's habitat requirements.

There are several spots along the strip that consist of sweetgums and the invasive Japanese honeysuckle (*Lonicera japonica*) that are ideal for cutting back (Appendix A, Pictures 8-9). The most effective method will be to use a volunteer crew to remove the trees, and to spray the honeysuckle with a glyphosate (e.g. Roundup) application. Also, if the trees are removed at ground level where the honeysuckle is growing; then a disk can quickly open this area up after it is treated with an herbicide.

This stand should be re-evaluated in 2017 for a thinning. If thinning is needed, thin to 45-60ft²/acre. Once thinned, a prescribed burning rotation should be established.

Field – 5 acres

The field is currently a mixture of herbaceous vegetation that is mowed on a regular basis (Figure 1). The best management practices for this field include breaking it into 3 smaller sections and disking each section on a rotational basis. One small section should be disked each year; however the other 2 sections should not be mowed, disked or disturbed in that same year. Strips of clover, lespedeza and/or partridge pea, roughly 10' wide can be established in between the 3 sections. Managing the field in this fashion will allow quail, turkey and songbirds to nest, as well as provide feeding and bedding areas for deer. These practices will compliment the management practices in adjacent tracts. Disking should occur in August/September to allow enough time for the herbaceous plants to start re-growth before going dormant. This will make the vegetation more palatable and attractive for deer during the hunting season.

Mowing

The field and "runway strip" should not be mowed unless the mowing is followed by a prescribed burn. Mowing allows thatch to build up on the ground over time and will deter the growth of forbs and desirable vegetation. A better method of managing these areas for grassy/herbaceous cover is to perform light disking. The disking should target any encroaching woody vegetation and should only disturb pockets of soil, or incorporate 50% of the vegetation into the soil. Do not mow or disk between April 15th and August 15th as these dates reflect the typical bird breeding season in Virginia.

THREATENED/ENDANGERED SPECIES and SPECIES of CONCERN

A review of the Virginia Department of Game and Inland Fisheries (VDGIF) species list and threatened waters list shows the state threatened bald eagle as nesting within 2 miles of the Clay Tract. Tier IV unlisted species were documented within 2 miles of the Browne Tract. The unlisted species found within 2 miles include:

- Ironcolor shiner (*Notropis chalybaeus*)
- American eel (*Anguilla rostrata*)
- American brook lamprey (*Lampetra appendix*)
- Banded sunfish (*Enneacanthus obesus*)

A review of the Department of Conservation and Recreation's (DCR) natural heritage list shows that the small whorled pogonia (*Isotria medeoloides*) occurs within 2 miles. The small whorled pogonia is listed

as federally threatened and state endangered. Avoid timber harvests and prescribed burns from April through early August in case this species is present within the Clay Tract.

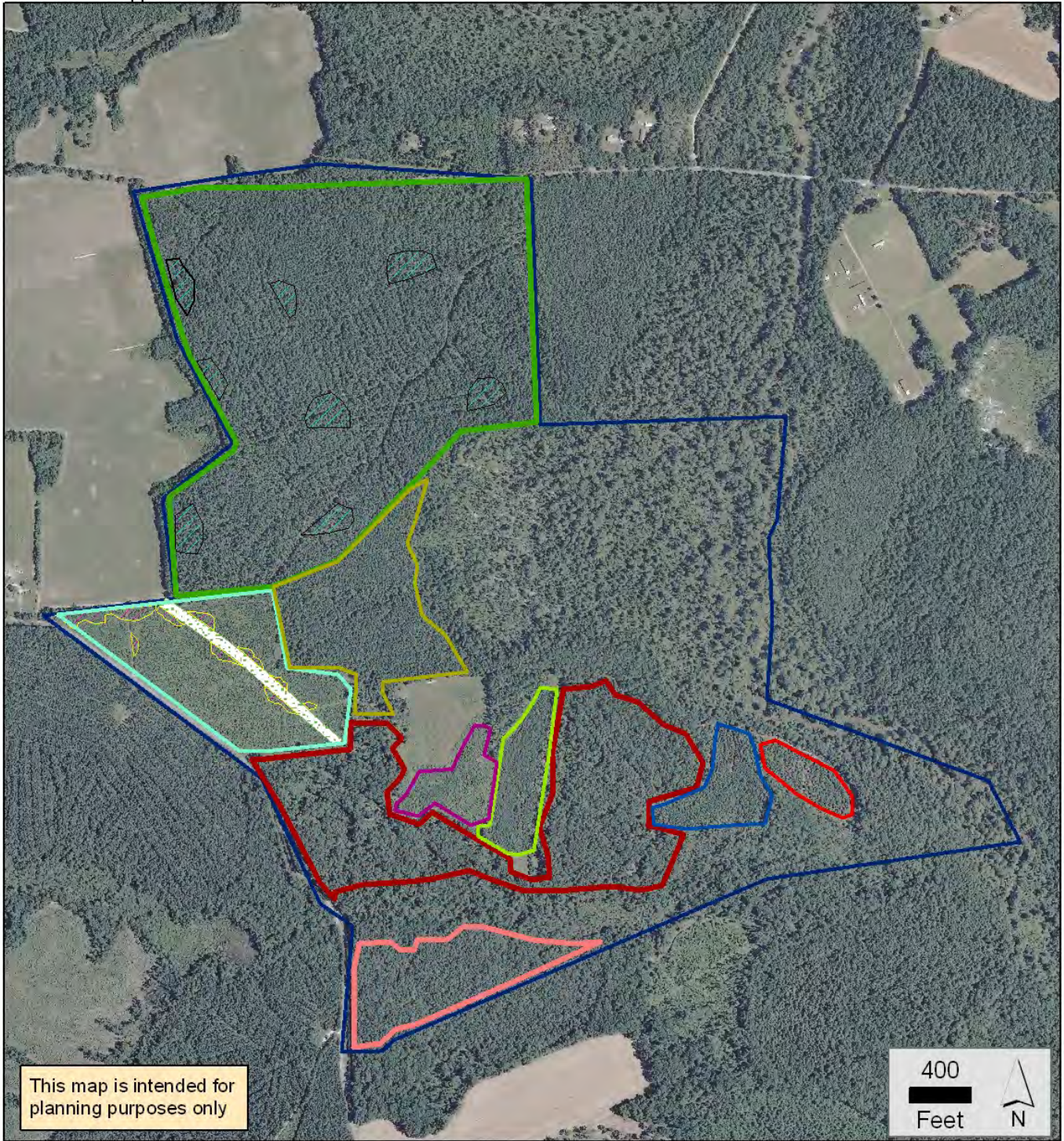
Prescribed burns should only be conducted in stand 2 when winds are blowing due west, south, or east and outside of the general bald eagle nesting times of December 15 – July 15 of any year. We also recommend not conducting any practices within 100' of a stream or river. If any of the listed species are found within the Clay Tract, we recommend consulting with a VDGIF biologist before carrying out any further habitat improvements.

Clay Tract

Wildlife Mgmt Plan Map

Customer(s): CBPAA
District: Three Rivers Soil & Water Conservation District
Field Office: Tappahannock Service Center

Agency: USDA-NRCS & DGIF & CMI
Assisted by: Michael J. Budd
State and County: VA, KING & QUEEN












 - Stand 1	 - Stand 4	 - Stand 7
 - Stand 2	 - Stand 5	 - Stand 8
 - Stand 3	 - Stand 6	 - Stand 9

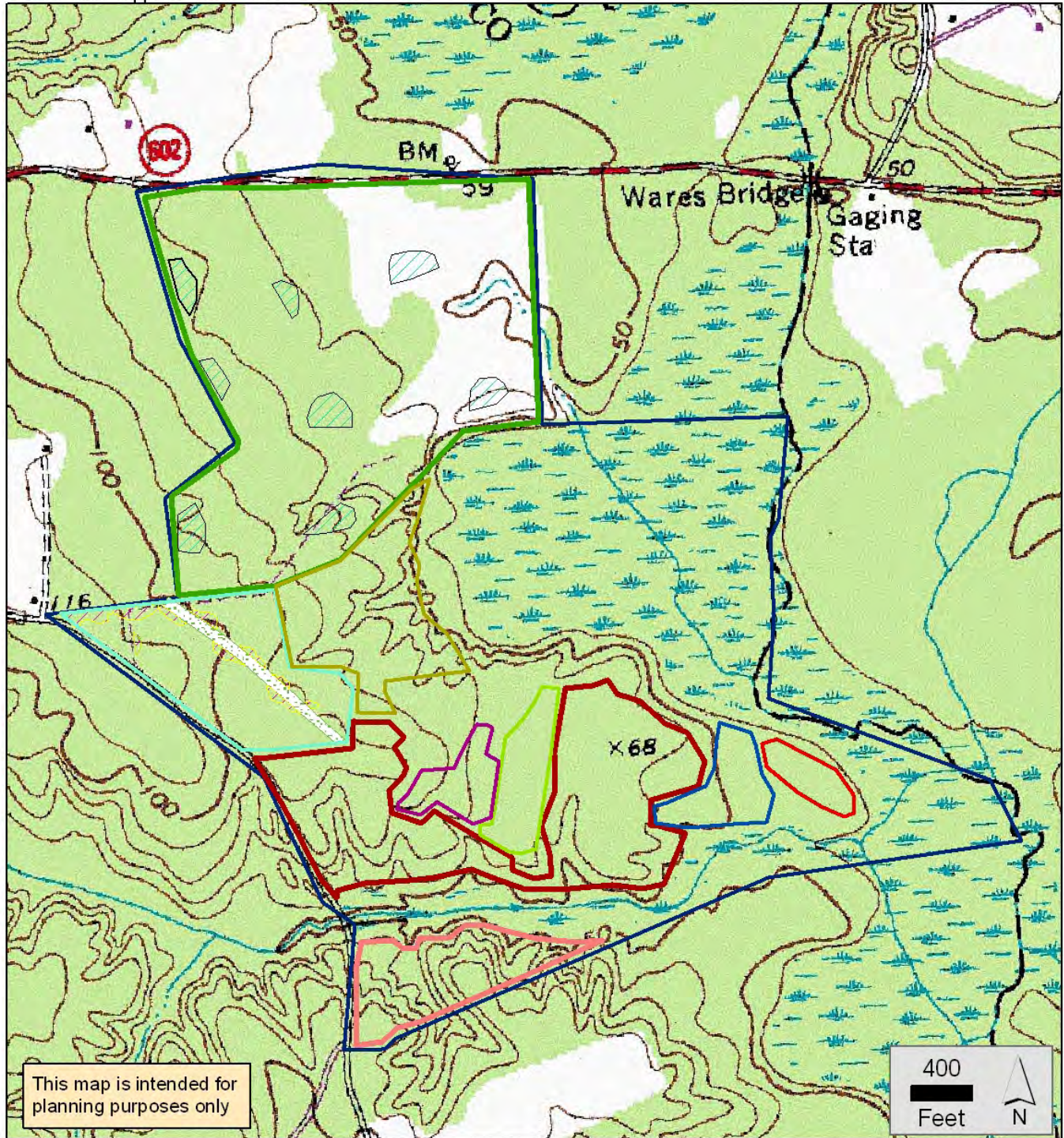
Figure 1. Aerial image of the Clay Tract outlining proposed management areas and practices.

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This map is intended for planning purposes only

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 Feet
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 - Stand 1	 - Stand 4	 - Stand 7
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Figure 2. USGS Topographic map of the Clay Tract outlining proposed management areas and practices.

APPENDIX A

SITE PHOTOS



Picture 1. Representative photo of stand 1 showing oaks (red arrow) mixed with



Picture 2. Representative photo of stand 1 showing oaks (red arrow) mixed with



Picture 3. Dense young pines on old log deck in stand 1 that should be cleared.



Picture 4. Dense young pines on old log road in stand 1 that should be cleared.



Picture 5. Young tulip poplars should be cut to improve habitat conditions.



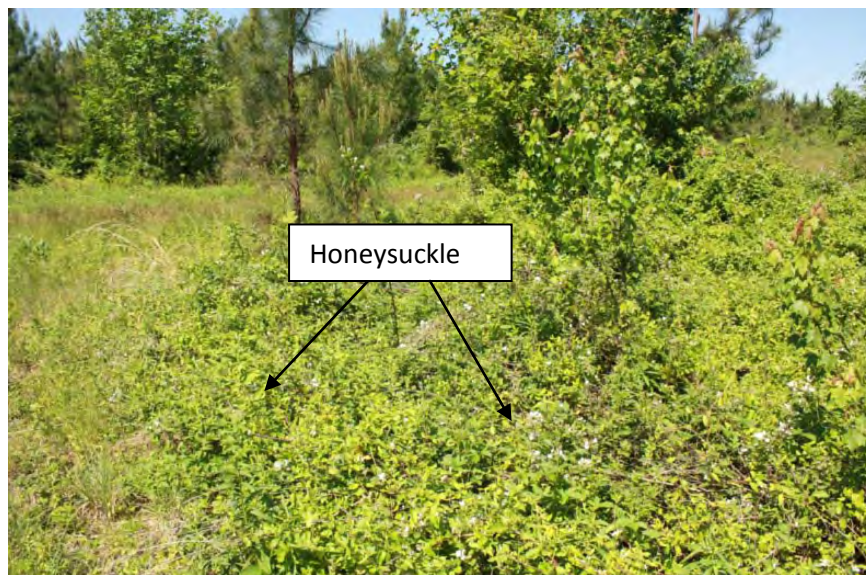
Picture 6. Young tulip poplars should be cut to improve habitat conditions.



Picture 7. Dense young pines on old log deck should be cleared and managed as an herbaceous opening.



Picture 8. Areas along the “runway strip” in stand 4 that could be cut back to provide enhanced nesting opportunities for quail.



Picture 9. Representative photo of Japanese honeysuckle along the “runway strip” that should be sprayed with an herbicide.