

CHESAPEAKE FOREST FY2008 ANNUAL WORK PLAN







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Citizens Advisory Committee

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www.dnr.state.md.us/forests/chesapeake for est lands.asp

CHESAPEAKE FOREST ANNUAL WORK PLAN SUMMARY

This document summarizes the proposed activities that will occur on the Chesapeake Forest during the 2008 fiscal year. The fiscal year runs from July 1, 2007 to June 30, 2008. The following proposed activities are the results of a multi-agency effort. The multi-agency approach has ensured that all aspects of these lands have been addressed within the development of this plan.

Plan Activities

Network with the following Maryland Department of Natural Resources agencies:

- Wildlife & Heritage Identify and develop restoration projects, report and map potential Ecologically Significant Areas (ESA) as found during fieldwork, release programs for game and non-game species. Mapping will be done with Global Positioning Systems (GPS). Participates on the Inter-Disciplinary Team (ID Team) and assists in the development of a forest monitoring program.
- Natural Resource Police Enforcement of natural resource laws on the forest.
- **Resource Planning** Provides assistance in the development of plans, facilitates meetings with various management groups, develops Geographic Information System (GIS) maps for public review, and conducts deed research and boundary recovery. Also participates on the ID Team.
- Maryland Conservation Corps (MCC) Assists in painting boundary lines, installing gates and trash removal.
- **State Forest And Park Service** Participates on the ID Team.
- Chesapeake And Coastal Watershed Service Develops watershed improvement projects, assists in the development of a forest monitoring program and participates on the ID Team.

Network with the following agencies:

- **Department Of Natural Resources Contract Manager** Assists the Forest Manager in the designs and implementation of management activities on the donated portion of the forest. Also participates on the ID Team.
- Sustainable Forestry Initiative Provides third party forest certification by conducting annual audits.
- Forest Stewardship Council Provides third party forest certification by conducting annual audits.

- **The Conservation Fund** Provides guidance in the development of management activities on the forest.
- The Chesapeake Bay Foundation Identifies sites for future water quality improvement projects.
- National Wild Turkey Federation Establishes and maintains handicaphunting opportunities within the forest and provides funding for habitat protection and restoration.
- United States Fish And Wildlife Service Assists in prescribed burns for Delmarva Fox Squirrel (DFS) habitat. Also assists in maintaining open forest road conditions as fire breaks.
- AmeriCorps National Civilian Community Corps Assists in boundary line marking, gate installations, trash pick up, restoration projects, etc.

Network with the following Universities and Colleges:

- Salisbury University Conducts species monitoring, a vegetative cross sectional study and water quality improvement studies.
- Maryland Environmental Lab, Horn Point Conducts water quality monitoring on a first order stream not influenced by agriculture. These samples will serve as a local base line for other samples taken on other Delmarva streams.

Maintenance

- Forest roads will undergo general maintenance to maintain access for forest management activities (i.e. logging, prescribed burning and wildfire control). Interior roads within each complex will be brush hogged where possible by the Maryland Forest Service (MFS) and the Wildlife and Heritage Service (WHS). Many of the roads have grown shut and require special heavy equipment to remove the larger trees. The Chesapeake Forest has partnered with the Blackwater National Wildlife Refuge who has such equipment. Brushing of these roads will improve access for the public and help maintain firebreaks for communities at risk from wildfire.
- Forest boundary lines will continue to be converted from the old Chesapeake Corporation white square markings to the Department of Natural Resources yellow band markings. Signs will be placed along the boundary lines designating the type of public access to the property.
- Illegal trash dumps will continue to be removed from the forest as they are discovered. The average amount of trash removed from the forest each year has been 36 tons.

Recreation

- Continue to explore additional Resource Based Recreational (RBR) opportunities on the forest. This may include hunting, horseback riding, water trails, hiking trails, bird watching opportunities, etc.
- Develop, improve and post public parking areas for the 30,000 acres designated for public use.
- Develop two (2) new handicap hunting trails on the following tracts:
 - 1. Aughty Naughty Tract W03; Improve approximately 2.75 miles of established roads within public hunting area for handicap hunter access. The forest roads need to be graded, five (5) new gates need to be installed and brush along the road edges needs to be removed (i.e. daylighting). Area map included.
 - 2. Marshy Hope Creek D12/4236; Improve approximately 1.63 miles of established roads within public hunting area for handicap hunter access. The forest roads need to be graded, five (5) new gates need to be installed and brush along the road edges needs to be removed (i.e. daylighting). Area map included.
- Continue developing a bird watching trail/area on the following tract:

Marshy Hope Creek – D12; The Maryland Forest Service (MFS) is proposing the development of a birding trail/area on the northern portion of the Marshy Hope Complex located off North Tara Road in Dorchester County. There is approximately 1.47 miles of existing trail that would need to be improved for foot traffic only. This trail/area will be established in partnership with the Dorchester County Tourism Department (Natalie Chabot, Tourism Director). Trail construction and maintenance will include removing brush along the trail, installing trail markers and signs, and building a parking area capable of holding three (3) to four (4) cars. Area map included.

• Continue to develop and protect the Tyler Nature/Demonstration Trail

Tyler Demonstration Area – W07; The trail presently has approximately four (4) miles of hiking trails, (the nature trail is comprised of one (1) mile), informational kiosk, picnic area and parking area. Upon completion of the trail signage and brochure, the Chesapeake Forest Resource Specialist will begin planning educational tours of the tract. A Recreation Trails Grant has been obtained with funds to improve the existing trail system.

Special Projects

- Update and maintain forest information in a Geographic Information System (GIS) database, which will result in a new updated forest wide field map.
- Maintain dual forest certification from the Forest Stewardship Council (FSC) and the Sustainable Forest Initiative (SFI).
- Conduct information and educational opportunities on the forest.
- Continue the effort to inventory and protect historic sites (i.e. cemeteries, old home sites, Native American Indian sites) using Global Positioning System (GPS) and GIS technology.
- Continue the partnership with the Maryland Forest Association's Master Loggers Program in providing training sites for Advanced Best Management Practices workshops.

Silvicultural Activity Overview

Table 2 summarizes the proposed silvicultural activities for the 2008 Annual Work Plan on approximately 3,439 acres (7%) of the Chesapeake Forest (CF).

Table 2. 2008 Silvicultural Activity Overview.

Activity	Acres
1. Variable Retention Harvest	294
2. Pre-commercial Thinning	573
3. 1 st Commercial Thinning	1,847
4. 2 nd Commercial Thinning	257
5. Aerial Release Spray	89
6. Mid-Rotation Spray & Fertilize	71
7. Site Preparation/Regeneration	106
8. Prescribed Fire	202
Total Acres Affected*	3,439

* Total acres affected are not the sum of all acres to be treated since some acres are scheduled for multiple activities (e.g. site preparation, planting and grass control or chemical spray). Efforts to promote natural regeneration should also reduce the acres affected. In addition, several tracts will have significant buffers and variable retention areas added, which will also reduce the harvest acreage accordingly. The current Geographic Information System (GIS) database is not accurate enough to give a precise acreage. However, the system will be continually updated by using Global Positioning Systems (GPS) to map new stand boundaries as stand prescriptions as they are carried out in the field.

Adaptive Management

It is the intention of the Maryland Forest Service (MFS) to carry out each prescription within this Annual Work Plan (AWP) as described. However, in keeping with the spirit of the Adaptive Management approach within the Sustainable Forest Management Plan (SFMP) and the Forest Stewardship Council's (FSC) Principal 4.1, it may become necessary to slightly alter the prescription in order to maintain local economies. Any Adaptive Management conducted will be done at the discretion of the Forest Manager in consult with the ID Team where appropriate.

The following is a list of definitions of proposed management activities that will occur on the Chesapeake Forest.

Reforestation – Reforestation reestablishes forest cover either naturally or artificially (hand planting), and is usually accompanied by some kind of site preparation during the same fiscal year. The nature of the site preparation will be determined by field examination. It is almost always followed, in the same fiscal year, with grass control in the form of chemicals (hand-applied by ground crews). Site conditions will dictate application rates, etc., in each case.

Site Preparation/Regeneration - While natural regeneration is the preferred method of reforesting harvested areas, alternative plans should be in place in case natural regeneration is unsuccessful. Alternatives include prescribed burning, herbicide, light mechanical disturbance, or a combination thereof, followed by planting of native pines or hardwoods as the management zone dictates.

Pre-Commercial Thinning – Pre-commercial thinning is the removal of trees to reduce over crowded conditions within a stand. This type of thinning concentrates growth on more desirable trees while improving the health of the stand. This treatment is usually done on stands that are five (5) to ten (10) years of age. The number of trees retained will depend on growth, tree species present and site productivity.

First Commercial Thinning – This will occur on plantations at age twelve (12) to twenty (20) years old to facilitate forest health and promote development of larger trees over a shorter period of time. This is accomplished in plantations by removing every fifth row of trees and selectively thinning between rows. In naturally regenerated stands, thinning corridors will be established every fifty (50) feet and the stand will be selectively thinned along both sides of the corridor. Approximately 30 to 35% of the total stand volume will be removed in this process.

Second Commercial Thinning - Usually performed on stands twenty (20) to twenty-eight (28) years old. The objective is to lengthen the rotation age of the stand and produce larger trees. In some cases, this technique is used to improve habitat for the Delmarva Fox Squirrel (DFS) and Forest Interior Dwelling Species (FIDS). Approximately 30 to 35% of the total stand volume will be removed in this process.

Selection Harvest – This includes the removal of single trees and groups of trees within a given stand. This method will be used to distribute age classes and to adjust species composition within a given stand (i.e. riparian buffers, Ecologically Significant Areas (ESA), DFS and FIDS areas).

Seed Tree Harvest – This type of harvest is designed to regenerate pine on the site by leaving twelve (12) to fourteen (14) healthy dominant trees per acre as a seed source. The seed trees are typically left on the site for another rotation. The seed tree method regenerates Loblolly Pine effectively and inexpensively in the Coastal Plain where seed crops are consistently heavy (Schultz 1997).

Shelterwood Harvest – The shelterwood method involves the gradual removal of the entire stand in a series of partial cuttings that extend over a fraction of the rotation (Smith 1986). The number of trees retained during the first stage of the harvest depends on the average tree size (diameter at breast height) on the site. As with seed tree regeneration, the sheltewood method works best when overstory trees are more than thirty (30) years old and in their prime period of seed production potential (Schultz 1997).

Variable Retention Harvest – This harvest type focuses on the removal of approximately 80% of a given stand in one cutting, while retaining approximately 20% as wildlife corridors/islands, visual buffers and legacy trees. The preferred method of regeneration is by natural seeding from adjacent stands, or from trees cut in the clearing operation. Coarse woody debris (slash/tree tops) is left evenly across the site to decompose. A Variable Retention Harvest (VRH) is prescribed to help regulate the forest growth over the entire forest, insuring a healthy and vigorous forest condition. Harvesting of young Loblolly Pine stands is done to help balance the age class distribution across the forest. Currently, 50% of the forest is nineteen (19) years of age or younger. VRH is also used to regenerate mixed natural stands within Ecologically Significant Areas (ESA), Delmarva Fox Squirrel and Core Forest Interior Dwelling Species (FIDS) areas. If adequate natural regeneration is not obtained within three (3) years of the harvest, hand planting of the site is typically required (not required for certain restoration projects, such as bay restoration).

Aerial Release Spraying - An aerial spray of herbicide is used to reduce undesirable hardwood species (i.e. sweet gum and red maple) within the stand. In many cases, a reduced rate (well below the manufactures recommendation) is used. A reduced rate has been used on the Chesapeake Forest (CF) successfully to kill the undesirable species while maintaining the desirable ones (yellow poplar and oaks). All forms of aerial spraying are based on precision Global Positioning System (GPS) mapping and accompanied by on-board flight GPS controls. GPS generated maps show each pass of the aircraft and are provided by the contractor to demonstrate precision application. Aerial applications are not allowed over riparian buffers or wetland areas on the forest.

Prescribed Fire – Prescribed fires are set deliberately, under proper supervision and weather conditions, to achieve a specific management goal such as enhancing wildlife habitat, encouraging fire-dependent plant species, reducing fuel loads that feed wildfires and preparing sites for planting.

Riparian Buffer Zone Establishment – Riparian buffer zones are vegetated areas adjacent to or influenced by a perennial or intermittent bodies of water. These buffers are established and managed to protect aquatic, wetland, shoreline and/or terrestrial environments. Boundaries of riparian buffer zones will be marked, surveyed using Global Positioning Systems (GPS) and mapped using Geographic Information Systems (GIS). Selective harvesting and/or thinning may occur in these areas to encourage a mixed hardwood-pine composition.

Literature Cited

Schulz, Robert P. 1997. The Ecology And Culture Of Loblolly Pine, Loblolly Pine, U.S. Gov. Printing Office, Washington, D.C. 5-13, 5-14 pp.

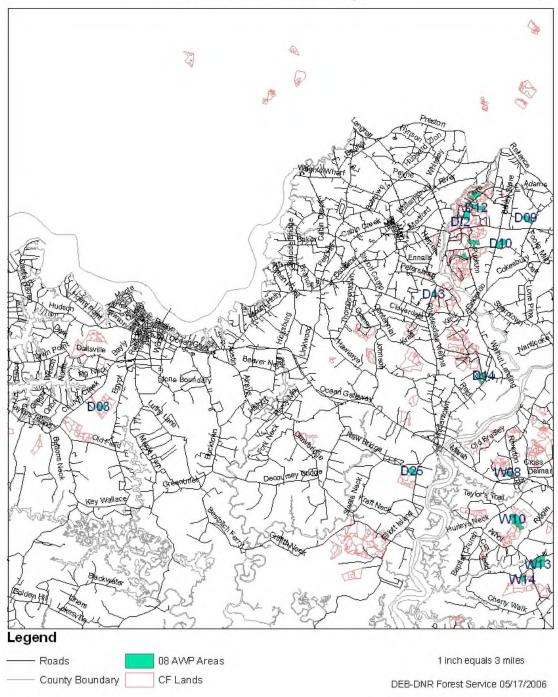
Smith, David M. 1986. The Practice Of Silviculture. Wiley, New York. 403 pp.

Wenger, Karl F. 1984, Forestry Handbook, For The Society Of American Foresters, Wiley, New York. 418 pp.

Locations And Descriptions Of Silvicultural Activities

Dorchester County





Description of 2008 Activities – Dorchester County

Complex D03 Dail

A second thinning is proposed for Stand 2. Stand 2 is a 39-acre Loblolly Pine plantation established in 1982, which was first thinned in 1999. The easternmost block of this thinned plantation had an understory burn in 2001.

Complex D09 James

A first thinning is proposed for Stand 1. Stand 1 is a 12-acre Loblolly Pine plantation, which was established in 1991.

A pre-commercial thinning is proposed for Stand 2. Stand 2 is a 49-acre Loblolly Pine plantation, which was established in 1998.

Complex D10 Huhne

A first thinning is proposed for Stand 1. Stand 1 is an 84-acre Loblolly Pine plantation, which was established in 1989. The High Value Conservation Forest (300' riparian buffer) area will also be included with this thinning operation. The purpose of thinning within the High Value Conservation Forest (HVCF) is to shift management from a pine plantation to a natural mixed (hardwood and pine) stand. The HCVF thinning will retain a minimum basal area of 60 square feet with an emphasis on retaining mast-producing hardwoods.

Complex D12 Marshy Hope

A pre-commercial thinning (PCT) is proposed for Stands 32 and 42. Stands 32 and 42 are Loblolly Pine plantations, which were planted in 1999 and 1998 respectfully. The total area to be treated is 227.2 acres. This PCT will result in a 10'X10' spacing of residuals where Loblolly Pine and mast producing species (where found) will be retained.

A first thinning is proposed for Stands 5 and 6. Stands 5 and 6 are Loblolly Pine plantations, which were established in 1989 and 1988 respectfully. The total area to be thinned is 60.2 acres. This thinning activity is located within the ¼ mile buffer of a bald eagles nest.

Both thinnings are located within Ecologically Significant Area (ESA) zones 1 and 3. Zone 1 will be flagged prior to the thinning activities.

Complex D13 Rhodesdale

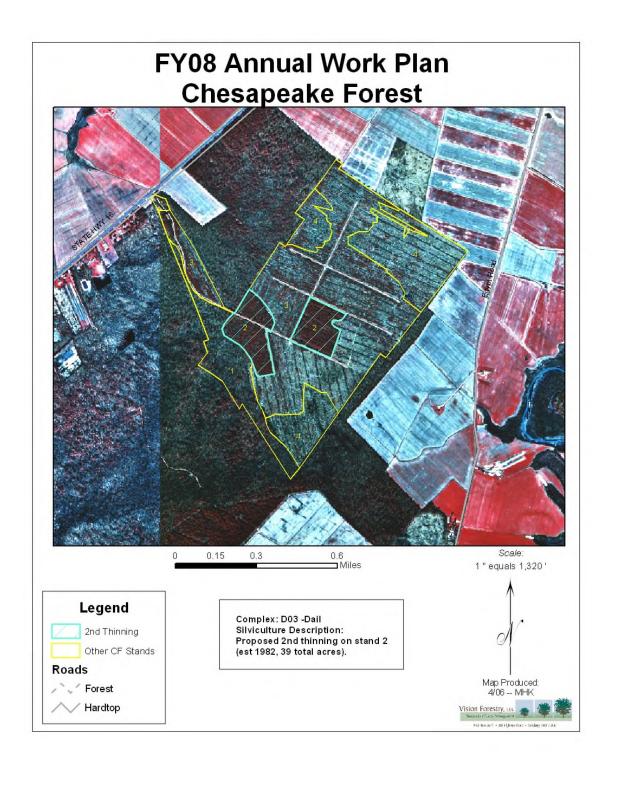
A pre-commercial thinning (PCT) is proposed for Stand 2. Stand 2 is a 25-acre Loblolly Pine plantation, which was established in 1999. This prescription is intended to help accelerate growth thereby creating suitable habitat for Delmarva Fox Squirrel (DFS).

Complex D14 Indian Town

A second thinning is proposed for Stands 21 and 24. Stands 21 and 24 are Loblolly Pine plantations, which were established in 1982 & 1977 respectfully. The total area to be treated is 99.7 acres. Mast producing species will be retained and encouraged.

Complex D25 Hoernecke-Oliphant

A second thinning is proposed for Stand 4. Stand 4 is a 55-acre Loblolly Pine plantation, which was established in 1977. This activity falls within an Ecologically Significant Area (ESA) zone 3 and conforms to the ESA guidelines.







Legend

- - Access Roads

- Roads

- Streams

//// PCT; 48.7 acres First Thinning; 12.1 acres

CF Lands

Complex: D09 Complex Name: James

Sivilicultural Description: A first thinning is proposed for stand 1, which is a 15 year old loblolly pine plantation that is 12.1 acres. A pre-commercial thinning is proposed for stand 2, which is a 8 year old loblolly pine plantation that is 48.7 acres.

DEB- DNR Forest Service 04/04/2006

1 inch equals 1,320 feet





1 inch equals 1,320 feet

Legend

Roads

— Streams

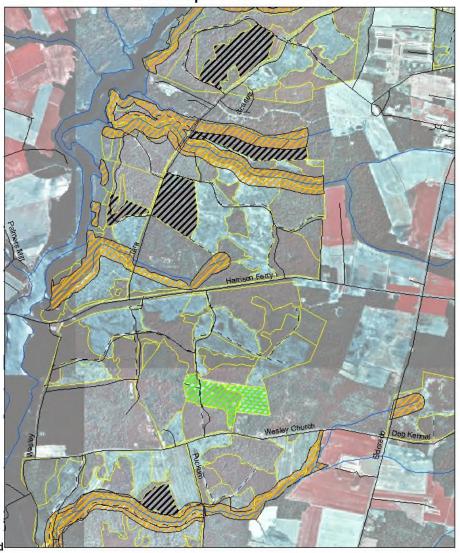
CF Lands

First Thinning; 84.3 acres
HCVF

Complex: D10 Complex Name: Huhne Sivilicultural Description: A first thinning is proposed for stand 1, which is a 17 year old loblolly pine plantation that is 84.3 acres.

DEB- DNR Forest Service 04/04/2006





Legend

//// HVCF

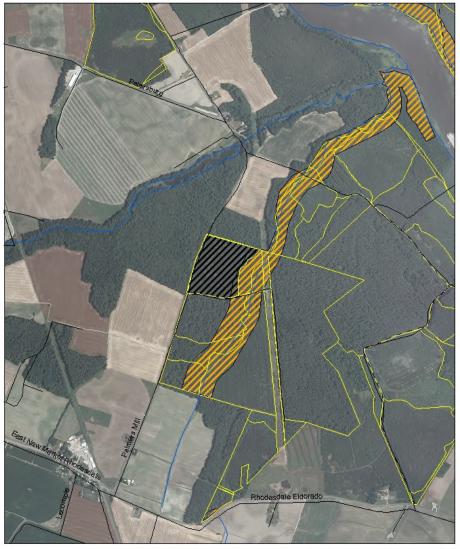
1 inch equals 2,296 feet - - Access Roads

- Access Roads
- Roads
- Streams
- Sivilicultural Description: A pre-commercial thinning is proposed for stands 32 and 42, which are
8 and 7 year old loblolly pine plantation that is 227.7 acres.
PCT; 227.2 acres
- Access Roads
- Inch equals 2,296 feet
- Complex: D12
- Complex: D12
- Complex: Name: Marshy Hope
- Sivilicultural Description: A pre-commercial thinning is proposed for stands 32 and 42, which are
8 and 7 year old loblolly pine plantation that is 227.7 acres.
PCT; 227.2 acres
- Inch equals 2,296 feet
- Complex: D12

CF Lands

DEB- DNR Forest Service 04/04/2006





Legend

- - Access Roads

— Roads

- Streams

CF Lands

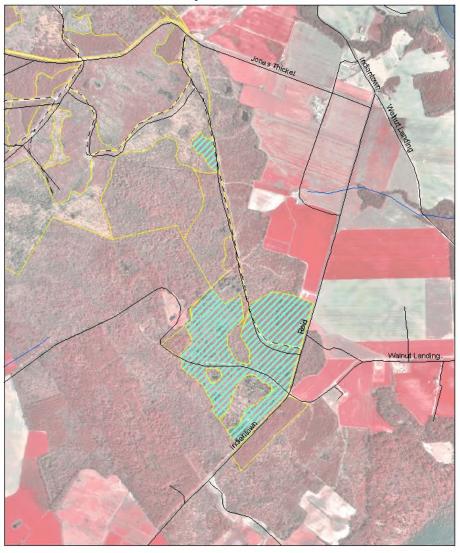
//// PCT; 24.9acres

1 inch equals 1,320 feet

Complex: D13
Complex Name: Rhodesdale
Sivilicultural Description: A pre-commercial thinning is proposed for stand 2, which is a 7 year old loblolly pine plantation that is 24.9 acres.

DEB- DNR Forest Service 04/06/2006





Legend

- - Access Roads - Roads

- Streams

CF Lands

💋 Second Thinning; 99.7 acres

1 inch equals 1,320 feet

Complex: D14
Complex Name: Indian Town
Sivilicultural Description: A second thinning is proposed for stands 24 and 21, which are 29 and 24 year old lobiolly plantations.

DEB-DNR Forest Service 04/06/2006





1 inch equals 1,320 feet

Legend

- - Access Roads - Roads

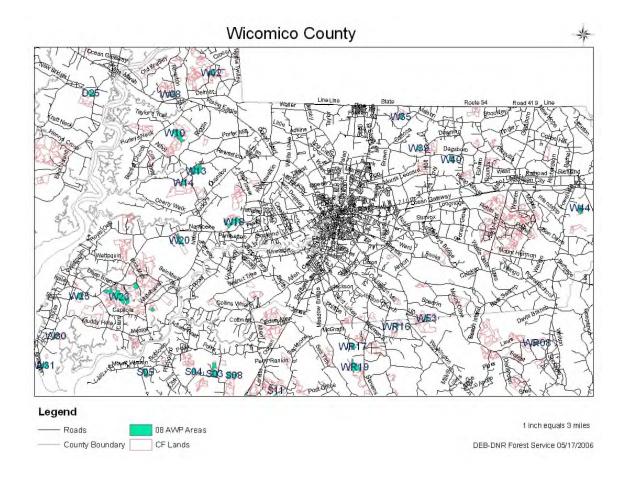
- Streams

CF Lands

💹 Second Thinning; 54.6 acres

Complex: D25
Complex Name: Hoernecke-Oliphant
Sivilicultural Description: A second thinning is proposed for stand 4, which is a 29 year old loblolly plantations.

DEB-DNR Forest Service 04/06/2006



Description of 2008 Activities – Wicomico County

Complex W02 Aughty Naughty

A final harvest is proposed for Stand 6. Stand 6 is a 40-acre Loblolly Pine plantation, which was established in 1970 and commercially thinned in 1995. This area is managed for Delmarva Fox Squirrel (DFS). Therefore, this site will be allowed to natural regenerate as a mixed pine hardwood stand.

Complex W07 Ventor-Lathrop

A pre-commercial thinning is proposed for Stand 12. Stand 12 is a 7-acre natural Loblolly Pine stand, which was established in 1999. This activity occurs within an Ecologically Significant Area (ESA) zone 1. The ESA guidelines will be followed.

Complex W08 Bacon

A final harvest is proposed for Stand 3. Stand 3 is a 29-acre Loblolly Pine plantation. This stand was established in 1971, and first thinned in 1994. Stand 3 was originally approved for a second thinning under the FY 2001 Annual Work Plan; however, wet ground conditions and a problematic access have prevented this harvest. This area is managed for Delmarva Fox Squirrel (DFS). Therefore, the stand will be allowed to regenerate naturally to a mixed pine hardwood stand.

Complex W13 Lakeside Lumber

A first thinning is proposed for Stands 1, 2 and 3. All three (3) Stands are Loblolly Pine. Stand 1 is a 47-acre plantation, which was established in 1992. Stand 2 is a 98-acre plantation, which was established in 1993. Stand 3 is a14-acre natural stand established in 1988.

Complex W14 Helmick

A final harvest is proposed for Stand 11. Stand 11 is a 31-acre Loblolly Pine plantation, which was established in 1968. The stand was first thinned in 1993, and second thinned in 2001. This stand was also sprayed and fertilized by the previous owners.

Complex W17 R.F. Richardson

Site preparation/regeneration is proposed for portions of Stands 1 and 2. Stand 1 is 30 acres and Stand 2 is 17-acres. Both are scheduled for a harvest during the Summer/Fall of 2006. While natural regeneration is the preferred method of regenerating this area, alternative plans should be in place and approved in case natural regeneration is unsuccessful. Alternatives could include prescribed burning, herbicide, light mechanical, or a combination thereof, followed by planting of native pines or hardwoods as the management zone dictates.

The Geographic Information Systems (GIS) layer of High Conservation Value Forest (HCVF), a 300-foot buffer on each side of Peters Creek, actually crosses over the main logging road, through the tract, for a short distance. To maintain an undisturbed 600-foot corridor along Peters Creek, this buffer should extend to, but not cross, the road on the south side of the creek, making it less than 300-feet. But, extend further on the north side of the creek, in order to maintain the 600-foot corridor.

Complex W18 Humphreys

A first thinning is proposed for Stands 2 and 6. Both stands are Loblolly Pine plantations, which total 146-acres and were established in 1992 and 1990 respectively.

Complex W20 Dr. Phillips

A mid-rotation release is proposed for Stand 2. Stand 2 is a 63-acre Loblolly Pine plantation in the general forest management zone, which was established in 1984. Two (2) ditches adjacent to the stand will be buffered by at least 150-feet during the release operation. This site is located within the ¼ mile buffer of a bald eagle nesting site. The activity proposed will occur outside of the nesting season.

Complex W23 Greenhill

A first thinning is proposed for Stands 21, 25, 28 and 29. All stands to be treated are Loblolly Pine plantations, which were established in years 1988, 1989, 1984 and 1975 respectively and totaling 301-acres.

A first thinning is also proposed for Stand 12 within two (2) small blocks. Stand 12 is a 12-acre Loblolly Pine plantation established in 1989. Part of the stand falls within an Ecologically Significant Area (ESA) zone 1. The ESA guidelines will be followed

A first thinning is proposed for Stands 6 and 23. Stand 6 is a 6-acre Loblolly Pine plantation, which was established in 1988. Stand 23 is a 47-acre Loblolly Pine plantation, which was established in 1989.

A first thinning is proposed for Stand 52. Stand 52 is a 23-acre Loblolly Pine plantation, which was established in 1984. This stand lies on Cherrybridge Creek and associated marsh within the Maryland Critical Area. There will be at least a 100-foot buffer along this marsh.

A first thinning is proposed for Stand 28. Stand 28 is a 3-acre natural Loblolly Pine stand established in 1984. The stand was pre-commercially thinned in 1990. This small stand will be thinned with a larger adjacent stand that has been approved in a previous Annual Work Plan. This stand falls within the ¼ mile buffer zone for a bald eagle nesting site. The proposed activities will occur outside of the nesting season.

Complex W25 Taylor #2

A first thinning is proposed for Stand 2. Stand 2 is a 45-acre pine plantation established in 1989. Access to the stand may have to be negotiated with adjacent landowners as the State right-of-way is in poor repair and economically unfeasible to repair during a first thinning operation.

Complex W30 Fair Meadows

An aerial spray is proposed for Stand 5 to control the sweet gum and other undesirable hardwoods in the stand. Stand 5 is a 17-acre natural Loblolly Pine stand.

Complex W31 Lovella Jones

An aerial spray is proposed for Stand 1 to control the Japanese Honeysuckle and Multiflora Rose that has entered the stand. This stand is a 46-acre Loblolly Pine plantation, which was established in 1989.

Complex W35 Messick

Site preparation/regeneration is proposed for a portion (General Management Zone) of Stand 5. Stand 5, within this proposal, is a 40-acre stand scheduled for a final harvest (summer of 2006). While natural regeneration is the preferred method of regenerating this area, alternative plans should be in place and improved in case natural regeneration is not successful. Alternative plans could include prescribed burning, herbicides, light mechanical, or a combination thereof, followed by planting of Loblolly Pine.

A final harvest is proposed for 13-acres of Stand 4 in conjunction with an Ecologically Significant Area (ESA) Restoration Plan. Stand 4 is a Loblolly Pine plantation, which was established in 1979 across an emergent wetland. This final harvest will only be conducted during extremely dry conditions.

A first thinning is proposed for Stand 2 and the remainder of Stand 4 in conjunction with the ESA Restoration Plan. Both Stands 2 and 4 are Loblolly Pine plantations. Stand 2 was established in 1989. This stand falls within an ESA zone 1 and 3. The ESA guidelines will be followed.

Complex W39 Dr. Dick

A first thinning is proposed for Stand 8. Stand 8 is a 21-acre Loblolly Pine plantation, which was established in 1971. A High Conservation Value Forest (HCVF) stand/stream buffer bisects this stand. Thinning within the HCVF/buffer will be performed in a way that promotes specie diversity and structure.

Complex W40 Hodgson

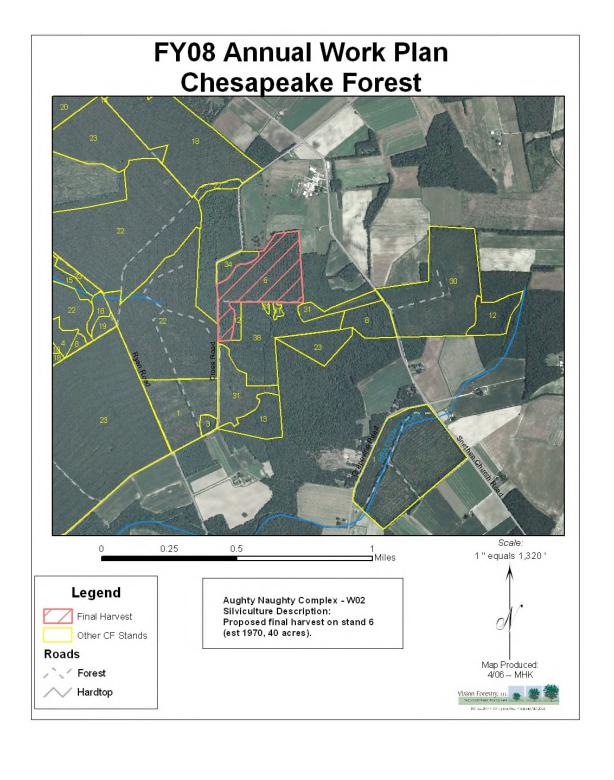
A pre-commercial thinning is proposed for Stand 1. Stand 1 is a 36-acre natural Loblolly Pine and hardwood stand, which was established in 1998. This stand had been harvested in the late 1990's and not planted because of sufficient natural regeneration, which is mostly Loblolly Pine. Pre-commercial thinning will favor dominant Loblolly Pines. Pure hardwood areas will be left un-thinned, mapped and designated as additional stands.

Complex W44 Gillis

A first thinning is proposed for Stand 6. Stand 6 is a 56-acre Loblolly Pine plantation, which was established in 1984. This is a low-lying wet tract. Therefore, thinning operations will be restricted to the dry season. There is an agricultural drainage ditch along the east boundary that will be buffered. Thinning within this buffer will be conducted in a way that promotes specie diversity and structure.

Complex W53 Twiggs Fooks

An aerial spray is proposed for Stand 9 to control the undesirable hardwood. Stand 9 is a 26-acre loblolly stand, which was established in 1999. A portion of this stand falls within Ecologically Significant Area (ESA) zone 3. The ESA guidelines will be followed.







Legend

- - Access Roads

CF Lands

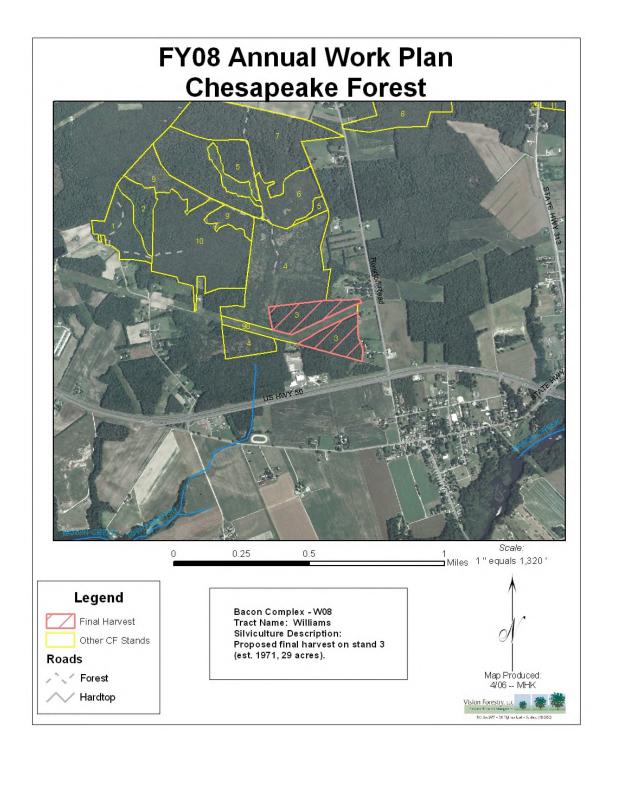
//// PCT; 7.2 acres

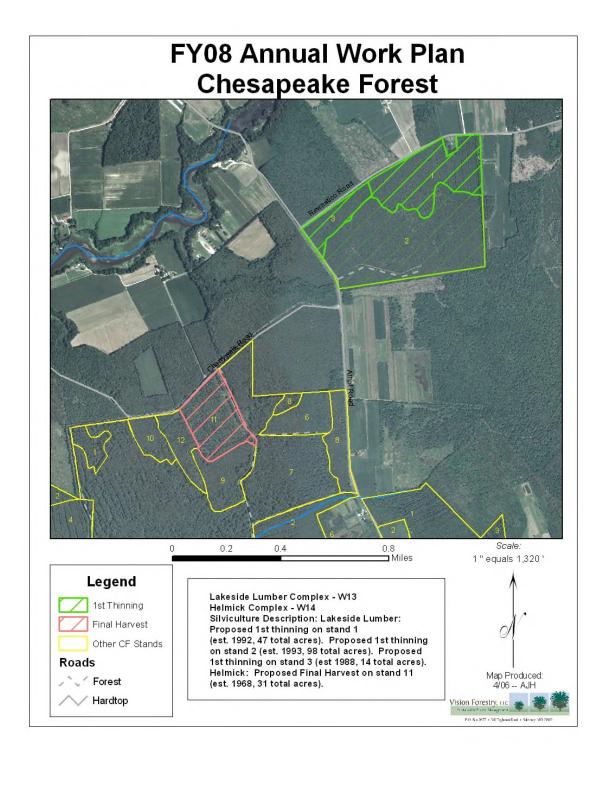
LIVE

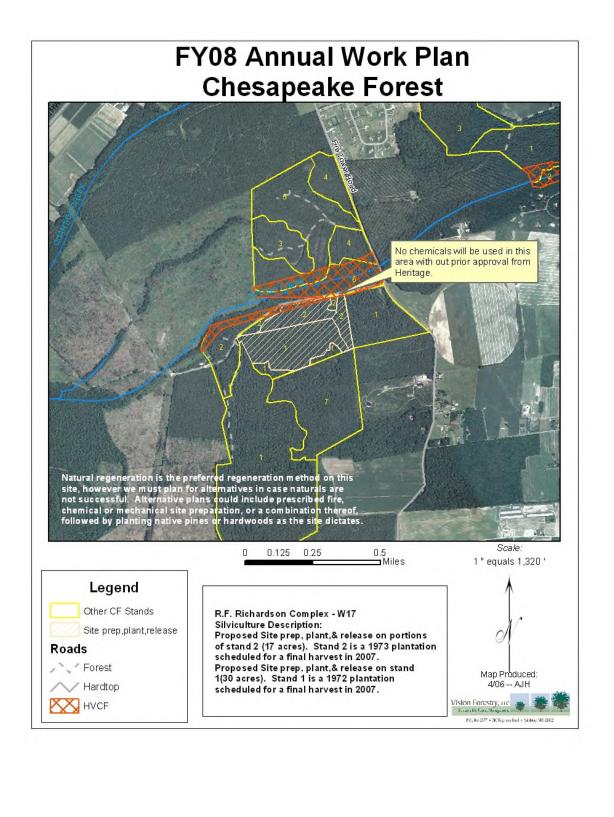
Complex: W07
Complex Name: Ventor-Lathrop
Sivilicultural Description: A pre-commercial thinning is proposed for stand 12, which are natural loblolly stand.

DEB-DNR Forest Service 04/06/2006

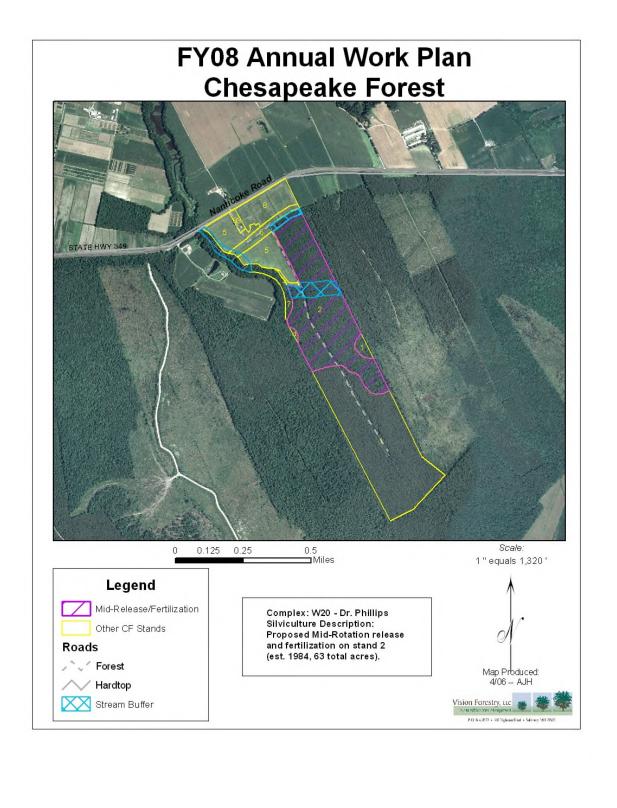
1 inch equals 1,320 feet

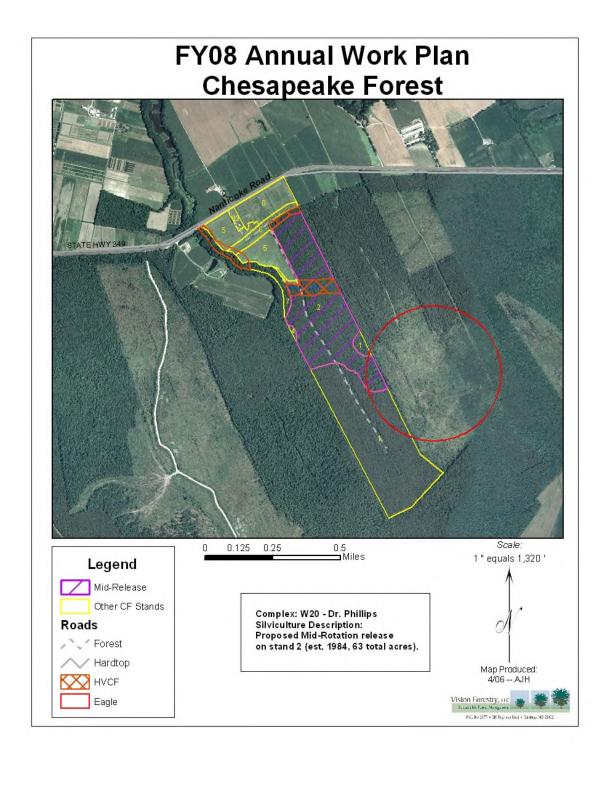


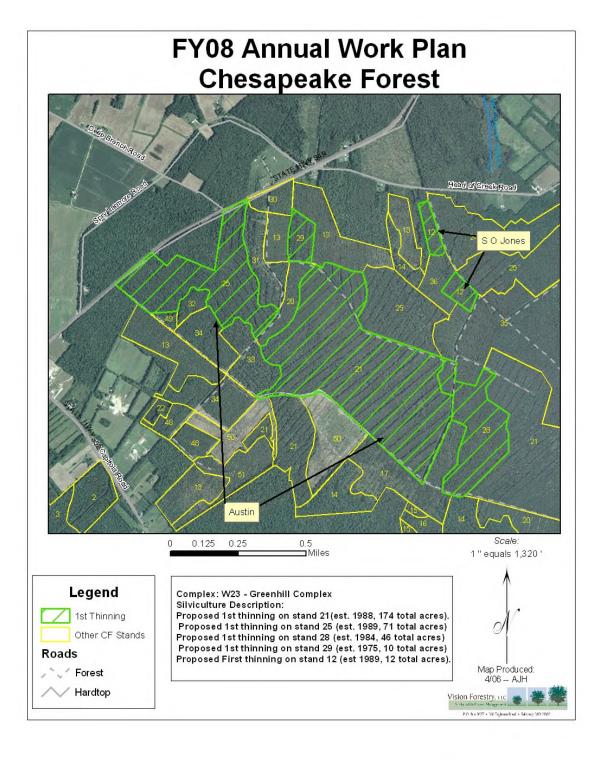


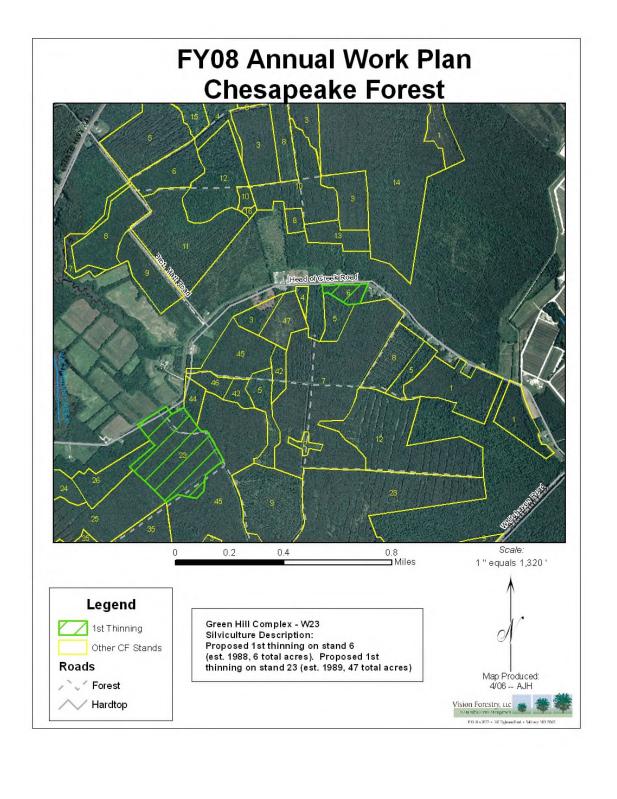


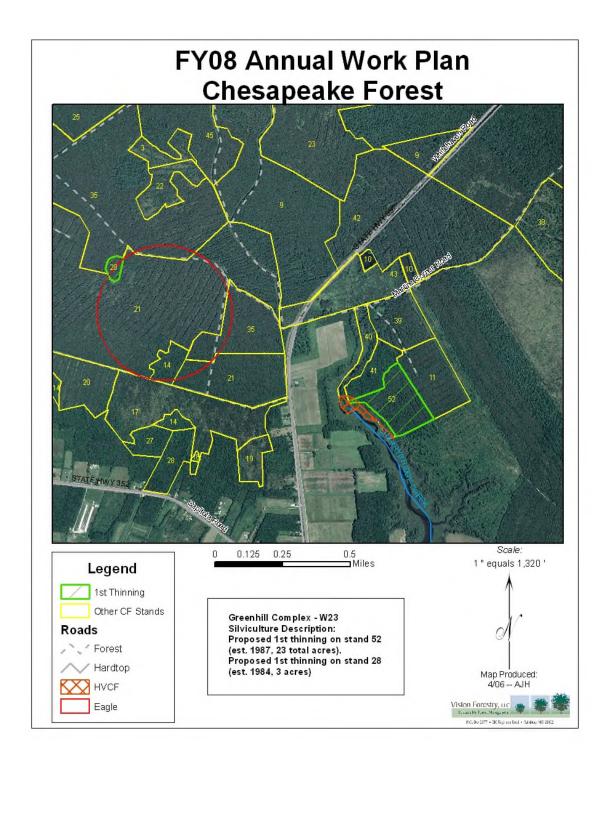
FY08 Annual Work Plan Chesapeake Forest 0.5 ⊐Miles 0.125 0.25 Scale: 1" equals 1,320 ' Legend Humphrey's Complex - W18 1st Thinning Silviculture Description: Proposed 1st thinning on stand 2 Other CF Stands (est. 1992, 135 total acres). Proposed First thinning on stand 6 Roads (est 1990, 11 total acres). Map Produced: 4/06 -- AJH ↑ √ Forest Hardtop Vision Forestry, LLC PO 8 x 3577 + 90 Ti flinan Red + Salstony MD

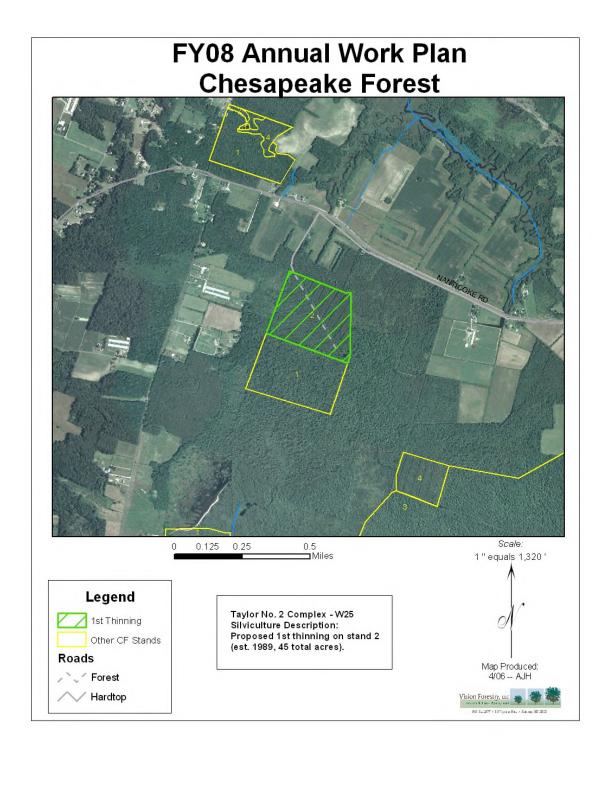




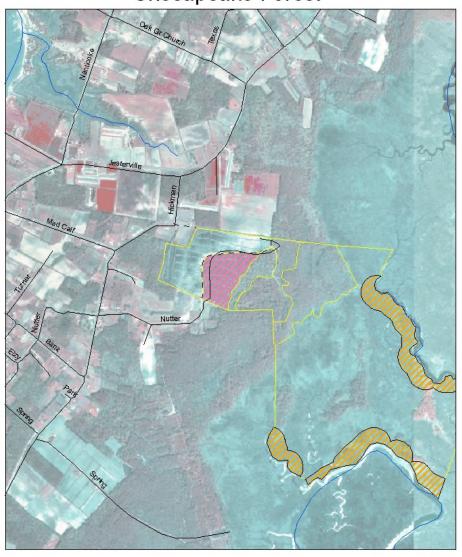












Legend

- - Access Roads

- Roads - Streams

CF Lands

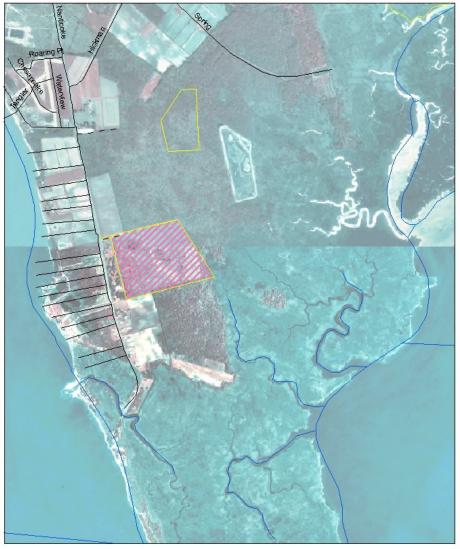
Aerial Spray; 17.2 acres

/// HVCF

1 inch equals 1,320 feet

Complex: W30
Complex Name: Fair Meadows
Sivilicultural Description: An Aerial Spray is proposed for stand 5, which is a 30 year old natural lobiolly stand that is 17.2 arces





Legend

- - Access Roads ----- Roads

____ Streams

CF Lands

Aerial Spray; 45.5 acrse

Complex: W31
Complex Name:Lovella Jones
Sivilicultural Description: An Aerial Spray is proposed for stand 1, which is a 17 year old lobiolly plantation that is 45.5 arces

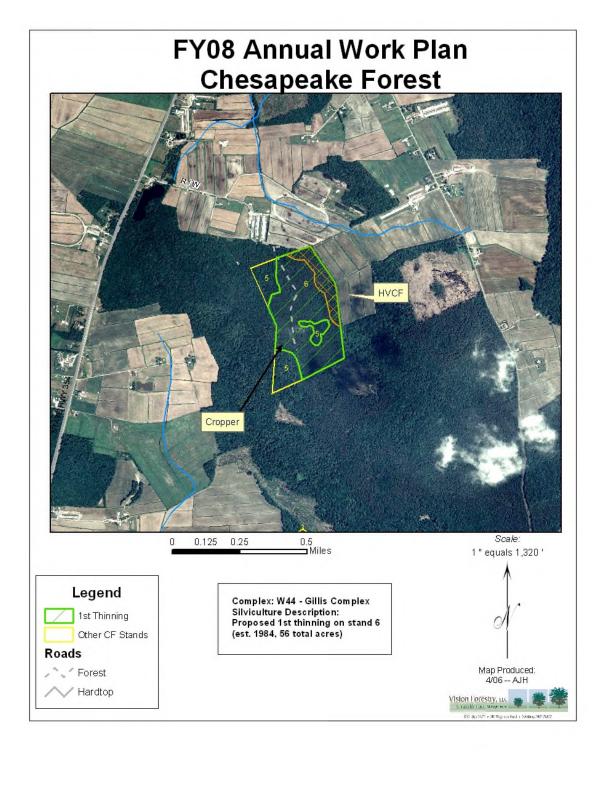
DEB-DNR Forest Service 04/06/2006

1 inch equals 1,320 feet

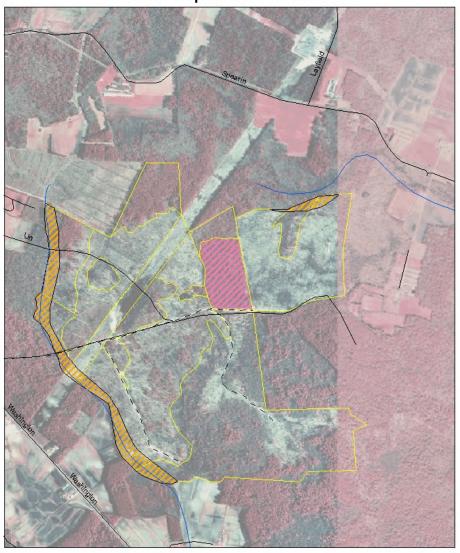
FY08 Annual Work Plan Chesapeake Forest Natural regeneration is the preferred regeneration method on this site, however we must plan for alternatives in case naturals are not successful. Alternative plans could include plascribed fire, chemical or mechanical site preparation, or a combination thereof, followed by planting native pines or hardwoods as the site dictates. 0.125 0.25 0.5 ⊐Miles 1" equals 1,320 ' Legend Messick Complex - W35 Other CF Stands Silviculture Description: Proposed Site prep, plant release on stand Site prep,plant,release 5. Final harvest is scheduled for 2007 Roads (est. 1969, 40 total acres). Map Produced: 4/06 -- AJH ~_ Forest Vision Forestry, LLC Hardtop

FY08 Annual Work Plan Chesapeake Forest HVCF 0.125 0.25 1 " equals 1,320 ' Legend Complex: W39 - Dr. Dick Silviculture Description: Proposed 1st thinning on stand 8 (est 1972, 21 total acres) 1st Thinning Other CF Stands Roads Map Produced: 4/06 -- AJH / Forest Vision Forestry, ne / Hardtop

FY08 Annual Work Plan Chesapeake Forest 0.5 ☐ Miles 0.125 0.25 Scale. 1 " equals 1,320 ' Legend Hodgson Complex - W40 PCT Silviculture Description: Proposed Pre-Commercial thinning Other CF Stands on stand 1 (est. 1998, 36 total acres) Roads Map Produced: 4/06 -- AJH / \ Forest Hardtop Vision Forestry, LLC







Legend

- - Access Roads

- Roads - Streams

CF Lands

Aerial Spray; 25.7 acres

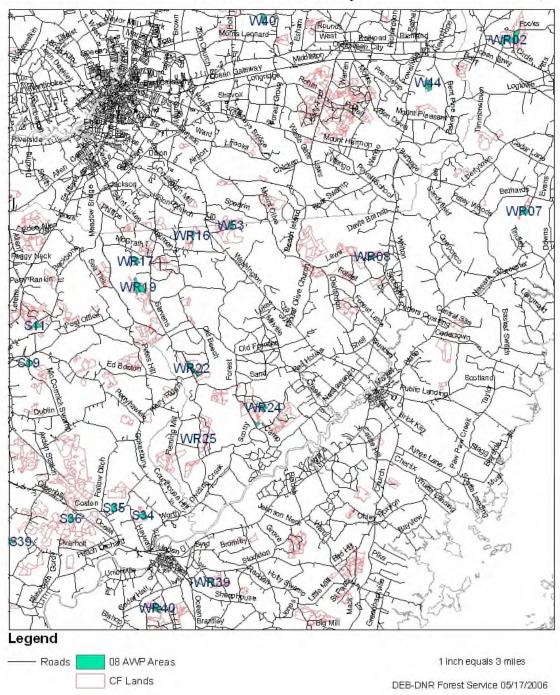
/// HVCF

1 inch equals 1,320 feet

Complex: W53
Complex Name: Twiggs Fooks
Sivilicultural Description: An Aerial Spray is proposed for stand 9, which is a 7 year old loblolly stand that is 25.7 arces

Worcester County





Description of 2008 Activities – Worcester County

Complex WR07 Bradford

A second thinning is proposed for Stand 2. Stand 2 is a 33-acre Loblolly Pine plantation. This stand was established in 1976 and first thinned in 1998. A stream (ditch) buffer and associated High Conservation Value Forest (HCVF) bisect this tract, but no harvesting will occur within this 600-foot corridor.

Complex WR08 Godfrey

A mid-rotation release is proposed for Stand 4. Stand 4 is a 24-acre Loblolly Pine plantation within the General Forest Management Zone. This stand was established in 1991 and first thinned during 2005. There is a stream buffer/High Conservation Value Forest (HCVF) to the west of this proposed area. No spraying will occur in this 300-foot buffer/HCVF. An herbicide rate well below the guaranteed label rate of 12 ounces per acre (6-8 ounces per acre) will be used in order to preserve the more resistant hardwood species and promote diversity in this pine plantation.

Complex WR16 Wainwright

A prescribed burn is proposed for Stand 4. Stand 4 is a sand ridge Ecologically Significant Area (ESA) that was harvested in 2006 as part of a larger restoration project. The purpose of the prescribed burn is to encourage the dispersion of the shining nutrush and other rare herbaceous species on this 33-acre harvested site. The Wildlife and Heritage Service (WHS) will be contacted prior to the burn.

Complex WR17 Livingston

A first thinning is proposed for Stand 2. Stand 2 is a 41-acre Loblolly Pine plantation, which was established in 1987. Dividing Creek, which lies on the west side of this harvest area, will have a 300-foot buffer. The immediate area adjacent to the stream (50-feet) will be a no harvest buffer, while the remaining 250-feet will be more heavily thinned to promote a mixture of hardwoods.

Site preparation/regeneration is proposed for portions of Stand 1 and Stand 4. Both stands total 36 acres. While natural regeneration is the preferred method of regenerating this tract, alternative plans should be in place and approved in case natural regeneration in unsuccessful. This harvest area includes a small portion of an emergent wetland Ecologically Significant Area (ESA) where regeneration other than natural will be a last resort. Alternatives could include prescribed burning, herbicides, light mechanical work or a combination thereof.

Complex WR19 Priscilla Pusey

A first thinning is proposed for Stand 8. Stand 8 is a 115-acre natural Loblolly Pine stand, which regenerated in 1988. This sale will be combined with the first thinning from the 2004 Annual Work Plan. This stand falls within an Ecologically Significant Area (ESA) zone 1 and 3. The ESA guidelines will be followed.

Complex WR22 Whitesburg

A pre-commercial thinning is proposed for Stand 3. Stand 3 is a 62-acre Loblolly Pine plantation, which was established in 1998. Mast producing hardwoods will be retained when found.

Complex WR24 Johnson and Johnson

A pre-commercial thinning is proposed for Stands 13, 14 and 16. Stands 13 and 14 are Loblolly Pine plantations and Stand 16 is a naturally regenerated Loblolly Pine stand. Mast producing hardwoods will be retained in the spacing when found. Total acreage is 42.3. This activity falls within an Ecologically Significant Area (ESA) zone 1 and a stream buffer. The ESA guidelines will be followed.

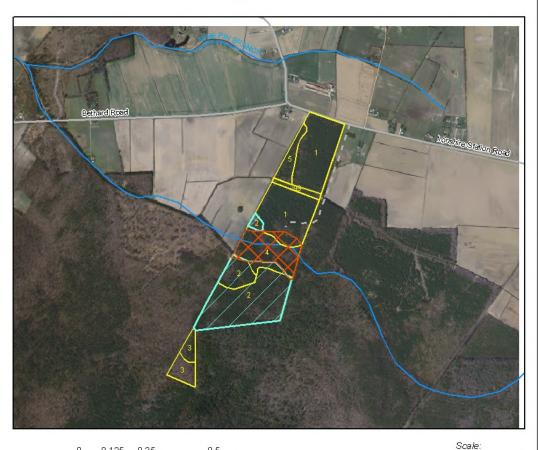
A final harvest is proposed for part of Stand 7. Stand 7 is a Loblolly Pine plantation, which was established in 1966. Total acreage is 40. This area is managed for Delmarva Fox Squirrel (DFS). Therefore, the site will be allowed to regenerate naturally to a mixed pine hardwood stand.

Complex WR25 Tankard Farm

A final harvest is proposed for the 6.3-acre stand of mature Loblolly Pines along Whitesburg Road, which is a part of Stand 10. This stand was left 17 years ago when the adjacent stand was harvested as a visual buffer. Green up requirements have been met. This area is managed for Delmarva Fox Squirrel (DFS). Therefore, the site will be allowed to regenerate naturally to a mixed pine hardwood stand.

Complex WR40 Dunn Swamp

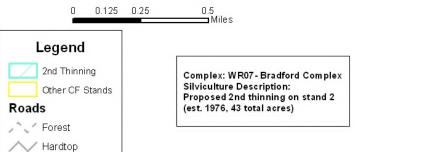
A variable retention harvest is proposed for Stand 15. Stand 15 is a 52-acre Loblolly Pine plantation, which was established in 1971. This stand was first thinned in 1996, sprayed and fertilized in 1997. In 2002, the stand was second thinned leaving the final crop trees. This variable retention harvest will retain 20% of the volume dispersed in aggregate blocks across the 52 acres. This will provide a seed source for natural regeneration and a matrix of habitat retention that will remain in tact through the next rotation.



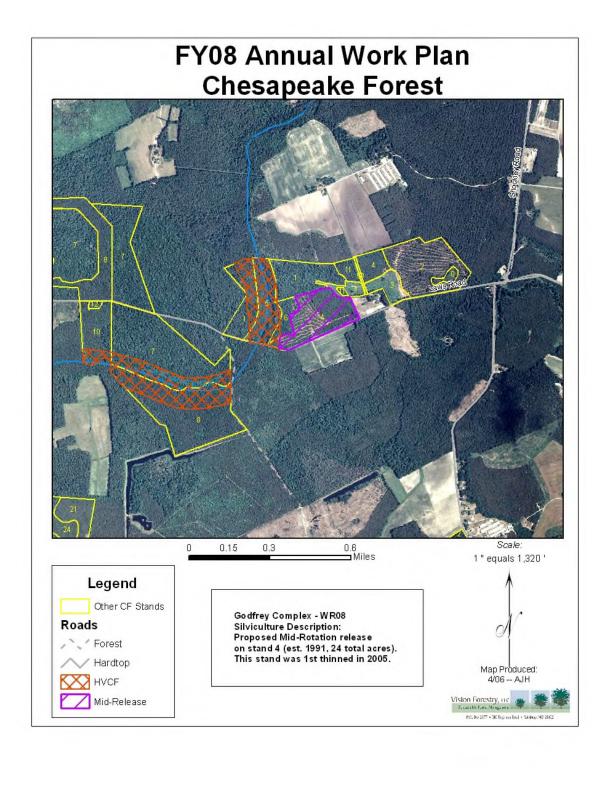
1 " equals 1,320 '

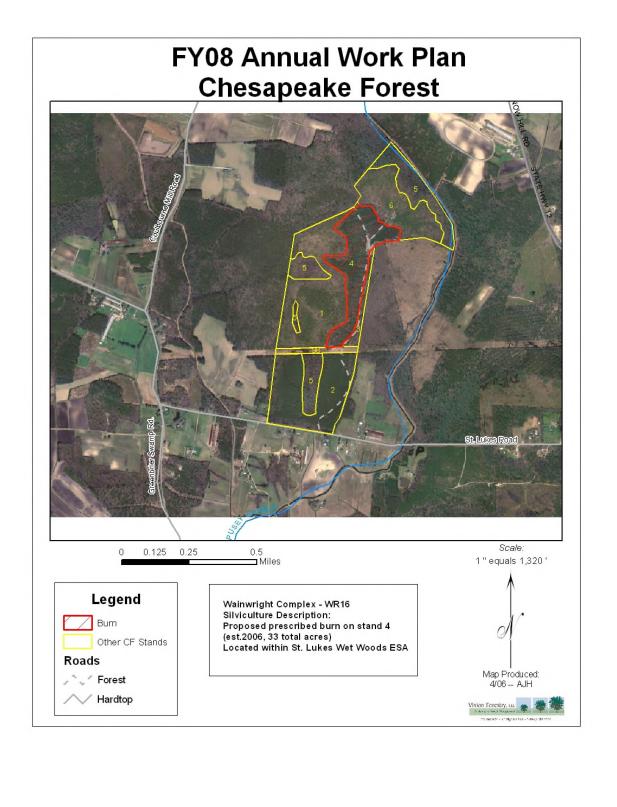
Map Produced: 4/06 -- AJH

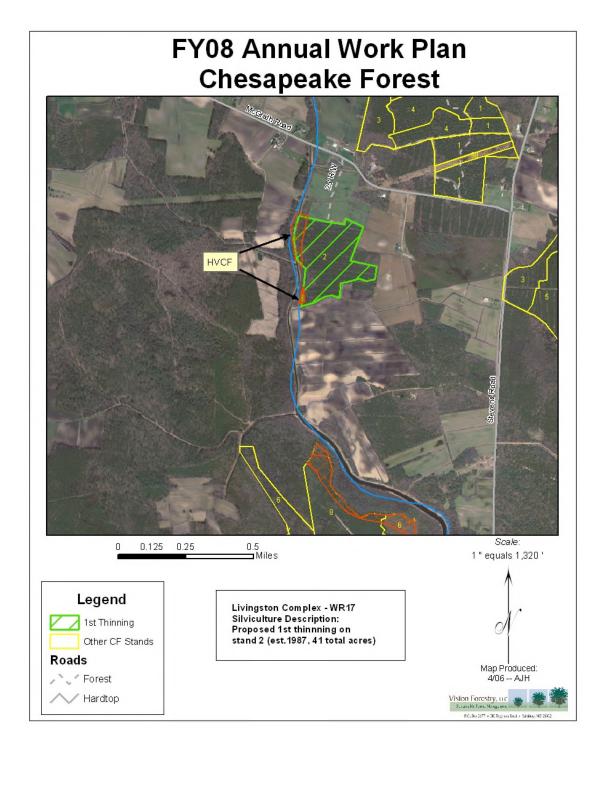
Vision Forestry, ac



HVCF

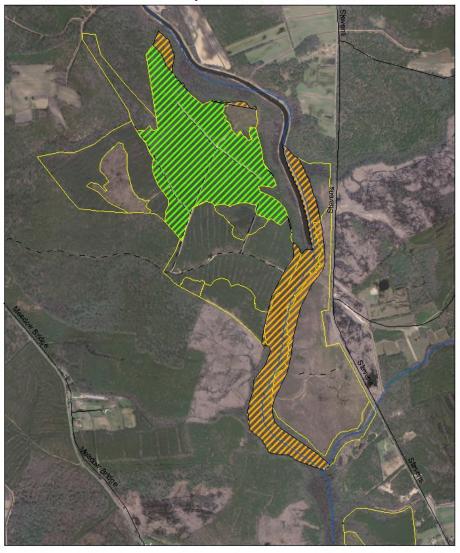






FY08 Annual Work Plan Chesapeake Forest No chemicals will be used in this area with out prior approval from 300+ foot buffer of wetland and ditch Natural regeneration is the preferred regeneration method on this site, however we must plan for alternatives in case naturals are not successful. Alternative plans could include prescribed fire, chemical or mechanical site preparation, or a combination thereof, followed by planting native pines or hardwoods as the site dictates. Scale 0.125 0.25 0.5 ⊐Miles 1 " equals 1,320 ' Livingston Complex - WR17 Legend Silviculture Description: Proposed Site prep, plant release on stands Other CF Stands 1 & 4. Stand 1 was thinned in 1992 & sprayed in 2000. Final harvest is scheduled for 2007 Site prep,plant,release (planted 1970, 6 total acres). Stand 4 was Roads chopped and burned in 1969, thinned in 1995, Map Produced: 4/06 -- AJH sprayed in 1997, and fertilized in 1998. Final Forest harvest is schedlued for 2007 (planted 1970, 30 total acres) Vision Forestry, 110 Hardtop





Legend

- - Access Roads

- Roads - Streams

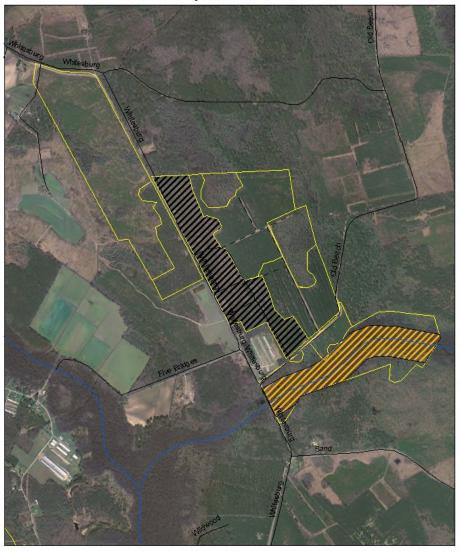
CF Lands

First Thinning; 115.3 acres

1 inch equals 1,320 feet

Complex: WR19
Complex Name: Priscilla Pusey
Sivilicultural Description: A First Thinning is proposed for stand 8 which, is a 18 natural loblolly sathd that is 115.3 acres





Legend

- - Access Roads - Roads

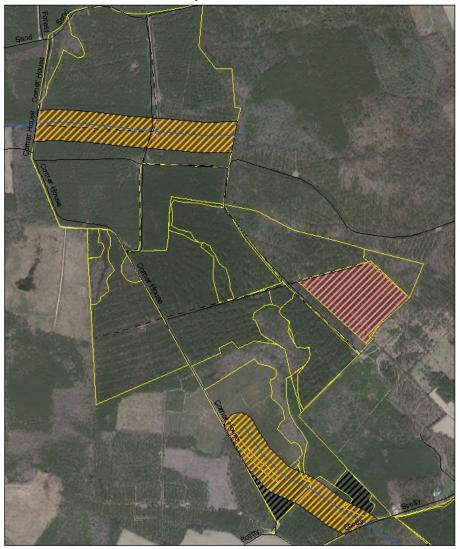
- Streams

CF Lands

//// PCT; 61.6 acres

1 inch equals 1,320 feet Complex: WR22
Complex Name: Whitesburg
Sivilicultural Description: A Pre-commercial thinning is propsed for stand 3, which is a 8 year old loblolly plantation that is 61.6 acres





Legend

- - Access Roads

— Roads - Streams

CF Lands

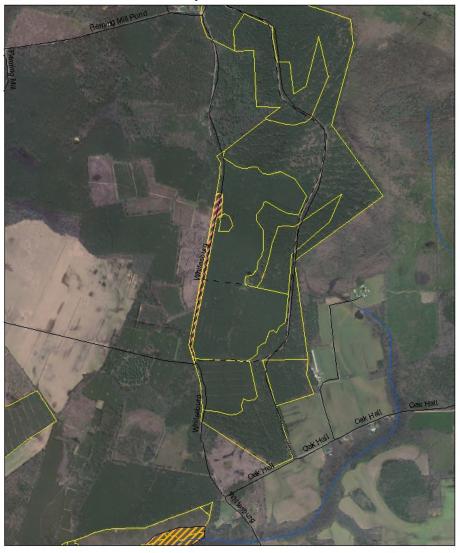
//// PCT; 42.3 acres //// Final Harvest; 40 acres

Complex: WR24
Complex Name: Johnson and Johnson
Sivilicultural Description: A Pre-commercial thinning is proposed for stands 13,16, and 14 which are 12, 8, and 13 year old loblolly stands that are 42.3 acres.
A 40 acres final harvest is propsed for part of stand 7, which is a 40 year old loblolly

DEB-DNR Forest Service 04/06/2006

1 inch equals 1,320 feet





Legend

- - Access Roads - Roads

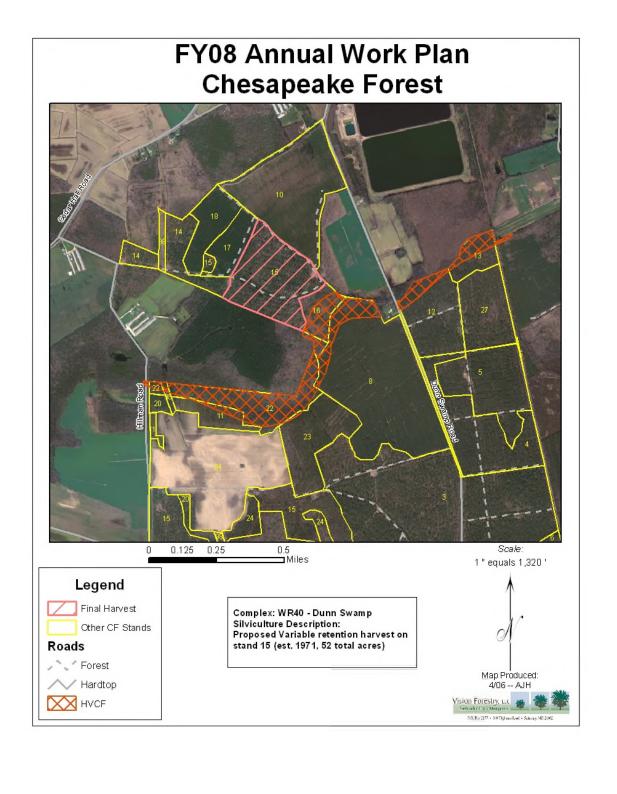
- Streams

CF Lands

Final Haverst; 6.3 acres

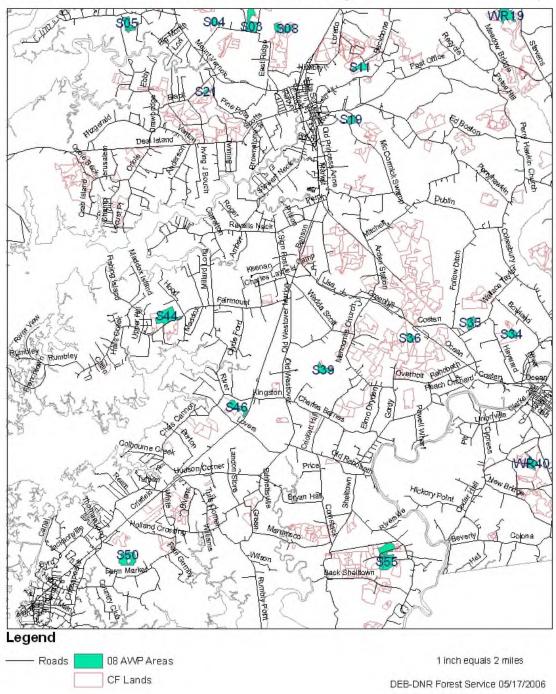
1 inch equals 1,320 feet

Complex: WR25
Complex Name: Tankard Farm
Sivilicultural Description: Final Harvest is proposed for the buffer along Whitesburg Road which is 6.3 acres



Somerset County





Description of 2008 Activities – Somerset County

Complex S01 Eden

A pre-commercial thinning is proposed for Stand 12. Stand 12 is a 54-acre natural Loblolly Pine stand, which was regenerated in 1999. There is a High Conservation Value Forest (HCVF)/stream buffer in the northwest corner of this stand. Pre-commercial thinning (PCT) within the HCVF will be conducted in a way that promotes a mixed hardwood pine forest. The balance of this stand is currently a mixture of both pine and hardwood regeneration. PCT will be performed to promote free to grow saplings.

Complex S03 Covington

A final harvest is proposed for a portion of Stand 1. Stand 1 is a 43-acre Loblolly Pine plantation, which was established in 1968. This stand was second thinned in 1995, had a mid-rotation release in the fall of 1996 and fertilized in the spring of 1997. Snag trees will be retained, as well as some small habitat retention areas.

A pre-commercial thinning is proposed for all of Stand 2. Stand 2 is a 71-acre natural Loblolly Pine stand, which was regenerated in 2001 and chemically released in 2004. There was some advanced pine regeneration in the mature stand prior to the final harvest, which the logger attempted to retain as much as possible. As a result, there are some scattered older pine regeneration plots (established in 1997/1998) throughout the site.

Complex S04 English

A first thinning is proposed for Stand 2. Stand 2 is a 28-acre natural Loblolly Pine stand, which was established in 1990 and pre-commercially thinned in 2001.

Complex S05 Mt. Vernon

A first thinning is proposed for Stands 1, 4 and 5. All stands are Loblolly Pines that were established in 1987, 1979 and 1987 respectfully. Stands 1 and 5 are plantations and Stand 4 is naturally regenerated. Total acreage is 58.

Complex S08 White Pusey

A first thinning is proposed for Stand 2. Stand 2 is a Loblolly Pine plantation, which was established in 1987. There are areas in this stand where the plantation failed. Only the pine areas are to be thinned. During post harvest inventory, individual new stands will be Global Positioning System (GPS) mapped and retyped into separate stands.

Complex S11 Peters McAllen

A mid-rotation release is proposed for Stand 16. Stand 16 is a 47-acre Loblolly Pine plantation within the General Forest Management Zone, which was established in 1985. The plantation was first thinned in 2004.

Site preparation/regeneration is proposed for Stand 15. Stand 15 is a 44-acre Loblolly Pine plantation scheduled for a final harvest (Summer/Fall of 2006). While natural regeneration in the preferred method of regenerating this stand, alternative plans should be in place and approved in case natural regeneration is unsuccessful. Alternatives could include prescribed burning, herbicides, light mechanical, or a combination thereof, followed by planting of Loblolly Pines. Because of the existing Ecologically Significant Area (ESA), Loretta Branch, and corresponding High Conservation Value Forest (HCVF), are well buffered (at least 300 feet).

Complex S19 Freetown

A First thinning is proposed for Stand 6. Stand 6 is a 29-acre Loblolly Pine plantation, which was established in 1989.

Complex S21 E. Mace Smith

A prescribed burn is proposed for Stands 4 and 42. Both stands are adjacent to a small area (Pine Pole Wet Woods Ecologically Significant Area (ESA) that was harvested in conjunction with a restoration project. While the ESA is approved for prescribed burning in the 2004 Annual Work Plan, the Maryland Forest Service suggests expanding the scope of this burn to include the adjacent stands. The goal of this burn is to reduce hardwood competition and fuel buildup. Firebreaks will include Pine Pole Road, Black Road and the existing woods roads as fire lines. The Wildlife and Heritage Service (WHS) will be contacted prior to the burn for their review.

Complex S34 Lankford

A final harvest is proposed for Stands 1 and 6. Both stands are Loblolly Pine plantations, which were established in 1968 and were first thinned between 1999 and 2001. Total acreage is 42.

Complex S35 Jackson Lee Cook

A first thinning is proposed for Stand 1. Stand 1 is a 46-acre natural Loblolly Pine stand, which regenerated in 1992. This stand was released at establishment and precommercially thinned in 2000. As a part of Delmarva Fox Squirrel (DFS) management, this thinning is designed to promote the growth of residual trees while encouraging hardwoods within the forest composition.

Complex S39 Phipp

A first thinning is proposed for Stand 1. Stand 1 is a 47-acre Loblolly Pine plantation, which was established in 1992. As a part of Delmarva Fox Squirrel (DFS) management, this thinning is designed to promote the growth of residual trees while encouraging hardwoods within the forest composition.

Complex S44 Phillips

A first thinning is proposed for Stand 4. Stand 4 is a 149-acre natural Loblolly Pine stand, which regenerated in 1992 and was pre-commercially thinned in 1993.

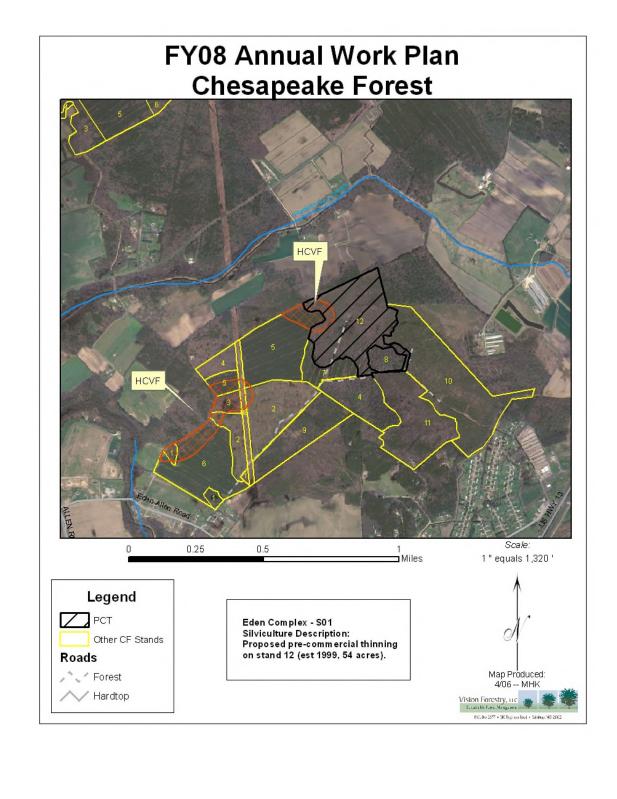
Complex S50 Landon-Betts

A first thinning is proposed for Stand 2. Stand 2 is a 99-acre Loblolly Pine plantation, which was established in 1984.

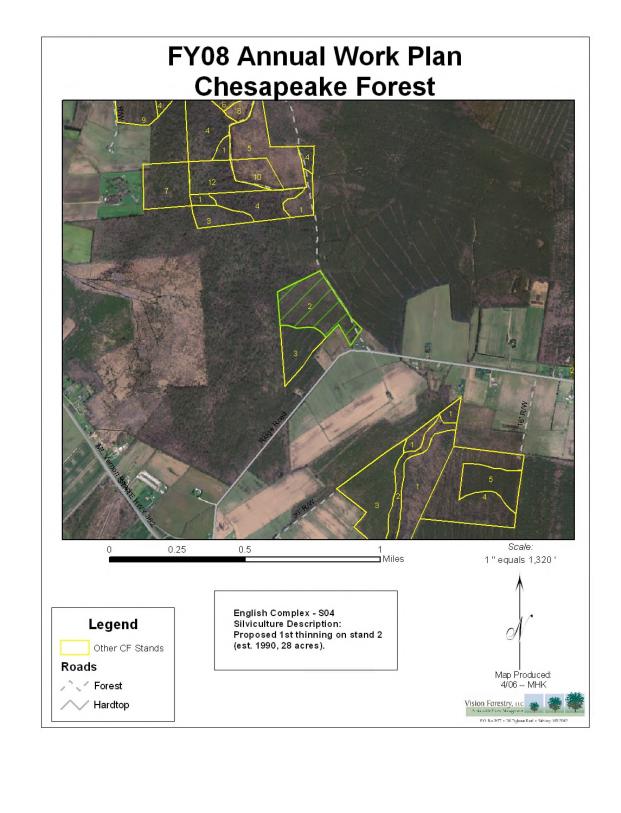
Complex S55 Marsumsoco

A first thinning is proposed for Stand 4. Stand 4 is a 160-acre Loblolly Pine plantation, which was established in 1992.

A second thinning is proposed for Stands 9 and 13. Both stands are Loblolly Pine plantations, which were established in 1981 and 1984 respectfully and first thinned in 1996. The total acreage is 30.

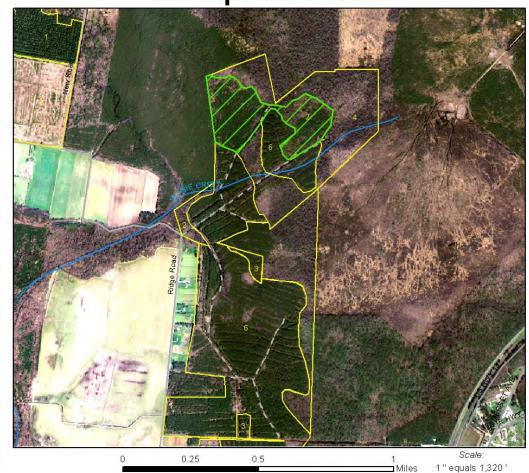


FY08 Annual Work Plan Chesapeake Forest Scale: 0.6 Miles 0.15 0.3 1" equals 1,320 ' Legend Final Harvest Complex: S03 - Covington Silviculture Description: Proposed Pre-commercial thinning on stand 2 (est. 2002, 71 acres). Proposed Final Harvest on stand 1 (est. 1968, 43 acres). Other CF Stands Roads Map Produced: 4/06 -- MHK • Forest / Hardtop

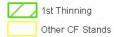


FY08 Annual Work Plan Chesapeake Forest STATE HWY 362 0.8 Miles 0.2 0.4 1" equals 1,320 ' Legend Mt. Vernon Complex - S05 Silviculture Description: Proposed 1st thinning on stand 1
(est. 1987, 7 acres). Proposed 1st
thinning on stand 4 (est. 1979, 6 acres).
Proposed 1st thinning on stand 5
(est. 1987, 45 acres). 1st Thinning Other CF Stands Roads Map Produced: 4/06 -- MHK / / Forest Vision Forestry, LLC

✓ Hardtop



Legend



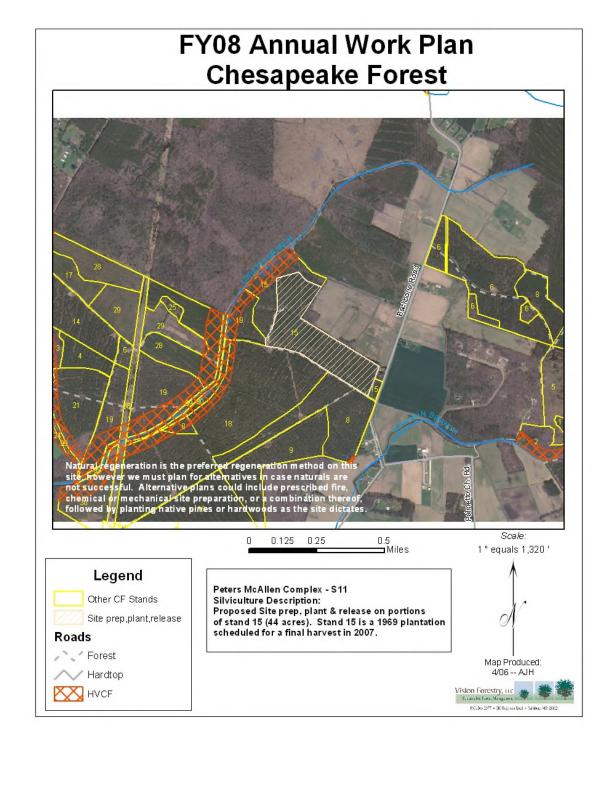
Roads

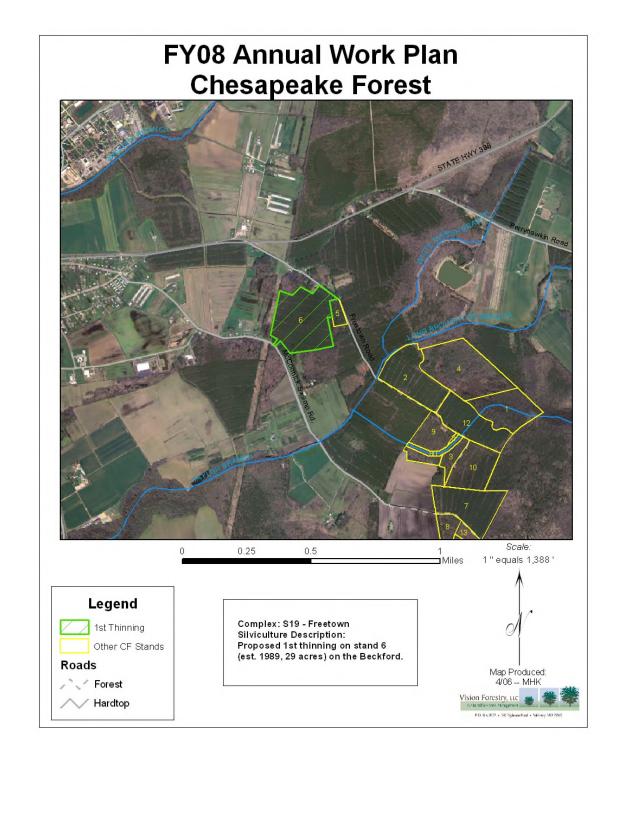


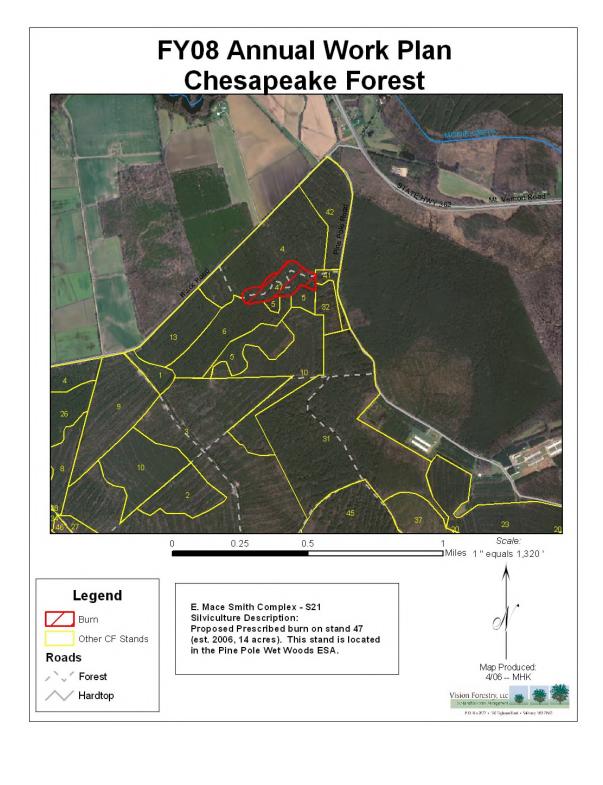
✓ Hardtop

White Pusey Complex - S08 Silviculture Description: Proposed 1st thinning on stand 2 (est. 1987, 46 acres).

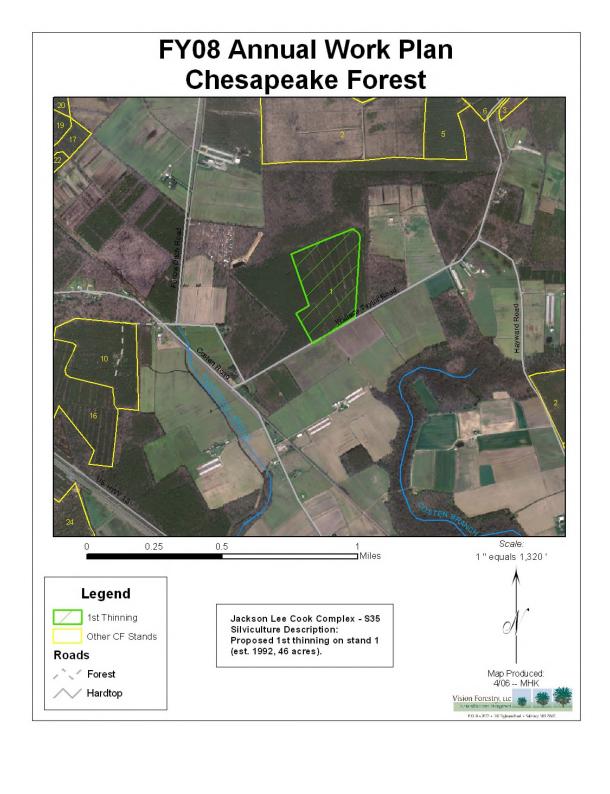


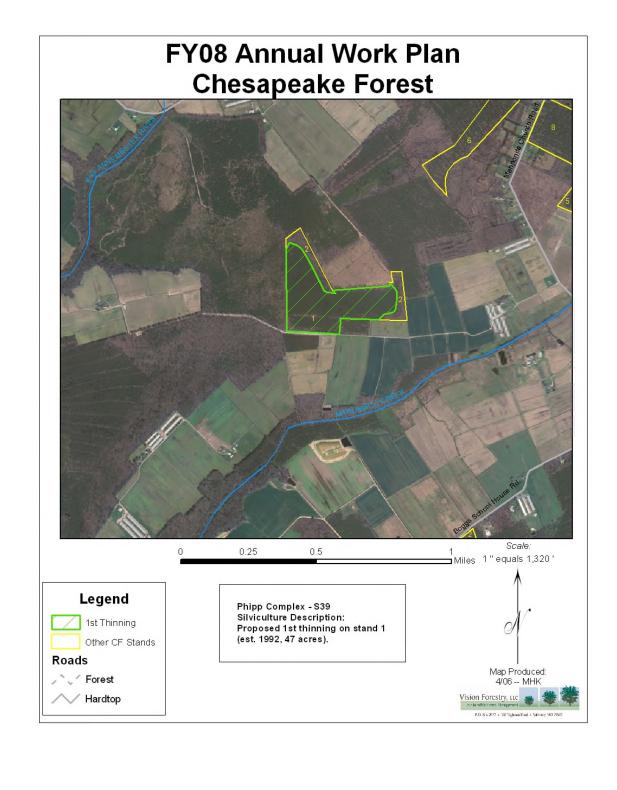


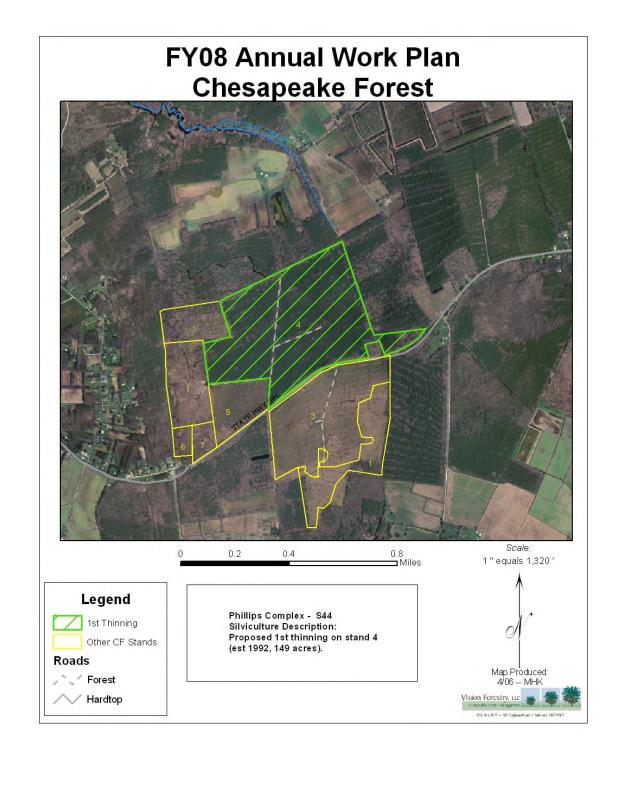


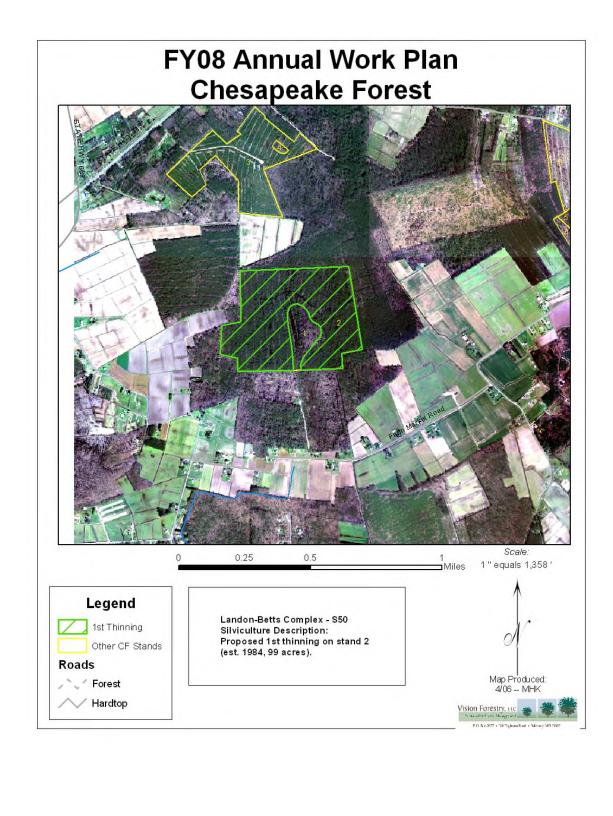


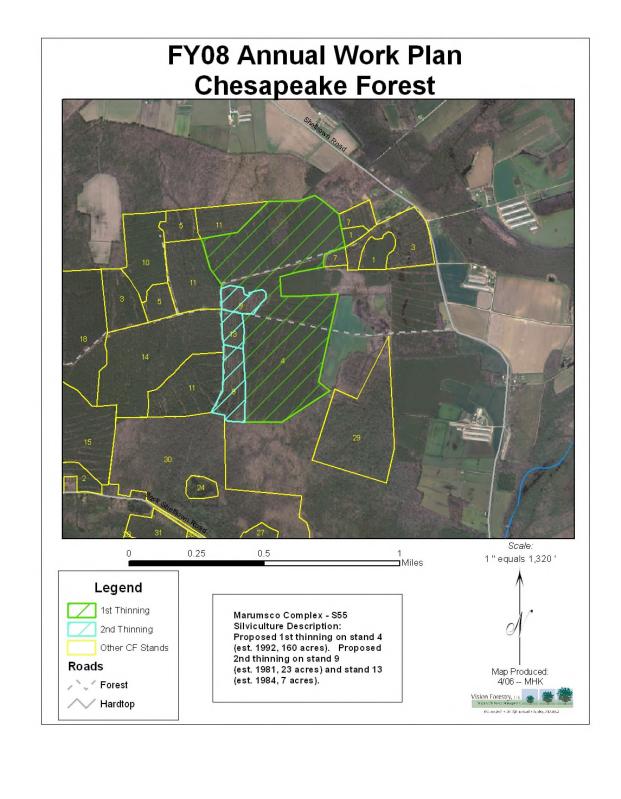
FY08 Annual Work Plan Chesapeake Forest 0.6 Miles 0.15 0.3 1 " equals 1,320 ' Legend Lankford Complex - S34 Silviculture Description: Proposed Final Harvest on Final Harvest Other CF Stands stand 1 of the (est. 1968, 40 acres). Roads & stand 6 of the (est 1968, 2 acres). Map Produced: 4/06 -- MHK / / Forest / Hardtop Vision Forestry, u.c.











Locations And Descriptions Of Watershed Improvement Projects

CHESAPEAKE FOREST LANDS

Watershed Improvement Project

Name: Morris Millwork

Tract #: 7144

Approximate Area Impacted: 20 Acres

Work projected to Begin: July 2006

Project Proposal

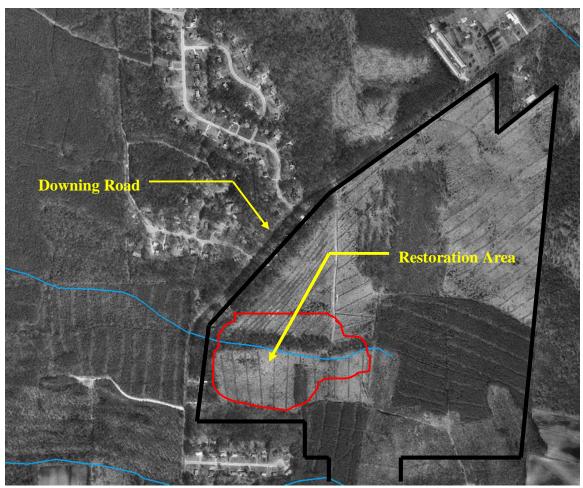
Restore wetland hydrology to an existing pine plantation of approximately 20 acres along a man-made ditch. The ditch is an unnamed tributary of the Wicomico River. It primarily drains surface runoff from the Morris Millwork site to South Prong then to Leonard's Pond and eventually to the Wicomico River. The area is currently occupied by a stand of young Loblolly Pines approximately 10 years old. The soils consist primarily of Portsmouth sandy loam, which are considered hydric.

Work at the site will involve the plugging of the existing ditch, which runs in a westerly direction towards Downing Road. Surface water flows will be rerouted out of the ditch and through the existing stand of pines. There will also be a small berm created at the low end of the project area to help retain water flow in the existing pine stand. It is anticipated that much of the existing pine will not survive extended inundation. Therefore, much of the young pine will be harvested prior to construction.

Once construction is completed, the area will be planted with a mix of hardwoods and pines. Native Oaks (*Quercus sp.*), Black Gum (*Nyssa slyvatica*), Sweetbay Magnolia (*Magnolia virginiana*) and Atlantic White Cedar (*Chamaecyparis thyoides*) will be specifically planted. Other native trees and shrubs will also be planted at the site.

Project Benefits

- Restoration of approximately 20 acres of nontidal wetlands
- Improved water quality function by connecting ditch flows with adjacent floodplain.
- Improved wildlife habitat
- Diverse forested wetland habitat



1998 Aerial Showing Morris Millwork Site and Project Area

CHESAPEAKE FOREST LANDS

Watershed Improvement Project

Name: Pepperfield Stream And Floodplain Restoration

Tract #: 3753

Approximate Area Impacted: 50 Acres

Work projected to Begin: July 2007

Project Proposal

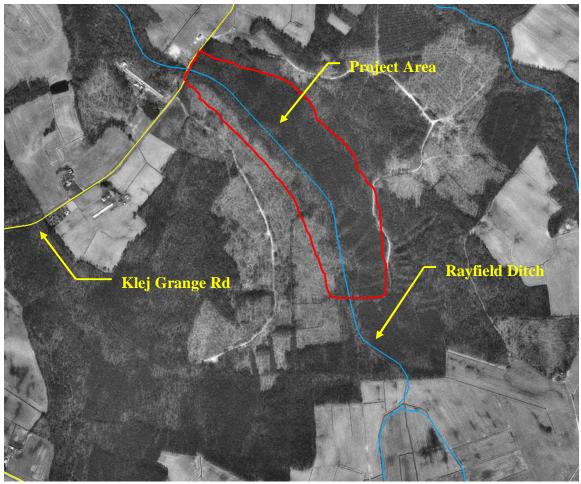
Restore wetland hydrology to an existing forested floodplain along a deeply incised ditched stream approximately 3 miles northwest of the town of Stockton in Worcester County. The site is currently a maturing forested floodplain. The stream (Rayfield Ditch) has been channelized in the past and is very entrenched. This does not allow for much contact with the floodplain during storm events and results in increased erosion, degraded in-stream and floodplain habitat and little opportunity for water quality improvement. Rayfield Ditch drains a large agricultural operation, which is located in the headwater area.

Work at the site will involve the enhancement of the stream by raising the elevation of base flow and allowing for smaller storm flows to go out of bank. This will be accomplished through the installation of log cross vanes and notched log drops in the stream. This project also involves the construction of level spreaders at strategic locations in the floodplain to effectively plug small lateral feeder ditches. Increased stream contact with the floodplain will provide opportunities for additional water quality improvements.

Construction activities will have minimal impact on the existing forest resources as work can be effectively staged to avoid impacts to trees and other sensitive areas. Once construction is completed, it is expected that there may be some mortality to the existing forested floodplain due to the change in the hydrology. However, it is expected that this mortality will be minimal (less than 5% of the existing forest cover).

Project Benefits

- Restoration of approximately 50 acres of forested floodplain/wetland
- Improved water quality function by connecting ditch flows with adjacent floodplain
- Improved aquatic in-stream habitat



1998 Aerial Photo of Pepperfield Site Showing Rayfield Ditch and Project Area

Locations And Descriptions Of Wildlife Habitat Improvement Projects

Bobwhite Quail Habitat And Monitoring Project

BACKGROUND AND JUSTIFICATION

Northern Bobwhite (*Colinus virginianus*; often referred to as "quail") populations have declined at an astonishing rate throughout most of their historic range and over 90% in Maryland. Habitat loss is generally considered to be the main contributing factor. Quail are an early-successional species, as well as a host of songbirds and upland mammals that rely primarily on weedy fields, shrubby areas and thinly stocked forest stands with abundant ground cover. Similar population declines have been documented for a wide array of other early-successional and grassland bird species that share similar habitats.

Recently, numerous national and state initiatives have been implemented in the eastern United States. Created by the Southeast Quail Study Group Technical Committee in 2002, the Northern Bobwhite Conservation Initiative (NBCI) outlines steps that need to be taken to recover the species in the southeastern United States, including Maryland. The NBCI stresses that agricultural systems and pine forests need to be "properly managed" to provide quail habitat. However, few managers in Maryland have the benefit of an area where they can gain first hand knowledge in a setting where habitat work is being conducted and evaluated. Furthermore, there is no place that private landowners can visit where effective management practices can be viewed.

Research in the southeastern United States has documented that loblolly and shortleaf pine plantations are of limited value to quail when fully stocked, but stands thinned to 20 to 40 basal area (BA) are used readily by quail. Generally, sparser stands are used more frequently due to increased sunlight on the forest floor that increases the diversity and quality of herbaceous vegetation. However, the relationship between tree density, vegetative response and quail abundance has not been explored in Maryland.

We propose to manage a portion of the Messenger Tract (Tract #6410) of the Chesapeake Forest in Caroline County as a demonstration site where timber-thinning practices are conducted as a means to increase Bobwhite quail and early successional wildlife habitat. Currently, the tract is a 15 year-old, densely stocked, nearly pure, Loblolly Pine stand that has not undergone any pre-commercial thinning. The stand is a poor habitat for quail and other early successional wildlife due to the limited ground cover and understory vegetation. The 60-acre tract (see attached map) is ideally located for this proposed management. It lies adjacent to a 300+ acre portion of the Idylwild Wildlife Management Area (IWMA) that has been managed as a demonstration area for Northern Bobwhite and other early succession wildlife since 2002. This joint Wildlife and Heritage Service project, between Game Program, Regional Operations and Heritage staff, has been successful in incorporating optimal management strategies for quail in an agricultural setting. Intensive habitat management has resulted in quail numbers to nearly triple on the demonstration

area based on fall surveys. The addition of pine forest management for quail near the demonstration area would allow visiting landowners and staff to view beneficial management practices in both agricultural and forested situations at the same location.

Benefits of this proposed project would include:

- A well-managed demonstration area, coupled with population monitoring, would provide a place for managers of private and public lands to see and synthesize management practices for quail and other early succession wildlife.
- 2. Development and monitoring of forested quail habitat would provide a case study to show that quail and other early succession wildlife can be increased in a forested situation and serve as positive reinforcement for land managers contemplating this type of management.
- 3. A semi-experimental thinning to varying levels with a "control" area will allow managers to assess the effects of various timber thinning regimes on wildlife habitat and wildlife response.

PROJECT IMPLEMENTATION

We propose to divide the 60-acre Messenger Tract (C03) Stand 4, into three (3) equal 20-acre sections as shown on attached map. We propose to commercially thin 1/3 of the stand to 20 basal area (BA), 1/3 to 40 BA and retain 1/3 in its current densely stocked condition as a "control". Wildlife and Heritage Service (WHS) staff will assist in marking residual trees prior to the thinning. Although this is not a true experimental design, monitoring of vegetative response and quail abundance will undoubtedly shed light on what is the ideal timber density to maximize quail use while retaining mature trees for potential future harvests.

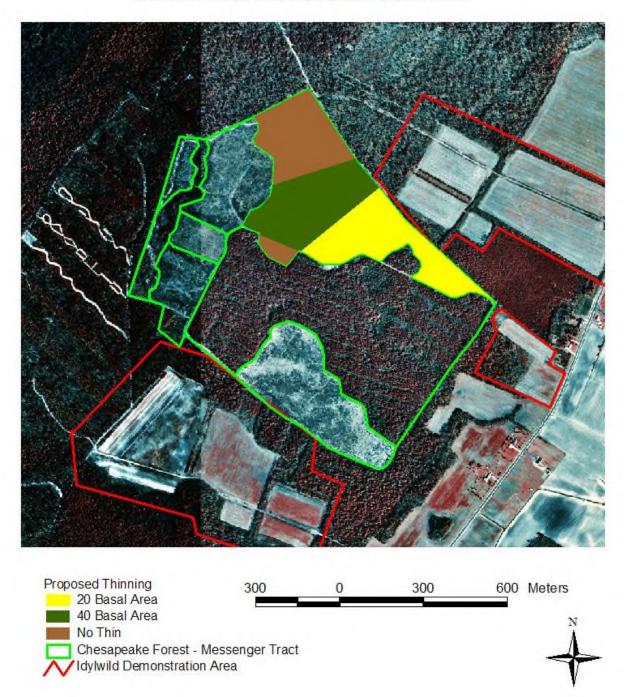
Management of the thinned stands will involve future disturbance and may include prescribed fire, mechanical removal of the woody understory and/or selective herbicide application. The goal will be to maintain the thinned stands in a condition that mimics a "pine savanna" where the understory is comprised primarily of desirable herbaceous plants that are needed for food and cover for a variety of wildlife. The appropriate woody regeneration control method will be determined by assessing the response of the stands to thinning. Firebreaks will be created by the Wildlife and Heritage Service (WHS) staff in conjunction with the Maryland Forest Service using a Geo-boy brush and tree-clearing machine. Adequate vehicle access to the perimeter of each stand will ensure efficient and safe prescribed fires and also aid in demonstration purposes. Additionally, WHS staff will control noxious plants if they become present. However, they are not common in the surrounding Idylwild Wildlife Management Area (IWMA) lands.

MONITORING

An important component of this project will be the monitoring of vegetative and wildlife response. Vegetation will be assessed two (2) times per year using standard inventory procedures. Understory and ground level vegetation density, various concealment indices, canopy closure, BA, etc. will be calculated at random points within the stand. Quail abundance monitoring will be merged with existing surveys of the Idylwild Wildlife Management Area (IWMA). Quail densities will be estimated using both spring whistle surveys and fall covey call surveys. The results of these surveys will document the response of vegetation and quail abundance that occur within the stands and will be valuable in developing future recommendations regarding management of pine forests for wildlife. Monitoring results will be tabulated and summarized for placement on the Chesapeake Forest website on an annual basis.

Proposed Timber Thinning on Chesapeake Forest Messenger Tract 4 Caroline County Adjacent to Idylwild Wildlife Management Area/

Bobwhite Quail Habitat Demonstration Area



Locations And Descriptions Of Ecologically Significant Area (ESA) Restoration Project

Powell Road Wetlands Management Plan

The Powell Road Wetlands Ecologically Significant Area (ESA) is located in Wicomico County, Maryland northwest of the town of Powellville and is dissected by Powell Road. This ESA (Map 1) contains 26.62 acres of Chesapeake Forest Lands on portions of Tract 3554, Stands 2, 3, 4 and 6, and Tract 3560, Stands 16, 28 and 29. The activities proposed below will only be conducted on about ten (10) acres of Chesapeake Forest Lands all located on Tract 3554 Stand 6, north of Powell Road. The portion of the Powell Road Wetlands ESA that has management activities prescribed is a botanically diverse freshwater seepage entirely located within Zone 1. This ESA contains seven (7) rare plant species, three (3) of which are located in the treatment area (Table 1). The other four (4) species are located on the adjacent roadside, to the south. All seven (7) of these species require open-canopied wetlands to perpetuate and all can be found in seepage wetlands.

The seepage located in Complex 46, Tract 3554, has been severely degraded due to past forest management practices, including the extensive planting of Loblolly Pine and ditching. At this time, the seepage contains hundreds of young Loblolly Pine saplings that are changing the hydrology and structure of this community. If management of these woody plant species does not proceed within the next three (3) growing seasons, the small pockets of rare species habitat will be lost to succession.

Goal

The goal of this management plan is to ensure the long-term viability of the rare species populations in the Powell Road Wetland Ecologically Significant Area (ESA) through habitat management, namely by combating woody plant succession.

Objective

The objective of this management plan at this time is to increase habitat and population sizes of the rare species present through woody plant management.

Step 1. Manual removal of the woody plants within Zone 1

A small crew with hand held equipment, or a small piece of low impact equipment, will remove the trees within and surrounding the seepage (Map 1). There are many young trees growing in the seepage, primarily Loblolly Pine. Removing these species will help restore the natural hydrology of the site by decreasing evapotranspiration (ET) while expanding available habitat for the rare plant species. The cut trees should be removed from the seepage area.

Step 2. Prescribed Burns

Fire is the natural mechanism for keeping woody plants from overtaking freshwater seepages. A prescribed fire in this area will control woody plants and help remove the many species of woody plants (i.e. Greenbrier, Blackberries) that cannot be removed by the hand crew. Close coordination with Wayne Tyndall, Natural Heritage Restoration Ecologist, is required before any prescribed burns take place.

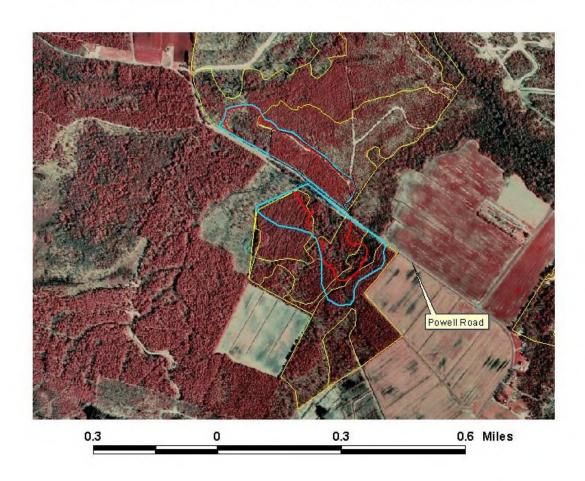
Management Success:

Successful management of this seepage will mean that the Loblolly Pine has been removed, the rare species population will have expanded into the newly available habitat and the long-term viability of these populations has been secured. Additionally, it is expected that new species of native herbaceous plants, and species currently located only along Powell Road, may be discovered in the seepages due to this management protocol.

Table 1:

Scientific Name	Common Name	Global Rank	State Rank	Legal Status
Aristida virgata	wire grass	G4T4T5	S1	Endangered
Asclepias rubra	red milk weed	G4G5	S1	Endangered
Platanthera blephariglottis	white fringed orchid	G4G5	S2	Threatened
P. cristata	crested yellow orchid	G5	S3	
Polygala cruciata	cross-leaved milkwort	G5	S2	Threatened
Rhynchospora microcephalatiny-headed beakrush		G5	S2S3	
Scleria triglomerata	tall nutrush	G5	S1S2	

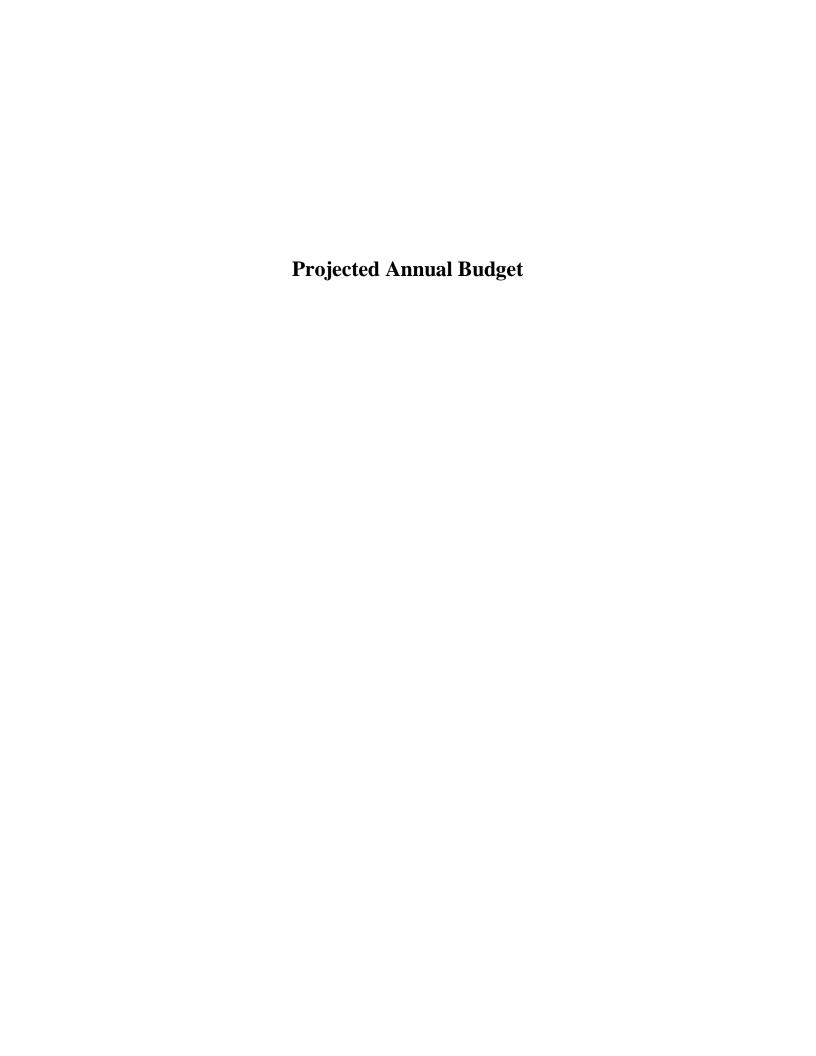
Powell Rd. Wetlands











CHESAPEAKE FOREST FY 08 PROJECTED BUDGET

Cost of Management				
(*Costs will vary from year to year)				
State CF Salaries & Contract Management	\$ 300,000			
Land Operation	\$ 400,000			
Inventory & Monitoring Program	\$ 70,000			
Sustainable Forest Certification	\$ 15,000			
Watershed Improvement & Other Restoration Projects	\$ 80,000			
County Payment (15% of revenues)	\$ 160,000			
Fixed Cost (ditch drainage payments to counties)	\$ 8,000			
TOTAL COST	\$1,033,000			

Operating Revenues & State Funding				
Forest Product Sale Revenues	\$ 750,000			
Hunt Club Revenues	\$ 280,000			
State Funding	\$ 100,000			
TOTAL REVENUES & FUNDING	\$1,130,000			