EASTERN REGION

STATE FOREST LANDS

ANNUAL WORK PLAN

FISCAL YEAR 2014

Prepared:	(Forest Manager)	9/16/13 Date
Reviewed:	(Regional Manager)	9/16/13 Date
Reviewed:	(Land Acquisition & Planning)	9/26/13 Date
Approved:	(Environmental Specialist)	9.30.13 Date

Prepared By:

Michael G. Schofield, MFS – Chesapeake Forest Manager

Alexander Clark, MFS – GIS Forester

Contributors:

Skip Jones, Parker Forestry Services Inc.

DNR Interdisciplinary Team

Citizens Advisory Committee

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Certificate NSF-SFIS-0Y301-S2
www.sfiprogram.org

ANNUAL WORK PLAN SUMMARY

Introduction

This document summarizes the proposed activities that will occur on all public forest lands (84,702 acres) managed by the Maryland Forest Service within the Eastern Region during the 2014 fiscal year. These lands include the Chesapeake Forest, Pocomoke State Forest, Wicomico Demonstration Forest, Seth Demonstration Forest, and Fred W. Besley Demonstration Forest. The fiscal year runs from July 1, 2013 to June 30, 2014. 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.

Historic Forest Conditions and the Role of Fire

The average pre-European-settlement fire frequency was on the order of 7-12 years for forests of the Eastern Shore of Maryland, with higher frequencies of 4-6 years in the southeastern Maryland counties of Wicomico, Worcester, Somerset, and Dorchester (Frost, 1998). These frequencies are high compared to most areas of the Northeast. Since it is unlikely that lightning was a significant contributor to these fires, Native American populations must have been. A conclusion is that fire in the Northeast was predominantly a phenomenon associated with human activity (Pyne, 1982).

The forest that covered the Eastern Shore in Indian times was predominantly a hardwood one, though increasingly mixed with pine to the southward (Rountree & Davidson, 1997). The large patches of pine-dominated woods today are largely second growth, the result of extensive clearing in historic times. In aboriginal times, the woods of the Eastern Shore were likely to be oak-hickory, oak-gum, or oak-pine types, all of which still exist in second-growth form.

Captain John Smith said in the early seventeenth century, “A man may gallop a horse amongst these woods any waie, but where the creekes or Rivers shall hinder”. Father Andrew White wrote that the woods around St. Mary’s were so free of underbrush that a “coach and fower horses” could be driven through them (Rountree & Davidson, 1997). The open conditions could be partly attributed to the closed canopies of these mature forests, which shaded out undergrowth, but it is also likely that periodic fire helped to maintain the park-like conditions.

It is reasonable to assume that Eastern Shore tribes also used fire to periodically burn the marshes that were important sources of mollusks, fish, furbearers, waterfowl, edible tubers, and reeds for housing. Fire would have been useful for herding game, enhancing visibility or access, or retarding invasion of woody growth. More often than not, these fires would have spread into adjacent woodlands and, if of sufficient intensity, created the open seedbed conditions conducive to establishment of loblolly pine. Even today the pattern of loblolly pine “islands” and “stringers” in and adjacent to marshes of the lower Eastern Shore is common.

If, as Rountree and Davidson suggest, oaks were the most prevalent species in pre-settlement times, then the possible role of fire in maintaining these forest types must also be considered. Frost stated, “Light, understory fires may have been the norm for millions of hectares of eastern

hardwood forest..." (Frost, 1998). Oak species range from slightly tolerant to intolerant of shade, indicating that disturbance is desirable to promote regeneration and growth. Furthermore, acorn germination and initial seedling establishment are most successful where light understory burns have scarified the seedbed and reduced competition (Burns & Honkala, 1990). The extensive presence of oaks on the Shore was an indicator that low-intensity understory fires were common, either intentionally set by Indians to create "open woods" or drive game, or the incidental result of land-clearing.

Natural stands of loblolly pine (*Pinus taeda*) became much more widespread around the turn of the 20th Century, particularly in the counties south of the Choptank, largely due to the influence of economic factors. First was the abandonment of agricultural fields as farmers moved to more lucrative jobs in the towns and cities. Loblolly pine is an opportunistic species, which found the recently abandoned fields prime sites for reproduction by natural seeding. The second factor was the rise of large-scale commercial lumbering. Steam locomotives, often used to haul logs from the woods, were notorious for throwing sparks along the tracks and starting fires. Both the clearing of the forests by large-scale logging and the subsequent fires resulted in large areas of open, scarified land suitable for pine regeneration. By the middle of the twentieth century, loblolly pine had become the predominant forest cover type in the lower counties of the Eastern Shore.

Forest Types and Size Classes

Young loblolly pine forests mostly established since the early 1980's are what characterize a high proportion of the Chesapeake Forest. Mixed pine and hardwood forests still occupy some of the lands, and many riparian areas and flood plains contain stands of mixed hardwoods. In general, the mixed pine-hardwood and hardwood stands are older, mature forests.

Mature mixed pine-hardwood, bottomland hardwood, and bald-cypress forests comprise the majority of the Pocomoke State Forest. In general, the mixed pine-hardwood, hardwood, and bald cypress stands are older, mature forests, while loblolly pine stands are more evenly distributed across all age classes.

Table 1 provides a habitat diversity matrix of both Eastern Region State Forests that provides a current baseline from which future changes in age structure or forest type diversity can be assessed for potential habitat or biodiversity effects.

Table 1. Forest Diversity Analysis
Acres of forest type and forest structure by structural groups, with percent of total area in each forest type/structure group combination.

Forest type	Structure stage							Total Area
	Open	Sapling	Growing	Maturing	Mature	Big Trees	Uneven	
	0 - 5 yrs	5 - 15 yrs	15 - 25 yrs	25 - 35 yrs	35 - 50 yrs	50 - 75+ yrs	Aged	
Atlantic White Cedar	4	3	0	0	0	0	0	**7**
(Percent)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.01%***
Loblolly Pine	1,185	9,557	21,016	12,644	7,312	1,617	407	**53,737**
(Percent)	*1.40%*	*11.28%*	*24.81%*	*14.93%*	*8.63%*	*1.91%*	*0.48%*	***63.44%***
Shortleaf Pine	0	0	0	0	0	255	0	**255**
(Percent)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.30%***
Mixed Pine/ Hardwood	721	886	933	717	1,563	7,568	22	**12,410**
(Percent)	*0.85%*	*1.05%*	*1.10%*	*0.85%*	*1.85%*	*8.94%*	*0.03%*	***14.65%***
Mixed Hardwoods	439	296	237	101	200	9188	12	**10,471**
(Percent)	*0.52%*	*0.35%*	*0.28%*	*0.12%*	*0.24%*	*10.85%*	*0.01%*	***12.36%***
Bottomland Hardwoods/ Bald Cypress	0	0	0	0	20	3,855	0	**3,875**
(Percent)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.02%*	*4.55%*	*0.00%*	***4.57%***
Marsh/Field/ Power lines	3,946	0	0	0	0	0	0	**3,946**
(Percent)	*4.66%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***4.66%***
Total	**6,295**	**10,741**	**22,186**	**13,462**	**9,095**	**22,483**	**441**	**84,702**
(Percent)	***7.43%***	***12.68%***	***26.19%***	***15.89%***	***10.74%***	***26.54%***	***0.52%***	***100.00%***

Unique Community Types

Xeric sand dunes are found primarily in the lower Eastern Shore counties. They are located on very well drained sand ridges deposited by historical flood tides. These sand ridges support a variety of rare and threatened insect and plant species. The species in this community consist of shortleaf pine (*Pinus echinata*), Virginia pine (*Pinus virginiana*), and southern red oak (*Quercus falcata*), with an understory comprised of lowbush blueberry (*Vaccinium pallidum*) and various ericaceous plants. Xeric sand dunes have been identified and mapped as either an Ecologically Significant Area (ESA) or as a Globally Rare (G3) Community.

Pond pine *(Pinus serotina)* ***forests*** are typically found in swamps and other poorly drained areas. Pond pine can be found along with pitch and loblolly pine, and it can hybridize with those species. During periods of drought, these forests can be subject to intense fires. Natural regeneration of pond pine needs fire to open the serotinous cones and release the seeds.

Delmarva bays and associated life zones are isolated depressional wetlands that serve the needs of wetland breeding animals and support several species of rare plants. Delmarva bays can vary

in their ecological quality, primarily due to past management practices. The hydrology of many bays was altered for agriculture or to attempt to increase forest production. Therefore, many of these bays may require restoration to get the bay back to a more natural state. Delmarva bays and the associated life zone have their own ESA designations identified and mapped.

Riparian swamps

Atlantic white cedar (*Chamaecyparis thyoides*) swamps are nontidal forests that border on rivers or headwaters of streams.

Bald cypress (*Taxodium distichum*) swamps and forests can be tidal or nontidal. These forests are known for their pronounced microtopography of hollows and hummocks.

Vernal pools and seasonal wetlands are temporary wetlands present in late winter and spring that support amphibian reproduction. These can be found throughout the eastern shore region.