FOREST MANAGEMENT AND STUMP-TO-FOREST GATE CHAIN-OF-CUSTODY CERTIFICATION EVALUATION REPORT

State of Maryland DNR – Forest Service

Maryland, USA

SCS-FM/COC-00069P

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Annapolis, MD 21401
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CERTIFIED	EXPIRATION
29 April 2019	28 April 2024

DATE OF FIELD EVALUATION
2-5 April 2019
DATE OF LAST UPDATE
2 May 2019

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Foreword

SCS Global Services (SCS) is a certification body accredited by the Forest Stewardship Council to conduct forest management and chain of custody evaluations. Under the FSC / SCS certification system, forest management enterprises (FMEs) meeting international standards of forest stewardship can be certified as "well managed," thereby permitting the FME's use of the FSC endorsement and logo in the marketplace subject to regular FSC / SCS oversight.

SCS deploys interdisciplinary teams of natural resource specialists and other experts in forested regions all over the world to conduct evaluations of forest management. SCS evaluation teams collect and analyze written materials, conduct interviews with FME staff and key stakeholders, and complete field and office audits of subject forest management units (FMUs) as part of certification evaluations. Upon completion of the fact-finding phase of all evaluations, SCS teams determine conformance to the FSC Principles and Criteria.

Organization of the Report

This report of the results of our evaluation is divided into two sections. Section A provides the public summary and background information that is required by the Forest Stewardship Council. This section is made available to the general public and is intended to provide an overview of the evaluation process, the management programs and policies applied to the forest, and the results of the evaluation. Section A will be posted on the FSC Certificate Database (http://info.fsc.org/) no less than 30 days after issue of the certificate. Section B contains more detailed results and information for the use of by the FME.

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SECTION A – PUBLIC SUMMARY

1. General Information

1.1 Certificate Registration Information

Name and Contact Information

Organization name	State of Maryland DNR – Forest Service		
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FSC Sales Information

☒ *FSC Sales contact information same as above.*			
FSC salesperson			
Address		**Telephone**	
		Fax	
		e-mail	
		Website	

Scope of Certificate

Certificate Type	☒ Single FMU	☐ Multiple FMU
	☐ Group	
SLIMF (*if applicable*)	☐ Small SLIMF certificate	☐ Low intensity SLIMF certificate
	☐ Group SLIMF certificate	
# Group Members (*if applicable*)	N/A, not a group certificate	
Number of FMUs in scope of certificate	N/A, not a group certificate	
Geographic location of non-SLIMF FMU(s)	*Latitude & Longitude:* Savage River State Forest- 39.576, -79.129 Green Ridge State Forest- 39.631, -78.475 Potomac State Forest- 39.472, -79.439 Garrett State Forest- 39.341, -79.28 Pocomoke State Forest- 38.15, -75.487 Chesapeake Forest Lands - 38.329, -75.799	
Forest zone	☐ Boreal	☒ Temperate
	☐ Subtropical	☐ Tropical
Total forest area in scope of certificate which is:		**Units: ☐ ha or ☒ ac**
privately managed	0	

state managed		211,044 (2018)	
community managed		0	
Number of FMUs in scope that are:			
less than 100 ha in area		100 - 1000 ha in area	
1000 - 10 000 ha in area		more than 10 000 ha in area	1

Total forest area in scope of certificate which is included in FMUs that: **Units: ☐ ha or ☐ ac**	
are less than 100 ha in area	0
are between 100 ha and 1000 ha in area	0
meet the eligibility criteria as *low intensity* SLIMF FMUs	0

Division of FMUs into manageable units:

FME considers two forest regions based on regional forest types: Eastern and Western Regions. FME then divides the state forest system into four geographic districts. Under each geographic district there are state forests, which are then managed according to a state forest-level long-term management plan and annual work plan. A full description of how the FME is divided into manageable units is available publicly via the FME's website: http://dnr.maryland.gov/forests/ .

Social Information

Number of forest workers (including contractors) working in forest within scope of certificate (differentiated by gender):		
Male workers: 23	Female workers: 8	
Number of accidents in forest work since previous evaluation:	Serious: 0	Fatal: 0

Pesticide and Other Chemical Use

**Summary table below was prepared by SCS using data provided by State of Maryland from spreadsheet attached below this table.*

Commercial name	Active ingredient	Quantity applied annually	Reason for use	Acres
Arsenal AC	Imazapyr	1 gal of 3% solution = 3.33 oz.	TSI hack n squirt	2.5
Arsenal AC		3.24 gallons	Interfering Understory Tree/Shrub Control	199
Garlon 3A	Triclopyr	0.25 gal chemical/50% solution	Hack & Squirt - Habitat restoration/undesirable species reduction	12.6
Garlon 4	Triclopyr	336 lbs	Interfering Understory Tree/Shrub Control	66.8
Gly-4	Glyphosate	2 gal of 2% solution = 5.33 oz.	Spot treatment of grass &herbs.	0.12
Makaze	Glyphosate	130 gal/2% solution	Invasive species control/trails	16.25
Makaze	Glyphosate	17 gal/5% solution	Spot treatments - Invasive species control	0.25

Oust	Sulfometuron methyl	1.5 oz./ac on 33ac. = 50 oz.	fern, grass,low woody veg. /folier spray	99
Oust XP	Sulfometuron	7.5 lbs	Rhizomatous Fern Control	80
Razor Pro	Glyphosate	2#/ac. on 33 ac. =66#	fern, grass,low woody veg/folier spray	99
Razor Pro	Glyphosate	160 lbs	Rhizomatous Fern Control	80
Rodeo	Glyphosate	1 gal of 2% solution = 2.5 oz.	Grass n herbs control in parking lot.	0.25
Rodeo	Glyphosate	6 gal of 2% solution = 21.33 oz.	NNIS control	1
Round Up Quik Pro	Glyphosate	21.1 lbs	Rhizomatous Fern Control	20
Round Up Quik Pro	Glyphosate	3.3 lbs	NNIS Control (Japanese knotweed, tree of heaven, honeysuckle)	3.2
Roundup Pro	Glyphosate	76 oz	site prep and relese. Invasive species control	
Vanquish	Dicamba	24 oz	cut treatment ailanthus	150

FSC_MD_PesticideRpt_2019.xls

Production Forests

Timber Forest Products	**Units: ☐ ha or ☒ ac**
Total area of production forest (i.e. forest from which timber may be harvested)	158,344
Area of production forest classified as 'plantation': From the FME: "We do not actively manage a plantation system, but previous management systems are still on the landscape and are still considered a plantation based on the system used at the time of the rotation."	0
Area of production forest regenerated primarily by replanting or by a combination of replanting and coppicing of the planted stems	0
Area of production forest regenerated primarily by natural regeneration, or by a combination of natural regeneration and coppicing of the naturally regenerated stems	135,101
Silvicultural system(s)	**Area under type of management**
Even-aged management	135,101
Clearcut (clearcut size range 1-50)	134,829
Shelterwood	272
Other:	
Uneven-aged management	0
Individual tree selection	
Group selection	
Other:	
☐ Other (e.g. nursery, recreation area, windbreak, bamboo, silvo-pastoral system, agro-forestry system, etc.)	
Non-timber Forest Products (NTFPs)	
Area of forest protected from commercial harvesting of timber and managed primarily for the production of NTFPs or services	0
Other areas managed for NTFPs or services	0
Approximate annual commercial production of non-timber forest products included in the scope of the certificate, by product type	0
Species in scope of joint FM/COC certificate: *(Scientific / Latin Name* and Common / Trade Name)	
Acer rubrum; Acer spp.; Carya spp.; Celtis occidentalis; Fagus grandifolia; Fraxinus spp.; Juglans nigra L.; Liquidambar styraciflua L.; Liriodendron tulipifera L.; Nyssa sylvatica Marsh; Pinus echinata; Pinus taeda; Quercus alba; Quercus rubra; Tilia americana L; Tsuga canadensis (L.) Carr.; Ulmus spp.	

FSC Product Classification

Timber products		
Product Level 1	**Product Level 2**	**Species**
W1 Rough Wood	W1.1 Roundwood (logs)	All
Non-Timber Forest Products		
Product Level 1	**Product Level 2**	**Product Level 3 and Species**

N/A		

Conservation and High Conservation Value Areas

Conservation Area	Units: ☐ ha or ☒ ac
Total amount of land in certified area protected from commercial harvesting of timber and managed primarily for conservation objectives (includes both forested and non-forested lands).*	71,390

**Note: Total conservation and HCV areas may differ since these may serve different functions in the FME's management system. Designation as HCV may allow for active management, including commercial harvest. Conservation areas are typically under passive management, but may undergo invasive species control, prescribed burns, non-commercial harvest, and other management activities intended to maintain or enhance their integrity. In all cases, figures are reported by the FME as it pertains local laws & regulations, management objectives, and FSC requirements.*

High Conservation Value Forest / Areas			Units: ☐ ha or ☒ ac
Code	**HCV Type**	**Description & Location**	**Area**
HCV1	Forests or areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).	Ecologically Significant Areas; Wildlands - Eastern & Western regions	63,089
HCV2	Forests or areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.		0
HCV3	Forests or areas that are in or contain rare, threatened or endangered ecosystems.	Core FIDs habitat; Old growth and old growth management – Eastern & Western regions	48,060
HCV4	Forests or areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).	Riparian Buffer Areas – Eastern & Western regions	7,620
HCV5	Forests or areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).		0
HCV6	Forests or areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).		0
Total area of forest classified as 'High Conservation Value Forest / Area'			118,769*

**Note – HCVF listed acres are sum to greater than the total of 118,769, as some acres fit into multiple HCVF categories. FME conducted a hierarchical analysis, HCV1 being the highest category, and if overlap*

occurred in NCV2-6, those acres were dropped and not double-counted. FME provided details in spreadsheet copied below and is also retained in SCS records.

MD State Forest HCVF Table 2019 .xls

Areas Outside of the Scope of Certification (Partial Certification and Excision)

☐ *N/A – All forestland owned or managed by the applicant is included in the scope.*	
☒ *Applicant owns and/or manages other FMUs not under evaluation.*	
☐ *Applicant wishes to excise portions of the FMU(s) under evaluation from the scope of certification.*	
Explanation for exclusion of FMUs and/or excision:	These other state forests see very little silvicultural activity and are relatively small in acreage. MD DNR will not pursue certification for these lands.
Control measures to prevent mixing of certified and non-certified product (C8.3):	These additional properties are not located near the areas included in the current or expanded certification scope. Harvesting is very limited and usually to salvage or demonstration. These properties are not allowed to use the FSC certificate or license codes.

Description of FMUs excluded from or forested area excised from the scope of certification:

Name of FMU or Stand	Location (city, state, country)	Size (☐ ha or ☒ ac)
Elk Neck State Forest	Northeast, MD, Cecil	3,380
Cedarville State Forest	Brandywine, MD, Prince Georges	3,625
Doncaster Demonstration Forest	Ironsides, MD, Charles	1,953
Stoney Demonstration Forest	Aberdeen, MD, Harford	318
Saint Inigoes State Forest	Saint Inigoes, MD St Mary's	4,478
Salem State Forest	Leonardtown, MD, St Mary's	837

1.2 Standards Used

All standards employed are available on the websites of FSC International (www.fsc.org) or SCS Global Services (www.SCSglobalServices.com). All standards are available on request from SCS Global Services via the comment form on our website. When no national standard exists for the country/region, SCS Interim Standards are developed by modifying SCS' Generic Interim Standard to reflect forest management in the region and by incorporating relevant components of any Draft Regional/National Standard and comments from stakeholders. More than one month prior to the start of the field evaluation, SCS Draft Interim Standards are provided to stakeholders identified by FSC International, SCS, forest managers under evaluation, and the FSC National or Regional Office for comment. SCS' COC indicators for FMEs are based on the most current versions of the FSC Chain of Custody Standard, FSC Standard for Group Entities in Forest Management Groups (FSC-STD-30-005), and FSC Accreditation Requirements.

Standards applicable *NOTE: Please include the full standard name and Version number and check all that apply.*	☒ Forest Stewardship Standard(s), including version: FSC FM US Ver 1-0
	☒ SCS COC indicators for FMEs, V7-0
	☒ FSC Trademark Standard (FSC-STD-50-001 V2-0)
	☐ FSC standard for group entities in forest management groups (FSC-STD-30-005), V1-1
	☐ Other:

1.3 Conversion Table English Units to Metric Units

Length Conversion Factors		
To convert from	**To**	**multiply by**
Mile (US Statute)	Kilometer (km)	1.609347
Foot (ft.)	Meter (m)	0.3048
Yard (yd.)	Meter (m)	0.9144
Area Conversion Factors		
To convert from	**To**	**multiply by**
Square foot (sq. ft.)	Square meter (m^2)	0.09290304
Acre (ac)	Hectare (ha)	0.4047
Volume Conversion Factors		
To convert from	**To**	**multiply by**
Cubic foot (cu ft.)	Cubic meter (m^3)	0.02831685
Gallon (gal)	Liter (l)	4.546
Quick reference		
1 acre	= 0.404686 ha	
1,000 acres	= 404.686 ha	
1 board foot	= 0.00348 cubic meters	
1,000 board feet	= 3.48 cubic meters	
1 cubic foot	= 0.028317 cubic meters	

2. Description of Forest Management

2.1 Management Context

2.1.1 Regulatory Context

Pertinent regulations at the national level	Endangered Species Act Clean Water Act (Section 404 wetland protection) Occupational Safety and Health Act National Historic Preservation Act Archaeological and Historic Preservation Act Americans with Disabilities Act U.S. ratified treaties, including CITES Lacey Act Forest Resources Conservation and Shortage Relief Act National Resource Protection Act National Environmental Protection Act National Wild and Scenic River Act Native American Grave Protection and Repatriation Act Rehabilitation Act Architectural Barriers Act
Pertinent regulations at the state/local level	***Maryland:*** <u>Management Programs and Initiatives</u> ▪ ***Chesapeake Bay Program* – An estuary program involving State** and Federal agencies within Maryland, Virginia, Pennsylvania, and District of Columbia working to protect and restore the Chesapeake Bay. ▪ ***Smart Growth*** – The State of Maryland has launched a growth management initiative to reduce suburban sprawl by directing development toward existing urban centers and away from rural areas. ▪ ***Rural Legacy*** – Local governments define targeted rural areas for protection from development through easements and purchase. Lands within local rural legacy areas are eligible for State Rural Legacy funding. ▪ ***Green Infrastructure*** – Department of Natural Resources (DNR) has developed a targeting program to identify ecologically important nodes and corridors to be used in planning efforts at the State and local levels. ▪ ***Clean Water Action Plan*** – In response to the Federal Clean Water Act, DNR developed a targeting and ranking process to identify watersheds for protection and restoration in Maryland. ▪ ***Lower Eastern Shore Conservation and Restoration Action Strategy*** – DNR, in conjunction with local interests, developed an action strategy to address water quality concerns in targeted watersheds on the lower

Eastern Shore.

Regulatory Programs

- ***Discharge Permits*** – Maryland Department of the Environment (MDE) issues permits placing limits on pollutants from point sources, including wastewater treatment plants and industrial plants.
- ***Nutrient Management Program*** –Maryland Department of Agriculture (MDA) ensures that all farmers follow nutrient management plans for their agricultural operations.
- ***Pesticide Regulation and Applicator Certification Program*** – MDA requires licenses for all businesses engaged in commercial pesticide application or recommendations.
- ***Septic System Regulations*** – MDE and local health departments set standards and requirements for septic system installation on individual properties.
- ***Total Maximum Daily Load (TMDL)*** – MDE sets upper limits for the amount of pollutants that can be discharged from any source to impaired water bodies.
- ***Critical Area Program*** – The Critical Area Commission and local governments regulate development within 1,000 feet of tidal waters of the Bay and limit disturbances to buffers within the first 100 feet.
- ***Stormwater Management*** – MDE and local governments require site plans and installation of stormwater management facilities for development projects.
- ***Forest Conservation Act*** – DNR and local governments require plans for forest conservation and possibly mitigation for development projects that clear greater than 40,000 square feet of forest.
- ***Erosion and Sediment Control*** – Local Conservation Districts require sediment and erosion control plans for activities that may cause land disturbance or erosion.

Incentive Programs

- ***Conservation Reserve Enhancement Program*** – A joint United States Department of Agriculture (USDA)/State program that provides rental payments and cost-share funds to farmers willing to take eligible farmland out of production and to install conservation practices including forested riparian buffers, wetlands, and filter strips.
- ***Environmental Quality Incentive Programs*** – A USDA program that provides farmers with incentives and cost-share to implement a variety of conservation practices

	designed to improved water quality. ▪ ***Maryland Agricultural Cost-Share Program*** – An MDA program that provides farmers cost-share for a variety of conservation practices designed to improve water quality. ▪ ***Biological Nutrient Removal Program*** – MDE offers municipalities 50% cost-share to upgrade wastewater treatment plants with biological nutrient removal. ▪ ***Stormwater Pollution Control Program*** – MDE provides financial assistance to local governments for implementing stormwater management retrofits and conversion projects in existing developed areas. ▪ ***Coastal Non-point Source Program/Non-point Source Management Program/Clean Water Act Section 319 Grants*** – These programs provide financial assistance for implementing projects that reduce non-point source pollution.
Regulatory context description	See Pertinent Regulations at the State / local Level, which provides a description of each applicable regulation and how it is applied on State of Maryland DNR – Forest Service land. Several of these laws, regulations, and incentive programs are intended to meet federal requirements that govern endangered species protection, water quality, and cultural resources.

2.1.2 Environmental Context

Environmental safeguards:
BMP checklists are filled out prior to each planned management activity. SFMP and state storm water design manual serve as general guidelines. Certain state forests, such as those in the Western Region, have their own BMP manual adapted to regional conditions. For a summary of effectiveness, see Implementation and Effectiveness for Protection of Water Resources http://www.na.fs.fed.us/watershed/pubs/bmp/09_md_bmp_report.pdf.
Management strategy for the identification and protection of rare, threatened and endangered (RTE) species and their habitats:
Timber harvest operations on sites that include a potential RTE species are not implemented until a field check has been completed by Natural Heritage ecological staff. The MD DNR Natural Heritage Program maintains the database of RT&E species. Field foresters and specialists review special sites and provide field-based information to the MD DNR Natural Heritage Program. Field foresters located in eastern Maryland submit forms to report observations of RT&E species to Maryland Heritage. Each prescription for each management activity is based on an ID team procedure that includes an opportunity for the MD Natural Heritage staff to provide advice. Interviews with MD DNR Natural Heritage staff in association with P02-Nazareth Church – Tract 9 confirm the effectiveness of this process. RTE species are protected through a network of Ecologically Significant Areas (ESAs) located within

each of the State Forests. ESAs are described in Chapter 4.3 and Chapter 7.2.1 of each property's management plan. For example, the PGSF Sustainable Forest Management Plan names 35 sites and CSF Sustainable Forest Management Plan describes 54 sites.

Sites containing rare plant and/or animal communities have been identified and are managed for their unique attributes. The MD DNR Wildlife & Heritage Service is involved in assuring that special sites are inventoried, marked and managed including database maintenance for each site. The ESAs provide a well-established RTE protection program. For example, 2019 interviews with MD DNR Natural Heritage staff in association with PSF: P-20-5-01 & -02, P-02- Tract 6 - Stand 7, and CSF Complex WR35-2 - Hancock Track #3757, confirm the effectiveness of this process.

The ESAs provide a well-established RTE protection program. For example, GRSF has designated 9,832 acres in 35 ESA's and about 20% of the forest area, and the PSF has designated 7,742 acres in 15 ESA's and about 46% of the forest area.

During recent years, MD DNR completed actions to protect RTE species from ORV impacts and rare plant collectors. The following conservation measures on MD DNR land are based on relevant science, guidelines and consultation with relevant, independent experts:

- Damage to rare sand dune community resulted in the closure of the Chandler Tract ORV Trail
- Damage to native brook trout in Poplar Lick Stream led to closure of the Poplar Lick trail.
- On GRSF, MD DNR Natural Heritage is conducting a rare species study. New conservation zones have not yet been established.

2.1.3 Socioeconomic Context

The lands of Maryland's Lower Eastern Shore encompass Caroline, Dorchester, Somerset, Wicomico, and Worcester Counties. This region is sometimes included in an area referred to as Delmarva, or the Delmarva Peninsula, which includes the State of Delaware and two counties in Virginia, in addition to the Eastern Shore counties of Maryland. Forest products represent a significant source of income within the Eastern Shore region, with loblolly pine (approximately 90 percent of all wood being used in the region) being the most profitable species. Many products are processed locally, and there is a strong desire to keep the State Forests in active forest management to help maintain the forest products sector of the economy. Approximately 205 million board feet of pine sawtimber, hardwood sawtimber, and pine pulpwood is consumed on an annual basis on the Lower Delmarva Peninsula, of which 15-20% comes from State Forests. Much of this material is utilized by three pine sawmills and two pine pulpwood chipping operations for paper making. The pine mills produce a variety of products, including piling, utility poles, building poles, dimensional lumber, and decking. Three hardwood sawmills also operate in the region and produce timbers, construction lumber, railroad ties, pallet stock, and some high-quality lumber. Other important local industries include agriculture, of which the main enterprise is raising poultry as broilers. Livestock is also raised and feed crops are grown for them locally. Seafood and sport fishing industries are also important and well-known on the East Coast for attracting tourism.

The Western Region includes State Forests in Allegany and Garret Counties. This region is a geographically and socioeconomically a part of Northern Appalachia. The largest private employer of the region is healthcare, followed by the forest products industry. Hardwood veneer, sawtimber,

dimensional lumber, cabinetry, furniture, and other secondary wood products are derived from regionally harvested timber. Hardwood pulpwood and specialty items like fence railing, fence posts, mine posts, pallets, railroad cross-ties, and firewood are also important. Common agricultural activities include livestock, grain, hay, and vegetable production. Gas and coal industries are also important economic activities in the region. Tourism, recreation, and hunting on State Forests also attract a number of visitors annually that use local eateries and hotels, among other service industries. A more detailed analysis of the multiplier effects of hunting and recreation is included in the Sustainable Forest Management Plans for the Western Region, which are available publicly.

There are no indigenous tribes with rights to use or manage any state forestlands in Maryland. Any cultural sites that are encountered are protected according to the state's management guidelines.

2.1.4 Land use, Ownership, and Land Tenure

The subject lands are owned by the State of Maryland and there are no known cases where this ownership is being legally challenged. In a few areas, the lands are encumbered by easements for transmission lines, pipelines, public roads, and minor rights-of-way.

When the Chesapeake Forest project lands were purchased and transferred to the State, a variety of private clubs had leases allowing use of the properties for hunting. The hunt club lease program continues on these lands, with a portion of the leases held by the traditional clubs and the remainder being made available to the public through a lottery system. As public lands, the subject properties are used for a wide variety of public uses, including hiking, riding horses, canoeing, and picnicking. The Pocomoke State Forest also contains an off-road vehicle (ORV) trail that was mandated by State legislation.

In the Western Region, there are no hunt leases since the lands had no legacy lease agreements. All hunting and recreation is open to the public as long as state laws are adhered to. ORV use on several trails was suspended or eliminated in the past; however, new public trails have been developed in collaboration with a number of stakeholders.

In the entire Lower Eastern Shore area, current land uses are: urban (8%), agriculture (30%), forest (24%), water (31%), and wetlands (7%). Forests in the Eastern region are highly fragmented and the natural fire cycle has been disrupted by fire suppression. Almost 70 percent of the state forest of this region is now found in pine plantations or semi-natural managed pine stands. The remaining lands are a mix of pine/hardwood, mixed hardwoods, riparian areas, and wetlands.

In the Western Region, current land use is described in each Sustainable Forest Management Plan in Table 2.1. By far, forest cover is the dominant land use in both Garrett (≈68% of surface area) and Allegany (≈77% of surface area) Counties followed by agriculture and urban/developed land uses, respectively. Forests of the region are overwhelmingly naturally established hardwoods with a few natural conifer components. While forests are more contiguous in the Western Region, pressure to develop private lands to non-forest land uses such as housing is steady.

2.2 Forest Management Plan

Management objectives:

Objectives are described throughout each State Forest's Sustainable Forest Management Plan (SFMP) and Annual Work Plans (AWP). All plans are available here: http://www.dnr.state.md.us/forests/mdforests.asp.

Sample objectives from SFMPs from the Eastern Region:
From Chapter 5, Chesapeake SFMP:

- *The main objective for Forest Management on the Chesapeake Forest is to maintain a sustainable and economically self-sufficient forest. This is to be achieved by including objectives that provide for clean water, soil stabilization, support for populations of native plants and animals, protect areas with critical functions or habitats, sustain compatible economic uses and provide for scenic, recreational and educational values. Accomplishing these objectives will be done through implementation of the Annual Work Plan.*
- *A primary objective of Chesapeake Forest Lands is to become a national model of certified sustainable forestry. To meet that objective Chesapeake Forest Lands combined third-party certification under both the Sustainable Forestry Initiative (SFI) standard and the Forest Stewardship Council (FSC) standard. In the spring of 2005 dual certification under these two standards was achieved for the entire Chesapeake Forest, compliance with certification is monitored through annual audits. See Appendix: C & D for details on the two certification programs.*

Sample objectives from SFMPs from the Western Region:
From Chapter 12, Green Ridge SFMP:

As stated in Chapter 1, the primary goal on the Green Ridge State Forest is: to demonstrate that an environmentally sound, sustainably managed forest can contribute to local and regional economies while at the same time protecting significant or unique natural communities and elements of biological diversity.

From Chapter 1, Green Ridge SFMP:

This will be pursued subject to the following resource goals for the Forest:
A) Manage the wetlands, waterways and floodplains of the forest to protect valuable water resources.
B) Provide sustainable levels of diverse recreational fishery opportunities through management strategies which emphasize protection and enhancement of aquatic resources and forested riparian buffers.
C) Protect and enhance biological diversity native to Green Ridge State Forest and perpetuate indigenous natural communities and habitats of species which are rare, threatened, endangered, or in need of conservation.
D) Through Sustainable Forestry practices, maintain and improve the timber resource, while at the same time protecting other resource values consistent with responsible forest management.
E) Provide opportunities for the enjoyment of the natural resources on the Forest by making appropriate areas available for resource-based, low impact recreational activities and environmental education programs that are consistent with the resource values of the Forest.

From Chapter 6, section 6.2, Riparian Forest Buffers: High Conservation Value Forest, Green Ridge

SFMP:

In order to achieve these goals, the following management objectives will be used as criteria to more specifically evaluate and design potential management activities:
1) Minimize disturbance to soil structure or duff layer;
2) Avoid exposed mineral soils;
3) Prevent all rills, gullies, or ruts that may channel water flow and short circuit surface flow paths;
4) Protect mixed hardwood or mixed hardwood/conifer forest community;
5) Maintain mature forest conditions adjacent to stream; and,
6) Encourage the development of a diverse uneven-age forest community in terms of species, canopy levels, and diameter class.

Forest composition and rationale for species selection:

Eastern Region (see chapter 5 of SFMPs):

- Forested swamps with mixed hardwood, bald cypress and Atlantic white cedar. Only restoration activities, such as planting of Atlantic white cedar, occur on these areas.
- Mixed pine-hardwood, hardwood-pine and mixed hardwood forests. These forest types will be managed toward mature stands of mixed hardwoods and pine. This will be done with commercial thinning, selection harvesting and small-opening harvests designed to encourage regeneration of desired native species, such as oaks, loblolly pine and short-leaf pine.
- Loblolly Pine Forest. This forest type is made up of loblolly pine plantations and naturally regenerated loblolly pine forest. Other tree species mixed in this forest type are a variety of gums, maples, oaks, Virginia pine and some Short leaf pine. Plantations are managed on a semi-natural management trajectory with retention of pines and hard-mast-producing hardwoods, as well as clumped retention where tolerant hardwoods may persist. Naturally occurring loblolly pine and mixed pine stands will be managed to maintain the naturally occurring species mix.

Western Region (see chapter 3 & 5 of SFMPs):

- Mixed Oak. These forests will be managed toward mature stands of mixed oak hardwood. This will be done with commercial thinning, selection harvesting, shelter wood harvesting, and small-opening harvests designed to encourage regeneration of desired species such as oak.
- Plantations (Conifers). This forest type is made up principally of Red and White pine plantations with a few acres of Norway Spruce. A variety of hardwood tree species are mixed in this forest type. These stands are managed on a semi-natural trajectory in which native conifers and hardwoods will replace plantations.
- Northern Hardwoods. This forest type will be managed to achieve large mature trees. The tree species in this type, such as sugar maple and American beech are suitable for uneven-aged management systems.
- Red Maple. This forest type is one of the most likely to increase in the wake of catastrophic losses due to host specific insect or disease. The noted increase can be attributed in part to the significant losses of oaks during the numerous Gypsy Moth infestations over the past two decades. Growing conditions on much of PGSF produce a high quality and thus economically valuable Red Maple timber, though the wildlife habitat values do not match those of the mixed oak types. In general, forest management practices will favor mast producing oaks over conversion to red maple type.
- Hemlock. This forest type is predominately eastern hemlock and frequently mixed with varying amounts of hardwoods. This timber type is typically found along river/stream borders

with northern aspects. The management goal for this timber type is maintain mature stands for stream protection, water quality, and thermal protection for many wildlife species.

- Cove Hardwood. This forest type will be managed to achieve large mature trees. Most of the species that make up this type are relatively fast growing, early successional trees. Silvicultural treatments in this type will be even-aged management systems.
- Hardwood/White Pine. These forest types will be managed toward mature stands of mixed hardwood and pine species. This will be done with commercial thinning, selection harvesting, shelterwood harvesting and small-opening harvests designed to encourage regeneration of desired species.

General description of land management system(s):

Eastern Region: Forests are managed primarily under even-aged systems with retention of clumps and dispersed individuals. Selection systems may be used in hardwood stands.
Western Region: Forests are managed primarily under even-aged systems with retention of clumps and dispersed individuals. Shelterwood harvest systems are also used to regenerate hard mast species such as oak. Where larger openings for wildlife or to reduce the density of tolerant to mid-tolerant soft mast species is an objective, variable retention harvests under an even-aged trajectory may be used. Selection systems are typically employed in forest types consisting of tolerant species.

Harvest methods and equipment used:

Ground-based harvesting equipment is used in both regions. Mechanized felling is preferred, though hand-felling with chainsaws is sometimes used on difficult terrain. Typical machinery includes skidders, feller-bunchers, forwarders (with or without processing heads), log loaders, etc.; this is noted in Section 5 of the Forest Management Plans.

Explanation of the management structures:

See Appendix A of all SFMPs for an explanation of how each state forest is managed by a team of DNR staff that report to the Annapolis office with input from a Citizen Advisory Committee and the public.

2.3 Monitoring System

Growth and yield of all forest products harvested:

MD DNR maintains an inventory system that covers growth and yield. See SFMP Chapter 5, Appendix H and CFI Summary for each State Forest. MD DNR uses Remsoft's Woodstock program to analyze forest inventory data to project sustainable harvest levels based on allowed silvicultural systems. Harvest rates are currently based on area control rather than volume control. For example, the Green Ridge SFMP includes a description of the maximum number of acres that may be treated with variable retention harvests.
Appendix H includes a description of the assumptions behind the growth and yield modeling. Summaries of projected growth and allowable harvests based on growth rates, mortality, disease, etc. are included in Appendix H. Volume can be estimated from area control through use of site index ranges.

Western forests: 2000 CFI data were supplemented by recently-completed 5-year stand-level inventory project, which is analyzed using the Remsoft's Spatial Woodstock model for the development of long-term projections on the state forests. This project developed a volume-control target based allowable harvest levels for western forests.

Forest dynamics and changes in composition of flora and fauna:

1) RTE data and monitoring is accomplished through the Interdisciplinary team process and an established relationship with the MD Natural Heritage Program as confirmed through interviews with Natural Heritage Program staff.

2) Common and rare plant communities and habitats are monitored through the use of SILVAH OAK inventory system. In addition, the Wildlife and Heritage Service, and Fresh Water Fisheries gather information on plant and animal populations.
3) The recently developed Early Detection and Rapid Response Plan, associated monitoring protocol and associated research projects are led by DNR's Heritage program to monitor invasive species. SILVAH OAK inventory system also includes documentation of the presence of invasive plants. In addition, it is clear from site observations and staff interviews that the DNR staff is well-trained and knowledgeable about this issue.
4) Zones including protected HCVF, buffer zones, Wildlands, RSAs and Old Growth are monitored through stand level inventory (SILVAH OAK protocol).
5) See item 4 above.

Environmental impacts:

In the eastern region, Parker Forestry Service (PFS) completes inspection forms on Chesapeake and Pocomoke State Forests. MD DNR foresters also inspect tracts and fill out reports. In the western region, MD DNR field foresters conduct post-harvest monitoring and complete Timber Sale Inspection Reports that were presented and reviewed for each of the sites visited during this audit program. This FME also instituted an internal silvicultural audit system to examine the environmental and management impacts of silvicultural activities. This monitoring system was recently been expanded to include a post-harvest review by the ID team.

Logging contractors reported that MD DNR staff conduct site visits at least once per week during active harvests. Timber Sale Inspection forms are maintained for these visits. This form is used for the final inspections.

A Forest Roads Management For Forest Operations on Maryland State Forests has been implemented. This policy creates a systematic inventory of the State Forest roads including ORV trails. This plan documents each road segment and drainage feature in a GIS-based identification system and allows the development of a priority plan for road maintenance and feature replacement that is incorporated into annual work plans for each state forest.

A bill was passed in the 2013 session of the Maryland Legislature that ensures dual forest certification of the Maryland State Forests. The Forest Service has also worked to secure DNR critical maintenance funds for State Forest roads maintenance projects. The road inventory portion of this process has been completed as confirmed through interviews and review of the prioritization list of road inventory improvement projects. MD DNR also instituted an internal monitoring system to examine the environmental and management impacts of silvicultural activities. This monitoring system was expanded in the past to include a post-harvest review by the ID team as described elsewhere in this report.

Social impacts:

MD DNR maintains a complaint log in SF offices. Records were examined for Chesapeake/Pocomoke SF and Green Ridge SF.
Each forest manager responds to inquiries and complaints with direct communications. When these cannot be resolved locally the issue is occasionally referred to the Annapolis office. The main mechanism for soliciting comments is response to each posted State Forest Management Plans and Annual Work Plan that details the proposed activities for the upcoming year.

Costs, productivity, and efficiency:

Cost and revenue are monitored as part of the Annual Work Plan process. The current Annual Work

Plan contains a summary of cost and revenue information. Each SF has its own operational budget. Each SF maintains a spreadsheet and reports these to state offices in Annapolis. Accounting reviews all expenditures. Annual Work Pans and budgets were reviewed for the Chesapeake/Pocomoke SF and Green Ridge SF.

3. Certification Evaluation Process

3.1 Evaluation Schedule and Team

3.1.1 Evaluation Itinerary and Activities

2 April 2019, Tuesday	
FMU/ location/ sites visited	**Activities/ notes**
Snow Hill Office 6572 Snow Hill Rd, Snow Hill, MD Pocomoke State Forest (PSF) and Chesapeake SF (CSF) All auditors were at all sites: Michelle Matteo (MLM) and Ciara McCarthy (CMC)	Opening Meeting: Introductions, client update, review scope of evaluation, audit plan, intro/update to FSC and SCS standards, confidentiality and public summary, conformance evaluation methods and tools review of open CARs/OBS, emergency and security procedures for evaluation team, final site selection.
Pocomoke SF & Chesapeake SF	**Field site visits**
Chesapeake/Pocomoke SF Field Office	Checked chemicals used. Appropriate signage noted outside the building, building locked and chemicals were storage in a locked wooden box. Primary chemicals have the manufacturer labels on them. Secondary containers only had name of the chemical with a black marker thus in complete labeling of secondary containment. Discussions occurred on GHS/ training of foresters and the conversion from MSDS to SDS sheets for chemicals used. The MD DNR forester provided an ongoing listing of documented quantities noted in the FSC checklist.
Stop #1: P-20-5-01/02	P-20-5-01: 48.2 acres – Mature Pine from 1921 to 1924 Field discussions occurred with MD Natural Heritage representative regarding Delmarva Fox Squirrel (DFS) HCVF, and preferred tree species such as mixed hardwoods with oak & hickory, as well as pond pine & short leaf pine (but not loblolly pine). The harvest is planned to remove the mature loblolly pine to promote mature pond pine and future DFS habitat based on MD DNR Natural Heritage prescriptions and advice. DFS habitat needs mature forest, 30+ years old with larger branch size and diameter. This site is to be managed for future DFS habitat and the planned loblolly harvest will retain the mix of these above noted species. Discussion on old growth issues and retention mixed species. Stakeholder issue discussed regarding 'old growth' in both Stands 01 and 02. These stands do not contain old growth loblolly pine, but rather mature loblolly pine that possibly seeded in from the adjacent previously industrial forest land.

	Discussion occurred on-site with regards to climate change and the possible impacts to wildlife like the DFS.
Stop #1A: Existing Trail & Stream Crossing	Walked an existing trail to a stream crossing. The trail is used by recreational users, such as hunters. Walked to no-mapped buffer, discussion on buffers and Hardwood Bottomland Silvicultural occurred. The harvest planned will leave a 50-foot SMZ buffer. Observed a well-maintained gate, and trash (kid's bunny, old crab, and cans were left as trash) at the entrance way of the trail gate. DNR Forester picked up the trash and put in the pickup truck for removal. Discussion occurred on invasive species in the field like Bittersweet, Japanese Knot weed, and Stiltgrass, none observed at the stop.
Stop #1B: P-02- Tract 5, Stand 25	35 acre future harvest, currently no markets - Discussion on Emerald Ash Borer (EAB) status and how the MD DNR receives funding through USFS grants. Some treatment is actively occurring in bottomland ash stands with a USFS research and monitoring grant.
Stop #1C: P-02- Tract 6, Stand 7	10.2 acre variable retention harvest, completed approximately 4 years ago. This stand was considered a restoration site by MD Heritage. Natural regeneration occurred, along with some planting. Natural regeneration was sparse, discussion on-site of how reforestation is documented in a naturally regenerated stand.
Stop #2: Forest Health Monitoring, Ecological issues	Discussion in the field with topics covering invasive plant, climate change, hydrology. The MD DNR is in process of updating the Forest Action Plan. MD DNR foresters take invasives training and summer/temporary employees hires take training which also includes a required video. Additional grants that Maryland DNR have been successful in securing have been an invasive plant grant. The next grant being applied for is for Climate Change mitigation through NIACS to monitor hydrology and impacts of higher rainfall such as road management. Ecological mapping of rare habitats, inland sand ridge habitats and vernal pools is being undertaken in partnership with The Nature Conservancy.
Stop #3: S49 Saltz Powell Track	Handy - Stands 6 & 7, 110 acre harvest area, 103 acres thinned with 5th row thinning. Management overseen by Parker Forestry Services (PFS). Recently completed job - Gatewood site, reviewed agreements/contracts dated 10/09/18 for pulpwood, 09/25/18 and 12/06/18 for pallet wood. Deed viewed; site came into SF ownership in 1999. Logger company is BP Single Forestry, MD Master Logger. Equipment was a simple skidder with loader and 2 slashers. Activity started on the site 09/20/18 through 10/18/18. It was a long drag (skid) for the operator to the primary landing. Due to distance it was stopped and re-started again 11/28/18 to 12/18/18. 103.4 acres were harvested as a 1st thinning per the management plan, it is projected for a 2nd thinning. The yield from the thinning was approximately 58 tons/acre. Reviewed the

	Erosion & Sediment Control Compliance Agreement for the Standard Erosion and Sediment Control Plan. Confirmed that wooden mats were used on the logging operations to help protect soil, minimizing ground impacts, some residual damage to standing timber. Site is predominately loblolly pine. Pulpwood was 6,000 tons removed for utilization. Confirmed BMP logging monitoring inspection sheet completed by PFS – called "Forest Harvesting Operating Harvest" sheet - site from 12/12/18. BMP monitoring inspections occur once per week. Topics covered on the inspection forms include: landing, skid trails, safety, visual aesthetics, stocking, and other items like trash. Pre-harvesting checklist reviewed from 09/20/18. Walked across several skid trails, no rutting noted, minimal residual damage, stump height low, and deer stand viewed in tree. This site has an active lease to Iman Family Hunt Club. Confirmed annual records of the hunting report at this site. Walked to the blue flagging and auditor noted unclear boundary line for the state adjacent to a private landowner. Discussion occurred regarding residual stand damage, one tree observed damage mid-way up trunk, however, residual stand damage has to be 5% of the overall stand for foresters to consider it an issue. Discussions occurred regarding visual aesthetics considerations, adjacent land owner considerations, and if the current survey/deed shows where boundary lines are. Confirmed through PFS Forester that documented deeds were reviewed and it was unclear of the boundary, hence the reason the forester moved the harvest boundary in 50 feet off the ditch line behind private property. See evidence in the FSC checklist.
Stop #4: Marumsco Tract Stands 1,3,7, 10 & 11	79.3 acres – Observed road work had been performed for access to the site. Silvicultural Prescription was final harvest and thinning, with several harvests from 4 different Work Plans. The stone laid for road improvement was clean limestone from PA. Walked the final harvest (clear cut) to the ditch (wet area) where the logger crossed using bridge mats that were pulled. Some tree retention noted. BPS Forestry moved out on 12/19/18, as the tract got too wet. Retained hardwood mast species noted. Observed several down trees pilled together for the logger to come back and remove. Currently saw logs at the deck/landing; 11 loads of wood have been removed from the site. Reviewed BMP monitoring form dated 01/04/19 - Forester noted a correction action- very wet tract getting worse with the main haul and skid trails was rain was coming, therefore operations were halted. Reviewed other BMP monitoring forms 01/02/19, 12/28/18 and 10/16/18, no issues. It was noted during reconnaissance in one area that trees (Black Locust) and vegetation (Daffodils) changed and the forester observed brick, possible remnants of a homestead. The forester flagged a buffer around the area to protect it during the harvest. It was GPSed and

	coordinates provided to the MD DNR to add to the data layer. No stream crossings were observed or mapped on the FMU.
Stop #4A: Marumsco S55	Auditor walked into the stand to see current condition for future harvest. Previous rutting occurred on site, however the ditch and berm were protected to the primary stream. Noted that boundaries were well marked and maintained. No issues. Confirmed through interviews with state forester & assistant state forester that acoustic Bat studies are occurring on all 3 forests.
Stop #5: Complex WR35-2 Hancock Track #3757	Gatewood job, reviewed the 2007 AWP for Stands 3 & 5, a 26.7acre harvest. Site contains an HCVF – DFS core habitat. Reviewed the Erosion Control plan filed. First Thinning of 26.7 acres completed B.P Singles Forestry LLC out of Salisbury MD- MD Master Logger. Objective: thin to 70 sq. foot, retain hardwood mast species. Additional consideration included harvest that crossed a powerline. Viewed HCVF 50-foot buffer. BMP monitoring forms checked 07/19/18, 10/12/18, 07/10/18, harvested 46 tons per acre on this site located off of St. Paul Road. This site has an active lease to Marshall Run Hunt Club. Confirmed annual records of the hunting report at this site.
Stop #5A: Logger Interview	Hancock Track **-** Confirmed Master Logger #338 since 2018, certification expires 12/31/20, confirmed possession of a valid MD Forest Products card. 3 operators on the crew currently – Feller Buncher and 3 knuckle booms, if needed, changes in the field or questions are communicated to the Parker Forestry forester. Forester and logger work together for trail layout, good communication with PFS. Logger communicated that he noticed a dead Eagle on the ground at the Saltz Powell Track and the MD DNR was notified, State Agency came and removed eagle. Logger had PPE and a spill kit in the back of the truck, his service truck is always on-site while actively logging, and contains additional spill kit, PPE, fire extinguishers, and first aid kits. Topics covered, internal communication of boundary lines, harvesting layout and design, landing placement and size, and BMP topics. Logger did not have a MD BMP Manual available in the pickup truck. No issues.
Stop #6: WR 29 Milton Barnes Stand	39.5 acres, Power line runs through the stand #1, power company has easement along lines and actively manages the vegetation below the lines. HCVF stream buffer and buffer along the ditch to the field, buffers were maintained. Landing and skid trails maintained. Snags were mapped and put into the MD DNR data base. BMP check conducted on 03/12/17 reviewed, no issues noted. This site has an active lease to Security Rod & Gun Club. Confirmed annual records of the hunting report at this site.
3 April 2019, Wednesday	
FMU/ location/ sites visited	**Activities/ notes**
Parker Forestry Services (PFS) Office 1323 Mount Hermon Rd	Office visit with consulting PFS Foresters, abbreviated opening meeting, document review and interviews with PFS.

Ste 8b, Salisbury, MD	
Pocomoke SF & Chesapeake SF	**Field site visits**
Stop #1: Furnace Tract Restoration project	5 acre intensively managed sand dune site with listed species. Discussion of the Frosted Elfin Butterfly – MD state endangered and Federally listed (Frosted Elfin uses same habitat as the Karner Blue Butterfly). No fire was used in the 1st section because the site was relatively open with a 30 % Tree cover, lupine is the host plant that is being managed. Female butterfly lays eggs on the buds of the lupine and potentially wild indigo plants. MD DNR identified that deer were eating the lupine flowers thus an electric fence was installed as a deterrent. It was also a deterrent for turkey that have been noted on the site. Observed a mosaic grid system set up for sampling. Forester used the hack and squirt and cut stump treatment methods using Garlon as the chemical of choice for tree removal. Volunteers are supervised by a MD DNR forester to perform these functions. 1,000 acres are contiguous with the Pocomoke SF stands (field with mixed hardwoods). This is in an ESA zone 1. We walked the trail system set up to the special habitat with signage. Access is gated. Fire was used as a tool to help with management of the lower portion of the site. Covered the necessary fire trainings needed. See FSC checklist. Discussion on Federal Aid for the Pollinator Diversity Grant currently in progress (Xeric habitat and pollinator diversity, covering bee species richness and plant surveys). No issues noted. A research partnership with Salisbury University had been undertaken to assess the pupation stage of the larvae and the effect of fire on the leaf litter layer. Maryland DNR had also partnered with the Smithsonian University and North Eastern for research on genetics with results published in scientific journals.
Stop #2: Foster Tract Prescribed Burn	30-acre prescribed burn in-progress on an early successional ESA. Observations of signage for 'smoke' and 'access restricted' on adjacent roads and roads leading to the site. Met the MD Forest Service Burn Boss, Gilbert Wagner. Reviewed the burn plan, and the smoke management plan, 1 mile and 5 miles noted out on the map attached to the burn plan. Observed fire breaks and the emergency evacuation routes noted. External communications to the community/neighbors was noted along with interagency organizations. Observed staging of various equipment (none leaking, spill kits present), PPE being worn by those participating in the active burn. No issues noted. Training was discussed, Red Card and various levels of MD DNR training, see the FSC checklist. Hack & Squirt last fall completed on the site, in preparation of the Rx burn. Jason Harrison, DNR Community Ecologist, works with Gilbert when prescribed burns are performed on ESAs. Maryland DNR have been active in the Firewise program, for example assisting the community at Marshy Hope to become Firewise.
Stop #3: MD DNR office	Review of additional documentation at the Snow Hill Office. See

	FSC checklist for notes.
Stop # 4: Complex S19 Freetown, CF-15-19	Stand 6, 30 acre 1st thinning in loblolly pine completed Oct 2018. Thinned down to 70 sq. ft BA, BMP forms viewed, no issues noted or observed. Skidding was located in an unconventional pattern along edges of stand, bump trees used at corners and removed at end of harvest. Well flagged, low residual damage, roadside log deck. Discussion of Southern Pine Beetle and Gypsy moth.
Stop #4A: Sub-contractor	Sub-contractor is Eastern Shore Forest Products to Jason Mitchell Forestry. 2017 - 69 tons per acre thinned. Current MD Master Logger. 30 acre thinning general forest management. NO HCVF on tract, pay-as-cut and observed retained oak component. Harvest started on 09/28/18 and completed on 10/11/18.
Stop #5: D18 Shilo-Apex	1st thinning, 221-acre tract- Site not yet closed. Logger is MD Master Logger certified. Access to the site needed to be upgraded. Adjacent HCVF includes ESA zones 1, 2, & 3, primarily plant species. DFS and SMZ are considerations on this site. PFS received 20 loads of stone to be added to the primary haul road. Culverts were sized by the watershed and installed, observed the culverts and the status of the primary road access during the audit. Landing was small, still an active harvest, but not operating now, due to wet weather conditions. Preharvest conference occurred on 01/10/19, logger moved off-site on 01/23/19, moved back on 03/26/19, equipment on the jobsite. Walked to the back of the job across several skid trails, no residual standing tree damage, stump heights reasonable, and buffer zones marked and protected by the logger /operator of the site. Observed the 50-foot buffer established for SMZ protection. Moved to another location. PFS communicated to the auditors that when they performed reconnaissance for forestry operations, the Forester observed 3 distinct Vernal Pools on site. Auditors visited all 3 vernal pools. Hunting Stand located in one vernal pool and a deer feeding station in another. Discussions occurred that MD DNR has an active hunting club lease at this location, and what long-term monitoring will be completed for the vernal pools. Bridge mats were used for access to the main haul road.
4 April 2019, Thursday	
FMU/ location/ sites visited	**Activities/ notes**
Green Ridge SF Office 28700 Headquarters Dr NE, Flintstone, MD	Abbreviated opening meeting
Green Ridge SF	**Field site visits**
Stop #1: Hemlock Wooly Adelgid Management (HWA)	HWA Management, 15 Mile Creek Road. Observed an Integrated Pest Management Site - Auditors received an update of HWA on the GRSF and other MD SFs. This site is next to a MD DNR well-established recreation camp site. This HWA site is not on the Annual Work Plan. Most hemlocks on the landscape are within the SMZ HCVF. This

	site is a research project where injection treatment has occurred since 2016. The Hemlock on site are a buffer to the stream and the recreation site. Discussion occurred on stream temperatures and possible fish impacts. The trees have metal tags labeled for the ongoing monitoring research project. Discussion on climate change and impacts occurred on site. Other discussions topics were the types of pest and chemicals used for injection into the Hemlocks; a multipronged approach is used for some HWA treatment, injection on high visibility areas and beetle releases in some stand areas. Chemical handling is done by the MD Dept of Agriculture, with their chemical usage reported to the respective State Forests, and overall on the FSC pesticide usage.
Stop #1A: 15 Mile Creek	Driving 15 Mile Creek Road, observed 15 Mile Creek signage for areas that have differing fisheries requirements. Some reaches of the Creek have "Put & Take" signage, meaning it is stocked and can be fished, other reaches have signage for "Catch and Return", a traditional catch and release fisheries area. Fisheries management is overseen by the MD DNR. Discussion of *Fifteen Mile Creek North* is a defined ESA, in part because of several features including an excellent example of a floodplain forest community to several excellent shale barren communities. These unique features provide outstanding habitat for two State Threatened plants found on all of the barrens within this ESA. Additionally, Lepidoptera diversity is high including three State listed species. *Fifteen Mile Creek South* (not visited), south of the signage viewed, is another defined ESA. Description is noted in the GRSFMP, Sec 7.2.
Stop #2: GR-2018-S, Stone Mountain Road	Contract #0217 Active Harvest 21 acres. Variable retention harvest (Aggregate)/clearcut with retention of multiple species of oaks. Cool season seed mix used from southern states to apply on the landing. Discussion of the seed mix, including the species mix and where it is obtained. The MD DNR forester used the pre-existing landing for this site. Steep terrain. McCuster Logging is the owner/operator of the logging company. MD Master logger, not on-site during the field visit. 2015 MD soil and erosion & Sediment control measures applied. Skid trails to the contour. Observed in the field that the logger has a primary skid trail to cross the ravines to gain access to harvest trees, no BMP issues noted on the field. 18,6732 board feet of oak, 8,980 WP saw timber, 319 cords of wood and 112 WP pulp. Some residual stand damage to the retained pines, but stems retained to potentially become snags or legacy trees. Reviewed document Attachment D- GR-05-17. Residual trees all should have blue paint, which was noted in the field. Reviewed the Pre-Harvest Conformance Checklist dated 11/09/18, Forest Harvest Operations Checklists dated 11/16/18 and 11/23/18. Final Harvest Monitoring form dated 02/27/19. Discussion on snag

	retention which was observed in the field. Skidder on-site, fire extinguisher on the skidder was empty. Reviewed internal contractual documents were incomplete on contract dates for end of contact and Central office signatures. (see the observation noted in audit report). Forester was not aware of the Green Tree Retention policy of 5% retention for harvests over 20 acres. All sites visited had in excess of 5% retention.
Stop #3: Potomac Bends Wildland Area (PBWA)	PBWA Scenic Vista Lookout- overlooking the Potomac River. Graffiti noted on the overlook. Recreational signage posted with information. Geology is shale. 10,000 acres of HCVF is delineated at this site, 6,000 acres is designated for RSA. Key species noted is the Alleghany wood rat- state listed species, Kate's Mountain Clover, Small River Bat and Small Footed Bat – MD endangered species. Tree species noted Red Cedar, Yellow Oak, Post Oak (host for uncommon Buck Moth), Scrub Oak, and Buckthorn (some of these species are found on the Shale Barrens). This is nesting habitat for the Pine Warbler. Discussion of the Great Warrior Trail that runs through the PBWA and the possible historic use by the Shawnee Tribe. Maryland DNR's involvement with research was discussed with the Regional Forester. The following research has been undertaken in the FMU – West Virginia and University of Maryland; The University of Delaware on Bobcats; The University of Guelph on Chestnut Blight.
Stop #3A: Carrol Road Shale Barren	ESA Shale barren located between the scenic vista overlook and the Potomac River below. Unique environment protected, the sun exposure can have temperatures that exceed 140 degrees F, rare plants present that are adapted to this unique environment. Discussion of the flora and fauna that both reside in and use the Shale Barrens. Discussion of the 3 main streams in the area (15 Mi Creek, Siding Hill Creek, and Town Creek) and their designations as a 'high quality stream' by the MD Biological Stream Survey.
Stop #3B: Recreation Area/Primitive Campsite	Nearby primitive campsite was closed, to prohibit people from venturing out onto the shale beds.
Stop #4: Old Growth Ecological Management Area (OGEMA)	OGEMA - 5 acres of under unique management. Viewed large individual trees that have been designated as old growth oak. The bisecting stoned road was established by the Civilian Conservation Corps (CCC), in relatively good condition for access. No invasive noted off the road or in the field, but Tree of Heaven has been found nearby in the past and treated with hack & squirt when found. No issues viewed.
Stop #4A: Mertens Road	Historic stoned road established by the CCC. Discussion of the 4-D Rule and the bat species found. Acoustic surveys have been conducted pre- and post-arrival of White Nose Syndrome. Adjacent Savage River SF has bat hibernacula that is managed by

	the Nature Conservancy, no hibernacula known to be present on the GRSF.
Stop #5: GR-06-17 Oldtown Orleans Road	Active Harvest - 66 Acre mixed oak stand, with pitch pine, table mountain pine, and Virginia pine present. 41 acre harvest area, not currently operating. Variable retention harvest. Logger equipment on site, MD Master Logger, Roy Yonker. Logger was not on site. Dozer leaking on site, and the Skidder had some oil observed on the soil below the equipment. Nothing noted in recent BMP inspections of leaking equipment or lack of spill kits and fire extinguishers. See finding in audit report. MD DNR forester laid out job for landing placement, buffer management off the landing to the primary road and skid trail layout. Good wood utilization: 131,964 Board Feet of mixed oak saw timber. Scarlet Oak 79,282 Board Feet, chestnut oak 30,062 Board Feet, White Oak 22,620 Board Feet. 34 cords of hard pine pulp. Pre-harvest checklist viewed from 03/16/18, multiple BMP checklists viewed from 05/11/18 through December 2018; logger moved off-site on 12/07/18, due to wet weather, moved back on-site on 03/08/19, with the most recent BMP checklist completed on 03/28/19, no issues noted in any BMP checklists. Walked the site. Mast trees left, no residual damage, skid trails no issues, and hardwood tops pulled from the buffered ravines. Discussion of oak wilt and oak decline - none observed in the field. Stump height low, MD DNR forester expects regeneration from both tree sprouting and seed. At closeout, Forester will mark locations of water bars for installation by logger. Discussion of the variable diameter regeneration plots taken post-harvest at year 4 or year 5 to document reforestation/regeneration. No concerns with natural regeneration as area is actively hunted for deer. Discussion regarding visual management, since this hillside harvest can be seen from a distance. No public concern noted on the harvest. Not able to interview the logger was not present on site. Field to be seeded, seed mix purchased by contractor from the local Southern State Co-op. Discussion of potential invasives - Field is to be monitored by GRSF as part of the regular monitoring of the area, post-harvest. If invasives present, this would be identified during monitoring.
Stop# 5A: Special Site	Cemetery on Oldtown Orleans Road, discussion of nearby old cemetery on the GRSF. MD SF foresters caretake them when found in the field.
Stop #6: GR-03-18 Gorman Road #603-18	Site off of RT 51, Logger is Cessa Brothers, MD Master Logger. Variable retention harvest. Visual concerns discussed, low stumps and regeneration. Snags and high-quality oak retained. Invasive (Mullein) noted on the landing, some noted on primary skid trail, but none viewed in the woods. Reviewed the post-harvest tally sheet. Site is free to grow, no rutting noted on primary or secondary skid trails. Wood is scatted

	throughout the site to create small mammal habitat. No tops in the SMZ buffer. Permit for fire wood. Pre-harvest checklist viewed from 06/06/18, multiple BMP checklists viewed from 06/14/18 to 07/20/18, closed on 07/20/18, with site seeded and mulched on 07/20/18. No issues noted in any BMP checklists. Forest Manager Mark Beeles highlighted his lecturing post for forestry at the local community college, Garrett College. Frequently students from his course conduct field visits to the state forest, and often students are hired as temporary staff during their summer program.
Stop #7: Special Wildlife Habitat Area	Lower Town Creek Road, acquired by the GRSF in 2015. Early Successional Wildlife Habitat Plan prepared in March 2016. Observed various fruit trees planted with enclosures. Maryland DNR secured a Regional Conservation Grant allowing active research with native plants and grasses, varied mowing regimes, and fire, with possible chemical applications to maintain current habitat in the open field. Stand 9 has received a grant to remove invasives found. This project started as a 2-acre Bee Pollinator project and has now expanded into a large portion of Stand 8 and Stand 9, and is part of a multi-state project that is looking at species richness and diversity, as differing management work occurs. The Rusty Patch Bumblebee, and Yellow Patch Bumblebee are rare species found in Maryland. The project will take place over the course of 5 years. Off in the distance, the MD DNR forester delineated a family cemetery which had protected boundaries and noted in the internal GIS.
Stop # 7A: Town Creek Fishery	Driving Town Creek Road, observed signage for areas that have differing fisheries requirements. Some reaches of the Creek have signage for “Delayed Harvest”, meaning it is a traditional catch and release fisheries area from Oct 1st to June 1st, with the ability to harvest fish during the remainder of the year.
Stop # 7B: Recently purchased SF Land	Field and adjacent forest land recently acquired is on the opposite side of the road from the Special Wildlife Habitat Area, along Town Creek Road and adjacent to Town Creek. GRSF planted shrubs on both side of irrigation ditches in field that is the floodplain of Town Creek. Riparian buffer of Town Creek planted approximately 1-2 years ago.
5 April 2019, Friday	
FMU/ location/ sites visited	**Activities/ notes**
Chemical Store at Green Ridge State Forest	The chemical store was a secured building, clearly marked with a fire extinguisher on the outside. The building was ventilated, and the interior was segregated whereby signage and safety equipment was stored away from chemicals. The chemicals stored were all chemicals from their accounting list. Each container was clearly marked regarding its contents, and MSDS data sheets were

	available for each. Sheets for Garlon and Roundup were observed.
Office, Green Ridge SF	Document and systems reviews, staff interviews
MD Forest Service main office - 580 Taylor Ave, Annapolis, MD	Document and systems reviews, staff interviews
Early afternoon	Closing Meeting Preparation: Auditor(s) take time to consolidate notes and confirm evaluation findings
Afternoon	Closing Meeting: Review preliminary findings (potential non-conformities and observations) and discuss next steps

3.1.2 Total Time Spent on Evaluation

A. Number of days spent on-site assessing the applicant:	
B. Number of auditors participating in on-site evaluation:	
C. Number of days spent by any technical experts (in addition to amount in line A):	
D. Additional days spent on preparation, stakeholder consultation, and post-site follow-up:	
E. Total number of person days used in evaluation:	

3.1.3 Evaluation Team

Auditor name:	Michelle Matteo	**Auditor role:**	FSC Senior Lead Auditor
Qualifications:	Michelle Matteo, FSC/SFI/PEFC/ATFS Senior Lead Auditor, Arborist, Wildlife Biologist, and Forester. Michelle L. Matteo, is qualified as a Senior Lead Auditor to conduct Forest Management, Procurement, and Chain of Custody audits under the Forest Stewardship Council, PEFC, ATFS, and the Sustainable Forestry Initiative Standards. Michelle is a forester and arborist, based in Southern New England, and maintains a (state) Massachusetts Forester License as well as an International Society of Arboriculture (ISA) Certification. She has over 13 years of experience as an auditor. She has conducted hundreds of Forest Management, Fiber Sourcing, and Chain of Custody audits for companies at all levels of the supply chain and different manufacturing processes, and completed a 3-day ISO 19011 training designed & presented in relation to the FSC Standards. She has a background in urban and traditional forestry, wildlife biology, and watershed science, and has experience with both state and federal environmental regulations. Michelle earned her MS in Forestry and BS in Wildlife & Fisheries Biology, both from the University of Massachusetts.		
Auditor name:	Ciara McCarthy	**Auditor role:**	FSC Team Auditor
Qualifications:	Ciara McCarthy holds a BSc (Hons) Agroforestry from the University of Wales, UK and Oregon State University. She has accumulated over 14 years' experience working in all aspects of operational forestry in the UK, Ireland, Australia and United States. Ciara is a Senior Lead auditor for FSC Chain of Custody, a lead auditor for FSC Forest Management Certification and the Sustainable Biomass Program. She has successfully completed audits in the states of Oregon; Washington; California; Arkansas; Georgia; Maryland; North Carolina; Virginia; British Columbia and New Brunswick, Canada; and Latvia, Eastern Europe. Ciara is a staff member of SCS Global Services as a Senior Lead Auditor, Technical Specialist for FSC Controlled Wood and Sustainable Biomass Programs.		

3.2 Evaluation of Management System

3.2.1 Methodology and Strategies Employed

SCS deploys interdisciplinary teams with expertise in forestry, social sciences, natural resource economics, and other relevant fields to assess an FME's conformance to FSC standards and policies. Evaluation methods include reviewing documents and records, interviewing FME personnel and contractors, implementing sampling strategies to visit a broad number of forest cover and harvest prescription types, observing implementation of management plans and policies in the field, and collecting and analyzing stakeholder input. When there is more than one team member, each member may review parts of the standards based on her or his background and expertise. On the final day of an evaluation, team members convene to deliberate the findings of the assessment jointly. This involves an analysis of all relevant field observations, interviews, stakeholder comments, and reviewed documents and records. Where consensus among team members cannot be achieved due to lack of evidence, conflicting evidence or differences of interpretation of the standards, the team is instructed to report these in the certification decision section and/or in observations.

3.2.2 Pre-evaluation

☒ A pre-evaluation of the FME *was not* required by FSC norms.

☐ A pre-evaluation of the FME was conducted as required by and in accordance with FSC norms.

3.3 Stakeholder Consultation Process

In accordance with SCS protocols, consultation with key stakeholders is an integral component of the evaluation process. Stakeholder consultation takes place prior to, concurrent with, and following field evaluations. Distinct purposes of such consultation include:

- To solicit input from affected parties as to the strengths and weaknesses of the FME's management, relative to the standard, and the nature of the interaction between the company and the surrounding communities.
- To solicit input on whether the forest management operation has consulted with stakeholders regarding identifying any high conservation value forests (HCVFs).

Stakeholder consultation activities are organized to give participants the opportunity to provide comments according to general categories of interest based on the three FSC chambers, as well as the SCS Interim Standard, if one was used. A public notice was sent to stakeholders at least 6 weeks prior to the audit notifying them of the audit and soliciting comments.

3.3.1 Stakeholder Groups Consulted

Principal stakeholder groups are identified based upon results from past evaluations, lists of stakeholders from the FME under evaluation, and additional stakeholder contacts from other sources.

Stakeholder groups who are consulted as part of the evaluation include FME management and staff, consulting foresters, contractors, lease holders, adjacent property owners, local and regionally-based social interest and civic organizations, purchasers of logs harvested on FME forestlands, recreational user groups, tribal members and/or representatives, members of the FSC National Initiative, members of the regional FSC working group, FSC International, local and regionally-based environmental organizations and conservationists, and forest industry groups and organizations, as well as local, state, and federal regulatory agency personnel and other relevant groups.

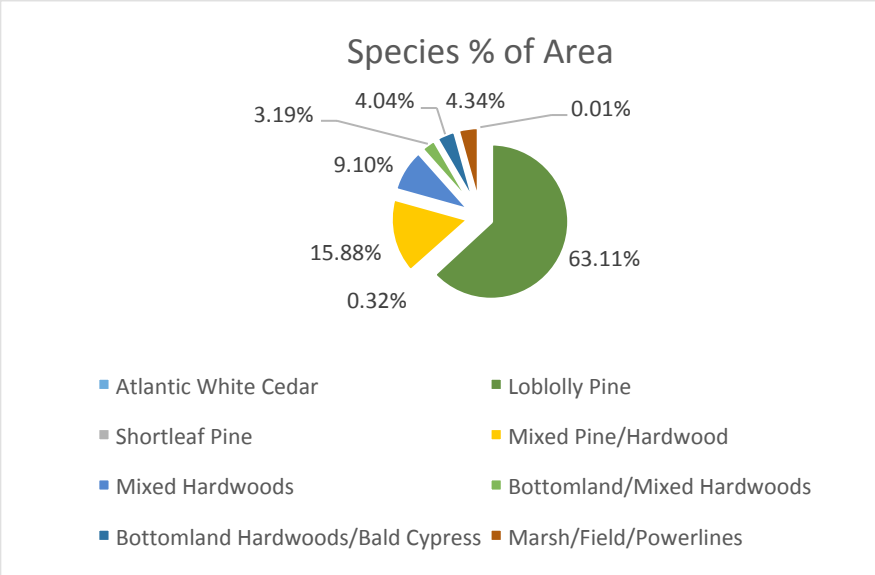
3.3.2 Summary of Stakeholder Comments and Evaluation Team Responses

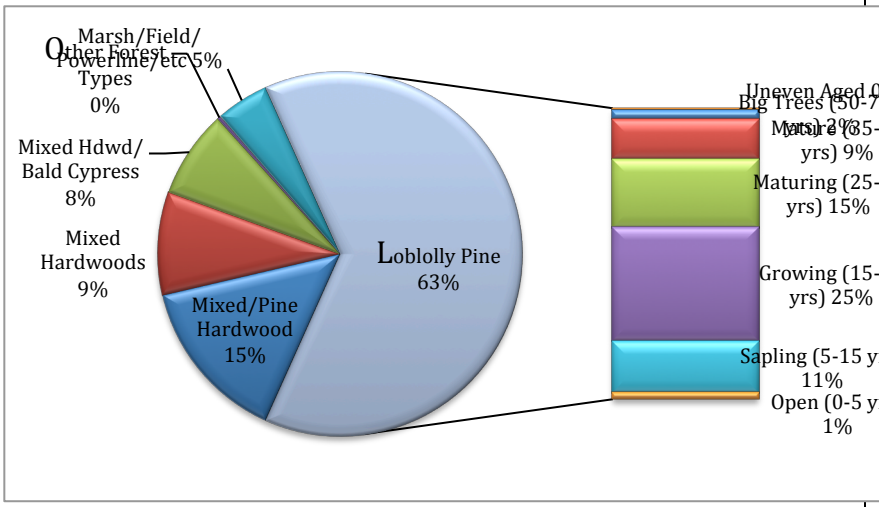
The table below summarizes the major comments received from stakeholders and the evaluation team's response. Where a stakeholder comment has triggered a subsequent investigation during the evaluation, the corresponding follow-up action and conclusions from SCS are noted below.

Stakeholder Comment	SCS Response
Chesapeake/ Pocomoke SF should remove P-20-S-01 & -02 from the Annual Work Plan, as they contain older/old-growth forest.	The stands in question are noted in the FY2020 Draft Annual Work PLAN (AWP) and are proposed 48.2 acre and 35.8 acre Final harvests, retaining significant hard mast species, pond pine, and shortleaf pine. Stands P-20-S-01 & -02 and is in a Delmarva Fox Squirrel (DFS) Future Core management area, thus no DFS are currently present. This stand regenerated naturally in 1921 and 1924 and was likely previously under agriculture according to nearby aerial photos. Management for DFS future core habitat was discussed in the field/at the sites at length, with MD Natural Heritage staff regarding DFS HCVF, old-growth, and preferred tree species such as mixed hardwoods with oak & hickory, as well as pond pine & short leaf pine. Stands P-20-S-01 & -02 are being managed for future core Delmarva Fox Squirrel (DFS) habitat, per consultation with MD DNR Heritage Staff. DFS was previously listed as a federally endangered species and is now State listed as a "Highly State Rare" and 'In Need of Conservation' species, as noted in the MD RT&E Species list: http://dnr.maryland.gov/wildlife/Pages/plants_wildlife/rte/rteanimals.aspx The harvest is planned only to remove the mature loblolly pine to promote mature pond pine, short leaf pine, and hardwood mast species, specifically to create future DFS core habitat. DFS habitat needs mature forest, 30+ years old with larger branch size and diameter. The planned harvest will retain the mix of these above noted species. Prevention of insect outbreaks, and recruitment and establishment of oak, pond pine, and shortleaf pine, were cited as additional objectives for the variable retention harvest, though retention has not yet been marked. MD DNR's interdisciplinary (ID) team and the CAC review processes did not generate any comments, however the public review process did generate comments. AWPs are

revised in response to CAC and stakeholder comments. The ID team and CAC include wildlife experts and stakeholders. MD DNR followed its consultation processes and this area does not meet the FSC-US Type 1 or Type 2 Old Growth definitions. No nonconformance is warranted.

Adjacent stands have been pre-commercially thinned with an emphasis on release of vigorous pines and oaks and removal of tolerant hardwoods. Not all tolerant hardwoods are removed, however. While pine is the dominant species, post-harvest oak density has increased. Most other 70-year old stands are in other zones, and most are protected from timber harvest activities. Here is the current breakdown of species group distribution for the Eastern Region, both displayed as current species in total and species by age class:





Pines are among the first species to establish after regeneration

	harvests. Sites observed during the 2019 audit in the Eastern Region had retention of trees in clumps and dispersed individuals. Clumps include pines and hardwood species. Large clumps typically are not treated with herbicide post-harvest, so all species may persist on-site.
Concern with the level of funding available to complete their work and the ability to partner effectively if funding decreases.	Annual budgets for multiple State Forests were reviewed. The MD DNR budget has changed over time since certification was awarded. MD DNR has four funding sources, including a General Fund, Special Fund, Federal Fund, and Reimbursable Fund. Income from timber sales falls under the Special Fund, which also includes other funding sources such as admission fees, user permits, non-timber forest products, rights-of-way, leases, and concessions among others. Given the demand for timber and non-timber uses of the State Forest system, MD DNR's funding sources are well-diversified. MD DNR is also subject to internal audits and external legislative audits to ensure that funds are received and appropriated according to applicable laws and regulations. The current funding, though reduced from historic funding levels, does allow the forestry work to be completed at planned levels. Partnerships occur frequently; continued and new partnerships are encouraged, in order to supplement the existing State Forest budgets. Details are provided in the Annual Work Plans, for example in the CF-PSF Annual Work Plan FY2019, Section B, pages 10-11, "NETWORKING WITH DNR AND OTHER AGENCIES" No nonconformance is warranted.
Concern with stakeholders not being allowed to participate in field visits of the audit.	While stakeholder participation during audit field visits has occurred in the past, the Maryland DNR does accommodate site visits educational trips, and hold tours over the course of the year. This is sufficient to meet Standard requirements, and these details were confirmed with SF staff during the audit. Stakeholder may request of SCS or of the MD DNR to participate during audits, but these are subject to approval in consideration of audit objective goals and sampling requirements. Should there be a controversial or substantial stakeholder concern, a lead auditor may elect to meet with stakeholders in the field.
The role of each member of the Maryland DNR's *Citizen's Advisory Committee* is to review DNR management plan AWP with Eastern Shore management plan. Per each AWP process the group meets once in the field and the FME answer pertinent questions. Discussion in the past have been regarding State	The positive statements in this comment are considered evidence of conformance to requirements for engaging with the public as required at various points in the FSC standards. The point regarding the current vacancy is noted. FSC does not prescribe how those public engagements must be conducted. However, an observation was issued that the vacancy should be reviewed by MD DNR, see **Observation 2019.6.**

Legislation that is relevant to the State Forest. Over all, the CAC work with the FME has been very transparent. Often members of the CAC are seeking clarification on the objectives behind certain harvesting decisions. Forest Managers have taken on suggestion by the CAC in the past, and it is considered a good professional working relationship. The FME has always provided site visits if necessary. Maryland DNR, Eastern Shore has largely moved away from clear cuts which has been better for public relations, aesthetics and ecological values. Overall the CAC has been successful at balancing the needs of communities with good representation. Recently the ecologist position has become vacant, and this position is considered a paramount role to replace.	

4. Results of Evaluation

4.1 Notable Strengths and Weaknesses of the FME Relative to the FSC P&C

Table below contains the evaluation team's findings as to the strengths and weaknesses of the subject forest management operation relative to the FSC Principles of forest stewardship. Weaknesses are noted as Corrective Action Requests (CARs) related to each principle.

Principle / Subject Area	Strengths Relative to Conformity to the Standard	Weaknesses Relative to Conformity to the Standard
P1: FSC Commitment and Legal Compliance	Payment of timber harvest funds to counties occurs in a timely manner.	No weakness noted.
P2: Tenure & Use Rights & Responsibilities	MD DNR involves many tenure and use rights holders in the management and monitoring of these resources.	No weakness noted.

P3: Indigenous Peoples' Rights	No strengths noted.	See OBS 2019.1.
P4: Community Relations & Workers' Rights	MD DNR was one of the few forest managers that had active timber sales during the economic downturn, which helped some local logging contractors and mills stay in business.	See OBS 2019.2.
P5: Benefits from the Forest	MD DNR has a diverse forest product base that includes markets for softwoods and hardwoods. Non-timber income sources support a number of forest management activities.	No weakness noted.
P6: Environmental Impact	MD DNR exceeds stream management zone protection measures large streams. Herbicide use is managed to minimize use and avoid disturbance to soils.	See OBS 2019.3, Minor CAR 2019.4, and Minor CAR 2019.5.
P7: Management Plan	All management planning documents are available to the public, primarily via the State Forest's webpages.	No weakness noted.
P8: Monitoring & Assessment	MD DNR has kept on schedule with its forest inventory for many years. Monitoring information on RTE species is being used to expand RTE species' recovery efforts.	See OBS 2019.6.
P9: High Conservation Value Forests	The HCVF classification process involved a broad number of stakeholders with knowledge of potential HCVs and the HCV classification process.	No weakness noted.
P10: Plantations	MD DNR has successfully moved the FMU away from plantation management and to natural forest management.	NA
Chain of Custody	No strengths noted.	No weakness noted.
Group Management	NA	NA

4.2 Process of Determining Conformance

4.2.1 Structure of Standard and Degrees of Nonconformance

FSC-accredited forest stewardship standards consist of a three-level hierarchy: principle, the criteria that correspond to that principle, and the performance indicators that elaborate each criterion. Consistent with SCS Forest Conservation Program evaluation protocols, the team collectively determines whether

or not the subject forest management operation is in conformance with every applicable indicator of the relevant forest stewardship standard. Each nonconformance must be evaluated to determine whether it constitutes a major or minor nonconformance at the level of the associated criterion or sub-criterion. Not all indicators are equally important, and there is no simple numerical formula to determine whether an operation is in nonconformance. The team therefore must use their collective judgment to assess each criterion and determine if the FME is in conformance. If the FME is determined to be in nonconformance at the criterion level, then at least one of the applicable indicators must be in major nonconformance.

Corrective action requests (CARs) are issued for every instance of a nonconformance. Major nonconformances trigger Major CARs and minor nonconformances trigger Minor CARs.

4.2.2 Interpretations of Major CARs, Minor CARs and Observations

Major CARs: Major nonconformances, either alone or in combination with nonconformances of all other applicable indicators, result (or are likely to result) in a fundamental failure to achieve the objectives of the relevant FSC Criterion given the uniqueness and fragility of each forest resource. These are corrective actions that must be resolved or closed out before a certificate can be awarded. If Major CARs arise after an operation is certified, the timeframe for correcting these nonconformances is typically shorter than for Minor CARs. Certification is contingent on the certified FME's response to the CAR within the stipulated time frame.

Minor CARs: These are corrective action requests in response to minor nonconformances, which are typically limited in scale or can be characterized as an unusual lapse in the system. Most Minor CARs are the result of nonconformance at the indicator-level. Corrective actions must be closed out within a specified time period of award of the certificate.

Observations: These are subject areas where the evaluation team concludes that there is conformance, but either future nonconformance may result due to inaction or the FME could achieve exemplary status through further refinement. Action on observations is voluntary and does not affect the maintenance of the certificate. However, observations can become CARs if performance with respect to the indicator(s) triggering the observation falls into nonconformance.

4.3. Existing Corrective Action Requests and Observations

	Finding Number: 2018.1
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification/recertification ☐ 3 months from Issuance of Final Report ☒ 12 months or next audit (surveillance or re-evaluation) ☐ Observation – response is optional ☐ Other deadline (specify):
FSC Indicator:	7.2.a
Non-Conformity *(or Background/ Justification in the case of Observations)*: Management Plans have some incidental information that is out of date. For example, the SRSF Management Plan includes the statement, "SRSF has been conducting an extensive forest inventory project for past 5 years," when the project had been completed. Several incidental, non-critical statements should be cleaned up in the updated/revised forest management plans.	
Corrective Action Request *(or Observation)*: The management plan is kept up to date. It is reviewed on an ongoing basis and is updated whenever necessary to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances. At a minimum, a full revision occurs every 10 years.	
FME response *(including any evidence submitted)*	The Savage River State Forest, Potomac Garrett State Forest and Green Ridge State Forest Sustainable Forest Management Plans have been revised with up to date information. These can be found on the DNR website for each state forest. SRSF: http://dnr.maryland.gov/forests/Pages/publiclands/western_savageriverforest.aspx PGSF: http://dnr.maryland.gov/forests/Pages/publiclands/western_potomacforest.aspx GRSF: http://dnr.maryland.gov/forests/Pages/publiclands/western_greenridgeforest.aspx
SCS review	Review of the above noted management plans and the plans reviewed for the Chesapeake and Pocomoke SFs include 2018 revisions. 04/05/19 MLM.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2018.2
Select one: ☐ **Major CAR** ☒ **Minor CAR** ☐ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification/recertification ☐ 3 months from Issuance of Final Report ☒ 12 months or next audit (surveillance or re-evaluation) ☐ Observation – response is optional ☐ Other deadline (specify):
FSC Indicator:	FSC-STD-50-001 V1-2, 1.15
Non-Conformity *(or Background/ Justification in the case of Observations)*: The current timber sale contract template and associated Addenda used by MD DNR do not use the appropriate trademark symbol. Document ID is DNR/FS-352, Rev.ppc: 12/16.	
Corrective Action Request *(or Observation)*: The use of the FSC "checkmark-and-tree" logo is directly accompanied by the **appropriate trademark symbols** ® or ™ (in superscript font). The appropriate symbol also accompanies the **first use** of "FSC" and "Forest Stewardship Council" in any text.	
FME response *(including any evidence submitted)*	FME submitted eight timber sale documents and templates created with FSC labeling. FME updated documents and submitted each for approval. Approval was granted via SCS review. FME provided screen capture of those submittals on 11 June 2018.
SCS review	SCS reviewed submitted evidence, confirmed appropriate corrections were made to be in conformance, and confirmed with SCS logo use approvals internally. CAR closed 11 June 2018.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

4.4. New Corrective Action Requests and Observations

	Finding Number: 2019.1
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification/recertification ☐ 3 months from Issuance of Final Report ☐ 12 months or next regularly scheduled audit (surveillance or re-evaluation) ☒ Observation – response is optional ☐ Other deadline (specify):
FSC Indicator:	FSC FM US 3.3.a
Non-Conformity *(or Background/ Justification in the case of Observations)*: Although the Chesapeake/Pocomoke Forest Citizens Advisory Committee member has been recently established, there is an opportunity to continue efforts and seek input from indigenous people, including all MD State Forest regions, as the last formal outreach efforts were completed 5-6 years ago.	

Corrective Action Request *(or Observation)*: This indicator requires the forest owner or manager invites consultation with tribal representatives in identifying sites of current or traditional cultural, archeological, ecological, economic or religious significance. There is an opportunity to continue efforts and seek input from indigenous people, including all MD State Forest regions.	
FME response *(including any evidence submitted)*	
SCS review	
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2019.2
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification/recertification ☐ 3 months from Issuance of Final Report ☐ 12 months or next regularly scheduled audit (surveillance or re-evaluation) ☒ Observation – response is optional ☐ Other deadline (specify):
FSC Indicator:	FSC FM US 4.4.b
Non-Conformity *(or Background/ Justification in the case of Observations)*: The ecologist representative position on the Forest Citizens Advisory Committee (CAC) recently became vacant. At the time of the audit the ecologist position remained open. This position represents conservation science representation. The management objectives found in regional and/or site-specific plans for conservation, protection, and restoration, proposed by agencies, scientists, and/or stakeholders, are addressed in the forest management plan or supporting documents.	
Corrective Action Request *(or Observation)*: This indicator requires the forest owner or manager to seek and consider input in management planning from people *who would likely be affected by management activities.* In this case, this includes the general public as represented by the CAC. The MdDNR should consider refilling this vacancy and releasing public information as to the decision making process. Should MdDNR leave this position vacant, the justification for doing so should be presented at the next annual audit.	
FME response *(including any evidence submitted)*	
SCS review	
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2019.3
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification/recertification ☐ 3 months from Issuance of Final Report ☐ 12 months or next regularly scheduled audit (surveillance or re-evaluation) ☒ Observation – response is optional ☐ Other deadline (specify):
FSC Indicator:	FSC FM US 6.3.e
Non-Conformity *(or Background/ Justification in the case of Observations)*: The current seed mix used for landings and roads has been previously chosen for it's ability to quickly germinate and establish, however the mix used has been previously approved by State Wildlife staff for food plots and elsewhere at the State level for the Erosion and Sediment Control plan process.	
Corrective Action Request *(or Observation)*: While the seed mix used on landings and roads has been previously approved by State Wildlife staff for food plots and elsewhere at the State level for the Erosion and Sediment Control plan, there is an opportunity to improve the seed mixture species and ratios to include other native species, as the current mix being applied on landings and roads, is comprised of only non-native, naturalized species.	
FME response *(including any evidence submitted)*	
SCS review	
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2019.4
Select one: ☐ **Major CAR** ☒ **Minor CAR** ☐ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification/recertification ☐ 3 months from Issuance of Final Report ☒ 12 months or next regularly scheduled audit (surveillance or re-evaluation) ☐ Observation – response is optional ☐ Other deadline (specify):
FSC Indicator:	FSC FM US 6.6.e
Non-Conformity *(or Background/ Justification in the case of Observations)*: Powerline ROWs over the SF system are typically maintained by the Power Companies, who do apply pesticides as a regular management activity. These areas have not been excised from the FMU and so management activities such as pesticide use must be reported. The quantity of pesticides used is not currently being reported to the MD DNR SF for the powerline ROW areas.	
Corrective Action Request *(or Observation)*: Reporting of the volumes of pesticide use on powerlines by the power co must be completed.	

FME response *(including any evidence submitted)*	
SCS review	
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2019.5
Select one: ☐ **Major CAR** ☒ **Minor CAR** ☐ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification/recertification ☐ 3 months from Issuance of Final Report ☒ 12 months or next regularly scheduled audit (surveillance or re-evaluation) ☐ Observation – response is optional ☐ Other deadline (specify):
FSC Indicator:	6.7.c
Non-Conformity *(or Background/ Justification in the case of Observations)*: Dozer was leaking on site onto the soil below the equipment, some oil was observed on the soil below the Skidder. Logger was not on site. No apparent safety equipment (no fire extinguishers & spill kits observed on all 3 machines on an active site), however, later forester-logger interview stated that the fire extinguishers were behind the seats of the skidder and harvester out of view. Recent BMP inspection conducted by forester noted no issues.	
Corrective Action Request *(or Observation)*: There is evidence of fluid leaks from equipment; while this did not contaminate groundwater or surface water, these leaks from equipment on unattended machinery need to be corrected in order to not cause future problems.	
FME response *(including any evidence submitted)*	
SCS review	
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2019.6
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification/recertification ☐ 3 months from Issuance of Final Report ☐ 12 months or next regularly scheduled audit (surveillance or re-evaluation) ☒ Observation – response is optional ☐ Other deadline (specify):
FSC Indicator:	8.1.a
Non-Conformity *(or Background/ Justification in the case of Observations)*: The organization currently conducts BMP monitoring with checklists. Different BMP monitoring checklists are used in the Eastern Shore and the Western SFs, one form uses an evaluation system with a ranking of 1-5 (1 = poor conformance, 5 = excellent conformance), the other form uses a "Yes/No/NA" to evaluate the Forest Harvest Operation. However, per interview and document review, the ranking criteria is not clearly defined.	
Corrective Action Request *(or Observation)*: FME should review the difference in criteria used in the West vs the Eastern Shore in efforts to help improve consistency for monitoring of BMP effectiveness.	
FME response *(including any evidence submitted)*	
SCS review	
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

4.5 Major Nonconformances

☒	No Major CARs were issued to the FME during the evaluation. Any Minor CARs from previous surveillance audits have been reviewed and closed prior to the issuance of a certificate.
☐	Major CARs were issued to the FME during the evaluation, which have all been closed to the satisfaction of the audit team and meet the requirements of the standards. Any Minor CARs from previous surveillance audits have been reviewed and closed prior to the issuance of a certificate.
☐	Major CARs were issued to the FME during the evaluation and the FME has not yet satisfactorily closed all Major CARs.

5. Certification Decision

Certification Recommendation	
FME be awarded FSC certification as a "Well-Managed Forest" subject to the minor corrective action requests stated in Section 4.2.	**Yes** ☒ **No** ☐

The SCS evaluation team makes the above recommendation for certification based on the full and proper execution of the SCS Forest Conservation Program evaluation protocols.	
Any Minor CARs from previous surveillance audits have been reviewed and closed prior to the issuance of a certificate.	**Yes** ☒ **No** ☐
No Major CARs were issued to the FME during the evaluation.	**Yes** ☒ **No** ☐
FME has demonstrated that their system of management is capable of ensuring that all of the requirements of the applicable standards (see Section 1.6 of this report) are met over the forest area covered by the scope of the evaluation.	**Yes** ☒ **No** ☐
FME has demonstrated that the described system of management is being implemented consistently over the forest area covered by the scope of the certificate.	**Yes** ☒ **No** ☐
Comments:	

SECTION B – APPENDICES (CONFIDENTIAL)

Appendix 1 – Current and Projected Annual Harvest

The sustainable rate of harvest (usually Annual Allowable Harvest or AAH where available) of commercial timber (m3 of round wood):	A summary is included in each SFMP and current harvest data is summarized in AWPs. These are all available at http://www.dnr.state.md.us/forests/mdforests.asp.
Explanation of the assumptions, methodology, and reference to the data source upon which AAH and NTFP harvest rates estimates are based:	
A summary is included in each SFMP and current harvest data is summarized in AWPs. These are all available at http://www.dnr.state.md.us/forests/mdforests.asp.	

Appendix 2 – List of FMUs Selected for Evaluation

☒ FME consists of a single FMU

☐ FME consists of multiple FMUs or is a Group

Appendix 3 – Additional Evaluation Techniques Employed

☒ None.

☐ Additional techniques employed (*describe*):

Appendix 4 - Staff and Stakeholders Consulted

List of FME Staff Consulted

Name	Title	Contact Information	Consultation method
Joe Hinson	Eastern Shore Forest Products	Joe@nnrg.com	Meeting, field
Jack Perdue	MD DNR FS	jack.perdue@maryland.gov	Meeting, field
Anne Hairston-Strang	MD DNR FS, Watershed	anne.hairston-strang@maryland.gov	Meeting, field
Kenneth Jolly	MD DNR FS, Assoc. Dir., Chief of Field Operations	Kenneth.jolly@maryland.gov	Meeting, field
Alexander Clark	MD DNR-C/PSF	Alexander.clark@maryland.gov	Meeting, field
Mike Schofield	MD DNR-C/PSF Forest Manager	Mike.schofield@maryland.gov	Meeting, field
Kevin Massey	MD DNR FS	Kevin.massey@maryland.gov	Meeting, field
George Eberling	MD DNR FS	George.eberling@maryland.gov	Meeting, field

Dan Feller	MD DNR WHS, Western Region Ecologist	Danj.feller@maryland.gov	Meeting, field
Noah Rawe	PGSF Technician	Noah.rawe@maryland.gov	Meeting, field
John Denning	MD DNR- PGSF	John.denning@maryland.gov	Meeting, field
Don VanHassent	MD DNR FS, Director/State Forester	Donald.vanhassent@maryland.gov	Meeting, field, email
Matthew Hurd	MD DNR FS	Matthew.hurd@maryland.gov	Meeting, field
Dana Limpert	MD DNR Wildlife & Heritage	Danal.limpert@maryland.gov	Meeting, field
Jennifer Selfridge	MD DNR NHP Biologist	Jennifer.selfridge@maryland.gov	Meeting, field
Jessica Massey	MD DNR FS Technician	Jennifer.massey@maryland.gov	Meeting, field
Gilbert Wagner	MD DNR FS, Burn Boss	Gilbert.wagner@maryland.gov	Meeting, field
Scott Campbell	Forest Manager, SRSF	Scott.campbell@maryland.gov	Meeting, field
Rob Feldt	MD DNR FS, Forest Resource Planning	Rob.feldt@maryland.gov	Meeting, field
Mark Beals	MD DNR FS- GRSF Forest Manager	Mark.beals@maryland.gov	Meeting, field
	MD DNR FS	Sally.cannon@maryland.gov	Meeting, field
Sally Cannon	MD Dept of Ag.	Jesse.morgan@maryland.gov	Meeting, field
Jesse Morgan	MD DNR FS-GRSF Asst Forest Manager	Rick.latshaw@maryland.gov	Meeting, field
Rick Latshaw	MD DNR-Habitat Manager	Rande.brown@maryland.gov	Meeting, field
Rande Brown	MD DNR- Western Region Manager WIDFE	Katharine.mccarthy@maryland.gov	Meeting, field
Kathy McCarthy	MD DNR Wildlife & Heritage	Denise.snyder@maryland.gov	Meeting, field
Denise Snyder	C/PSF Administrative Staff	Marian.honeczy@maryland.gov	Office
Marian Honeczy	MD DNR FS, Supervisor Urban & Community Forestry	Shenika.dyson@maryland.gov	Email, phone
Shenika Dyson	MD DNR FS, Dir. of Administrative & Fiscal Services	Noah.rawe@maryland.gov	Phone, email, meeting
Joe Fehrer	The Nature Conservancy; Conservation Interest Member, Pokemoke State Forest and Chesapeake Forest Lands Citizens Advisory Committee.	410-430-1743	Email

List of other Stakeholders Consulted*

Name	Organization	Contact Information	Consultation method	Requests Cert. Notf.
Deborah Landau	The Nature Conservancy (TNC)	dlandau@tnc.org	Phone and email	Yes
Joan Maloof, Ph.D.	Founder and Director of the Old-Growth Forest Network	joan@oldgrowthforest.net; 410-251-1800	Phone and email	Yes
Billy Singleton	Contract logger for Parker Forestry Services	bpsingleton1982@gmail.com	Field	No
Skip Jones	Parker Forestry Services	skipjones@parkerforestservices.com	Field, meeting	Yes
Stacey Esham	Parker Forestry Services	sesham@parkerforestservices.com	Field, meeting	No
John Connors	Parker Forestry Services	skipjones@parkerforestservices.com	Field, meeting	No
Tony DiPaolo	Glatfelter, CAC member	Anthony-dipaolo@glatfelter.com		No
Member of the C/PSC CAC	CAC Member	Attempted phone and email contact	Phone, email	No
Hunter User Group Member	Hunt Club Lease Member	Attempted phone and email contact	Phone, email	No
Logger	Contract logger	Attempted phone contact on multiple occasions	Phone	No

** Note: SCS may maintain additional records of stakeholder consultation activities (e.g., email notifications) in its record-keeping system. Stakeholders included in Appendix 2 have given their permission to include their name, contact details, and comments in the report. Anonymous stakeholders may have provided comments as a part of stakeholder outreach activities.*

Appendix 5 – Required Tracking

Pesticide Derogations

☒ There are no active pesticide derogations for this FME.

Progressive HCVF Assessments

☒ FME does not use partial or progressive HCVF assessments.

Note: In the case the FME is not operating in the entire management unit, it is permissible to only complete an HCVF assessment for the portion of the unit in which they are operating under special conditions. In such cases, the HCVF assessment must be extended if new areas are entered without an existing, appropriate HCVF assessment having been completed. An example includes a large forest concession where harvesting is initially limited to a smaller geographic scope.

Partial or progressive HCV must be noted in SCS tracking system for monitoring. Describe below the FME monitoring plan to ensure additional HCVF assessments are completed as necessary:

Appendix 6 – Forest Management Standard Conformance Table

C= Conformance with Criterion or Indicator
C/NC= Overall Conformance with Criterion, but there are Indicator nonconformances
NC= Nonconformance with Criterion or Indicator
NA= Not Applicable

REQUIREMENT	C/NC	COMMENT/CAR
P1 Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.		
C1.1 Forest management shall respect all national and local laws and administrative requirements.	C	
1.1.a. ***Forest*** management plans and operations demonstrate compliance with all applicable federal, state, county, municipal, and tribal laws, and ***administrative requirements*** (e.g., regulations). Violations, outstanding complaints or investigations are provided to the ***Certifying Body*** (CB) during the annual audit.	C	MD DNR has a legal department, which verifies all contracts and land acquisitions. Timber sales must be approved by the Board of Public Works. There are several other departments and external agencies that evaluate MD DNR for compliance to environmental, legal, and labor requirements. Forest managers also demonstrate knowledge of applicable laws and regulations, which they must consider when preparing management plans. MD DNR reported no new violations or complaints for 2019. Interviews with a variety of foresters, Natural Heritage biologists and ecologists, and Heritage Wildlife Biologists, and review of forest management plans and observations of management operations described elsewhere in this report confirm that this FME meets the requirements of laws and regulations, including for example those related to the protection of rare species, implementation of BMPs and SMZs. During this 2019 re-certification audit, management plan review, observations and interviews for example WR 29 Milton Barnes Stand, Furnace Tract, D18 Shilo-Apex, Potomac Bends Wildland Area, and Carrol Road Shale Barren, confirm compliance with the primary State law that governs the listing of endangered species, the Nongame and Endangered Species Conservation Act (Annotated Code of Maryland 10-2A-01) and the associated regulations

		(Code of Maryland Regulations 08.03.08). FME staff reported no violations or investigations into alleged noncompliance with legal requirements. No stakeholders interviewed alleged any noncompliance. A review of complaints records at state forest offices did not discover any either. See complaint log for the CSF & PSF: Viewed the log back to 2011, one complaint received in each 2016, 2017, 2018, & 2019. Complaints ranged from Hunt club damaging the road, to gate damaged, to deer stands and trail camera found missing from private property that is adjacent to SF land. Where needed, complaint forwarded to Mike Schofield and addressed locally. Firewood permits and guidelines were reviewed on all state forests visited in 2019. While most are similar, FME is in the process of reviewing them to ensure that their restrictions do not differ significantly between state forests. Specifically, a restriction on harvesting within riparian zones is being considered for potential benefits firewood permits and guidelines.
1.1.b. To facilitate legal compliance, the ***forest owner*** or ***manager*** ensures that employees and contractors, commensurate with their responsibilities, are duly informed about applicable laws and regulations.	C	MD DNR employees interviewed demonstrated working knowledge of applicable laws and are provided access to training certifications to cover legal requirements (e.g., certified pesticide applicator, CDL). Logging contractors interviewed were Licensed Forest Products Operators & Master Loggers. Contracts also refer to applicable laws and regulations. Foresters interviewed each held a State of MD Forester License. Foresters inspect and supervise management activities and ensure that operations comply with laws, regulations and BMPs. For example, foresters continue to require by contract that timber harvest operators meet OSHA and other logging safety requirements. Interviews with employees and timber harvest operators; these Master Loggers receive continuing education associated with laws and regulations. Review of training records for CSF, PSF, and GRSF confirms that employees and contractors received training and understand laws and regulations that apply to forest management activities including for example chemical use, best management practices, and rare species protection.

C1.2. All applicable and legally prescribed fees, royalties, taxes and other charges shall be paid.	C	
1.2.a. The forest owner or manager provides written evidence that all applicable and legally prescribed fees, royalties, taxes and other charges are being paid in a timely manner. If payment is beyond the control of the landowner or manager, then there is evidence that every attempt at payment was made.	C	Parker Forestry Services (PFS) communicated in an interview with the audit team that MD DNR makes its payments and reimbursements in a timely manner (once per month). Letters written annually to Counties of FMUs identifying monies to be paid in lieu of taxes for FY2018 were demonstrated for all Counties that receive payments. Payments are also listed w/in Annual Work Plan budget. Statements w/in CF SFMP 12.5.4 and 12.5.5, pages 109-110 re: County tax & tax ditch payments, PF SFMP 12.3.4, page 110 re: County tax payments, and GF SFMP 12.3.4, page 164 re: County tax payments. According to information provided by the Director/State Forester – MD DNR Forest Service, FME pays a percentage of all timber sale revenue to the counties in which the state forests are located. Payments for the CSF & PSF are listed w/in Annual Work Plan budget and the county payment is15% of revenues. The GRSF Annual Work Plan does not note a specific amount however in 2017, legislation was enacted that changed the process by which Counties receive payment. Per interview and email from the State Forester, the following documentation was received to clarify the current tax payment process to the Counties: *"As a result of SB 273 in the 2017 legislative session, Allegany, Garrett, Somerset, and Dorchester Counties will receive property tax payments from the Department of Natural Resources instead of Payment In-Lieu of Taxes (PILOT) payments. These payments are budgeted in the Maryland Park Service annual budget and are payable to the counties each fiscal year. The property taxes are applicable to Maryland counties with 1) at least 65,000 acres of state forest, state park or wildlife management areas or 2) at least 40,000 acres of state forest, state park or wildlife management areas AND a Real Property Tax Rate of at least $1 for each $100 of assessed value. All remaining Maryland counties will continue to receive payment-in-lieu of taxes based on Natural Resources Article §5-212."*
C1.3. In signatory countries, the provisions of all	C	

binding international agreements such as CITES, ILO Conventions, ITTA, and Convention on Biological Diversity, shall be respected.		
1.3.a. Forest management plans and operations comply with relevant provisions of all applicable binding international agreements.	C	Ginseng, which is not allowed to be harvested on MD DNR lands, is regulated by the Maryland Department of Agriculture to comply with CITES. Interviews with Management confirm the absence of known violations or legal challenges; the absence of known violations has been believed to be evidence in the past of conformance with this section of the standard. FME's management plans and supporting documents are based on state laws and regulations, many of which were ratified to comply with federal laws that require compliance to international treaties. For example, the Endangered Species Act is relevant to the Convention on Biological Diversity. The DNR-Forest has reviewed the USDA Forest Service International Programs website in reference to international laws that govern or may govern forest management on Maryland State Forests and have found that only the http://www.fs.fed.us/global/aboutus/policy/multi/bind.htm#1 They abide by the Convention on Biological Diversity through collaborative work with the DNR Natural Heritage Program (NHP), and annual work plan review and ID Teams. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was established to control the trade of endangered species. Again, their collaborative work with NHP, DNR Natural Resource Police (enforcement) and Maryland Department of Agriculture Ginseng Management Program (licensing and data collection). For example, in 2013, the DNR Secretary signed a policy the effectively eliminated ginseng harvests from all DNR lands as a result of information from NHP and licensing data from MDA.
C1.4. Conflicts between laws, regulations and the FSC Principles and Criteria shall be evaluated for the purposes of certification, on a case by case basis, by the certifiers and the involved or affected parties.	C	
1.4.a. Situations in which compliance with laws or regulations conflicts with compliance with FSC	C	No reports per interview.

Principles, Criteria or Indicators are documented and referred to the CB.		
C1.5. Forest management areas should be protected from illegal harvesting, settlement and other unauthorized activities.	C	
1.5.a. The forest owner or manager supports or implements measures intended to prevent illegal and unauthorized activities on the ***Forest Management Unit*** (FMU).	C	FME has a department of Natural Resources Police (NRP) that regularly patrol state lands to prevent and detect unauthorized activities. In addition, FME gates roads and posts signage that cites applicable laws and regulations.
1.5.b. If illegal or unauthorized activities occur, the forest owner or manager implements actions designed to curtail such activities and correct the situation to the extent possible for meeting all land management objectives with consideration of available resources.	C	FME did not report any significant illegal or unauthorized activities since the last audit. Per interviews with staff, FME's NRP prosecutes or fines violators. NRP also works with local law enforcement to deal with more complex situations involving illegal activities, such as marijuana operations. FME staff regularly clean up dump sites to avoid attraction. Interviews with staff indicate that outside of this occasional dumping, there have been no major illegal or unauthorized activities.
C1.6. Forest managers shall demonstrate a long-term commitment to adhere to the FSC Principles and Criteria.	C	
1.6.a. The forest owner or manager demonstrates a long-term commitment to adhere to the FSC Principles and Criteria and FSC and FSC-US policies, including the FSC-US Land Sales Policy, and has a publicly available statement of commitment to manage the FMU in conformance with FSC standards and policies.	C	MD DNR has been certified since 2003. In 2014, the Maryland legislature passed a law requiring the State Forest system to maintain compliance to the FSC and SFI standards.
1.6.b. If the certificate holder does not certify their entire holdings, then they document, in brief, the reasons for seeking partial certification referencing FSC-POL-20-002 (or subsequent policy revisions), the location of other managed forest units, the natural resources found on the holdings being excluded from certification, and the management activities planned for the holdings being excluded from certification.	C	See Section A of 2019 recertification report (or section 7/8 of annual audit reports) for a list of all lands outside of the scope of the certificate.
1.6.c. The forest owner or manager notifies the Certifying Body of significant changes in ownership and/or significant changes in management planning within 90 days of such change.	C	
P2 Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.		
C2.1. Clear evidence of long-term forest use rights to the land (e.g., land title, customary rights, or lease agreements) shall be demonstrated.	C	
2.1.a. The forest owner or manager provides clear	C	See Tax Maps and Deed Descriptions via

evidence of ***long-term*** rights to use and manage the FMU for the purposes described in the management plan.		MDLandRec.net (Digital Image Retrieval System for the lands of MD). Copies of deeds are maintained at each State Forest Office. The Office of Land Acquisition & Planning (LAP) / Annapolis has originals. Samples of deeds were shown for the Chesapeake, Pocomoke and Green Ridge State Forests.
2.1.b. The forest owner or manager identifies, and documents legally established use and access rights associated with the FMU that are held by other parties.	C	MD DNR legal department (Office of the Attorney General) maintains records of use and access rights, such as deeded rights-of-way. Land Acquisition and Planning (LAP) maintains original documents. GIS layers also document some of these ROW or easements.
2.1.c. Boundaries of land ownership and use rights are clearly identified on the ground and on maps prior to commencing management activities in the vicinity of the boundaries.	C	Boundaries are painted and sometimes include signs, but ROW and easements are not. FME has internal roads and ROW mapped. All property boundaries observed on the Eastern State Forests and GRST were clearly signed and/or painted. These are also visible on maps. Harvests observed in 2019 had property boundary tree painted and retention trees near property boundaries were evident.
C2.2. Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies. *Applicability Note: For the planning and management of publicly owned forests, the local community is defined as all residents and property owners of the relevant jurisdiction.*	C	
2.2.a. The forest owner or manager allows the exercise of ***tenure*** and ***use rights*** allowable by law or regulation.	C	See evidence presented in C2.1. There are hunt-leases on the Chesapeake State Forest for which contracts were demonstrated for files maintained in FME offices. All other State Forests allow public hunting and other use rights, such as plant collection, via a permit system. Signage on property boundaries indicates if public hunting is allowed. Powerline ROWs are mapped/contained in GIS and easily identifiable in the field since the power company keeps them clear.
2.2.b. In FMUs where tenure or use rights held by others exist, the forest owner or manager consults with groups that hold such rights so that management activities do not significantly impact the uses or benefits of such rights.	C	See evidence presented in C2.1. Per hunt lease requirements on Chesapeake, MD DNR maintains communications over timber sales as timber harvests are used to promote wildlife habitat.
C2.3. Appropriate mechanisms shall be employed to	C	

resolve disputes over tenure claims and use rights. The circumstances and status of any outstanding disputes will be explicitly considered in the certification evaluation. Disputes of substantial magnitude involving a significant number of interests will normally disqualify an operation from being certified.		
2.3.a. If ***disputes*** arise regarding tenure claims or use rights then the forest owner or manager initially attempts to resolve them through open communication, negotiation, and/or mediation. If these good-faith efforts fail, then federal, state, and/or local laws are employed to resolve such disputes.	C	FME staff reported no new disputes over tenure claims or use rights. No reported encroachment issues. Each state forest maintains its own records, but the land planning office may become involved in reviewing records and survey information. FME's lawyers at headquarters review boundary disputes and encroachment and take the final actions to resolve these issues. One historical tenure claim was made and the SF swapped one parcel of land for an adjacent parcel in order to resolve the issue.
2.3.b. The forest owner or manager documents any significant disputes over tenure and use rights.	C	
P3 The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.		
C3.1. Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies.	NA	There are no Federally recognized native American tribes in Maryland. However, with assistance from the Maryland Commission on Indian Affairs, one Tribal member has been placed on the SF Citizens Advisory Committee. There is no tribal forest management or ownership/ use rights on MD DNR lands.
3.1.a. Tribal forest management planning and implementation are carried out by authorized tribal representatives in accordance with tribal laws and customs and relevant federal laws.	NA	
3.1.b. The manager of a tribal forest secures, in writing, informed consent regarding forest management activities from the tribe or individual forest owner prior to commencement of those activities.	NA	
C3.2. Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.	NA	
3.2.a. During management planning, the forest owner or manager consults with American Indian groups that have legal rights or other binding agreements to the FMU to avoid harming their resources or rights.	NA	There are no tribal forest management or ownership/ use rights on FME lands. There are no sites of special tribal significance on the certified FMU. There are no tribes with legal rights or binding agreements to the FMU, as confirmed through interviews with staff and review of tenure documents under C2.1, however per email correspondence in Oct 2018, the Accohannock tribe
3.2.b. Demonstrable actions are taken so that forest management does not adversely affect tribal resources. When applicable, evidence of, and measures for, protecting tribal resources are incorporated in the	NA	

management plan.		on the eastern shore has "Maryland Indian Status" as of 2018. Routine communication with Chiefs regarding management activities and public posting of AWP's on the forest web site. FME staff reported that activities in 2018-2019 did not affect any tribal issues.
C3.3. Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognized and protected by forest managers.	NA	
3.3.a. The forest owner or manager invites consultation with tribal representatives in identifying sites of current or traditional cultural, archeological, ecological, economic or religious significance.	C (OBS)	As part of the management planning process, tribal representatives are invited to comment on the FME's planned activities. No comments have been received during the past three years, per interviews with FME staff and review of the AWPs. SCS' efforts to reach out to stakeholders prior to the audit, including emails and phone calls, yielded no comments from tribal representatives. However, initial management planning conducted during the first few year of FSC and SFI certification yielded some comments from tribal representatives that have been incorporated into management plans. Also, all state forest proposals are reviewed by the Maryland Historical Trust during the planning phase. FME staff maintains contact with the Maryland Commission on Indian Affairs (CIA) since tribal leadership changes periodically and, at times, there are conflicts between tribes over political issues according to FME staff. The forest owner or manager last had formal consultation with tribal representatives in identifying sites of current or traditional cultural, archeological, ecological, economic or religious significance approximately 5-6 years ago. Per interview, there is not a regularly scheduled interval to re-evaluate the MD DNR SF outreach efforts. Although the Chesapeake/Pocomoke Forest Citizens Advisory Committee member has been recently established (viewed email correspondence with the MD CIA in 2018), there is an opportunity to continue efforts and seek input from indigenous people, including all MD State Forest regions. See OBS **2019.1.**
3.3.b. In consultation with tribal representatives, the forest owner or manager develops measures to protect or enhance areas of special significance (see also Criterion 9.1).	NA	

		See also 3.2.a and 3.2.b.
C3.4. Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.	NA	No protected traditional knowledge is used for commercial or forest management purposes.
3.4.a. The forest owner or manager identifies whether ***traditional knowledge*** in forest management is being used.	NA	
3.4.b When traditional knowledge is used, written protocols are jointly developed prior to such use and signed by local tribes or tribal members to protect and fairly compensate them for such use.	NA	
3.4.c. The forest owner or manager respects the confidentiality of tribal traditional knowledge and assists in the protection of such knowledge.	NA	
P4 Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.		
C4.1. The communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services.	C	
4.1.a. Employee compensation and hiring practices meet or exceed the prevailing ***local*** norms within the forestry industry.	C	2017: Short-term and long-term DNR contractors are not employees of MD DNR. MD DNR employees typically are salaried with benefits such as healthcare and retirement (pension or similar programs). Employees have not reviewed compensation practices for several years in the past, however recently the SF employees have had a raise approved. See also 4.1.c.
4.1.b. Forest work is offered in ways that create high quality job opportunities for employees.	C	MD DNR leadership has been attempting to develop a career ladder for employees to avoid losing employees to private industry or other public agencies; there is no progress to date with this 3-4 year attempt. Short-term and long-term DNR contractors are not employees of MD DNR.
4.1.c. Forest workers are provided with fair wages.	C	For the Eastern Region, Parker Forestry prepares three types of harvest contracts (Lump-sum, Stumpage, and Gatewood) that each contain line items on the Fair Labor Standards Act of 1938 (which covers minimum wage, overtime pay, recordkeeping, child labor provisions, and other topics).

		http://www.law.cornell.edu/uscode/text/29/chapter-8 According to interviews with staff, DNR jobs are regionally higher paying than other jobs in the natural resource field, including those available in the private sector. The State of Maryland Human Resources (HR) department determines compensation scales for all State employees. HR maintains adherence to federal and state laws governing compensation, including salary determination (e.g., LSA of 1938). New employee wages for a particular Grade-Series can be increased (or matched), upon request, review, and approval by DBM, if the new employees previous position's wage was higher than the current proposed DNR wage, with appropriate documentation.
4.1.d. Hiring practices and conditions of employment are non-discriminatory and follow applicable federal, state and local regulations.	C	For the Eastern Region, PFS prepares three types of harvest contracts (Lump-sum, Stumpage, and Gatewood) that each contain a line item on non-discrimination/ equal opportunity polices that contractors must adhere to as a contractual requirement. For all Maryland: State of Maryland is an equal opportunity employer. The legal department reviews and recommends content for all contract templates to ensure compliance to legal requirements on non-discrimination/ EO (Item 11 in large sale contracts). Viewed SR-02-11 and SR-09-13 for contract contents. FME has OSHA postings in all state forest offices. FME also participates in the state's non-discriminatory and affirmative action programs according to interviews with SF staff and HR.
4.1.e. The forest owner or manager provides work opportunities to qualified local applicants and seeks opportunities for purchasing local goods and services of equal price and quality.	C	Qualified forest harvest contractors are petitioned to bid on local timber harvest operations. Operators must have a Forest Products Operators license and maintain Maryland Master Logger status. The State of Maryland maintains contracts for general services, such as office supplies, some of which are local. State Forests have the right to procure needed items locally if the state does not have a contract. Certain items are also procured through federal surplus, which is considered local to Maryland.

		According to interviews with FME staff, almost all are from Maryland, West Virginia or Pennsylvania. Thus, all can be considered local. FME must use the state's procurement system for contracting services and purchasing of goods, which gives preferential consideration to businesses located in Maryland.
4.1.f. Commensurate with the size and scale of operation, the forest owner or manager provides and/or supports learning opportunities to improve public understanding of forests and forest management.	C	Forest Service employees are active in outreach programs regarding forestry. MD DNR website includes reference to several educational programs on wildlife, forestry, and the outdoors. http://dnr.maryland.gov/forests/Pages/kidzone.aspx (last accessed 27 Mar 2019). Signage was observed in the field at GRSF for recreational opportunities. Educational signs are also present in the field or at field offices for public viewing. Potomac-Garret State Forest has a demonstration forest (Cradle of Forestry). According to interviews with staff, FME participates in forestry and trail tours with local heritage, woodland, and naturalist groups. At some of the trail areas, educational signage was observed. The Green Ridge forest manager is an adjunct professor at a local college and teaches several forest management courses.
4.1.g. The forest owner or manager participates in local economic development and/or civic activities, based on scale of operation and where such opportunities are available.	C	See 4.1.f for education, which is a civic activity. There is a camp for high school students interested in natural resource careers. There are two juvenile detention centers that abut state forests in Western Maryland that are occasionally provided work on state forests. Forest managers work with local economic development offices, many of which were interested in marketing certified forest products. This is an ongoing relationship in Western Maryland. Eastern Maryland maintains communication with sawmills on the Delmarva peninsula regarding supply and quality. Maryland state forests operated during the entire downturn, which allowed several mills and operators to stay in business.
C4.2. Forest management should meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families.	C	
4.2.a. The forest owner or manager meets or exceeds all applicable laws and/or regulations covering health and safety of employees and their families (also see Criterion 1.1).	C	Previous incident: A single incident with a contract logger does not qualify under DNR system. Inspection sheets recorded 2 July 2017, Wallman complex sale. Documented incident with logger,

		notified up the chain of command. DNR staff were on-site after EMS on scene to escort off-site but EMS crew had already left. Staff followed up as appropriate. Current inspection sheets have no incidents noted FME reported no other accidents or safety incidents since the last audit, and that there have been no changes to health & safety regulations or contract templates. OSHA postings were observed in all state forest offices. Per interviews with FME staff, all are aware of health and safety laws and receive regular training on the subject. Training records were provided for FME staff and staff of contractors (e.g., Parker Forestry Staff Training - April 22, 2017 thru March 3, 2019). Auditors examined personnel files maintained at C/PSF and GRSF, which contain training records such as EMS, pest, fire certification, FEMA, state forestry licenses, first aid and CPR, FEMA, wildland fire, trail design & construction, Erosion control training. Tracked for CFEs for SAF and to maintain state license issued by Department Labor License and Regulation. Auditors confirmed pesticide applicators' licenses for two qualified staff at SF offices. Review PPE, list of pesticides allowed. MSDS and labels have paper copies in storage shed. Post signs for spray areas depending on chemical, target, and amount of residential. GPS sites and Rx with maps for spray sites includes: date, herbicide, target, applicator, date.
4.2.b. The forest owner or manager and their employees and contractors demonstrate a safe work environment. Contracts or other written agreements include safety requirements.	C	Evidence of safe felling techniques were observed in the field on stumps and use of slash on skid trails. Contracts contained required safety language.
4.2.c. The forest owner or manager hires well-qualified service providers to safely implement the management plan.	C	Attachment D of timber sale contract stipulates the Logger must be a Master Logger. This clause is added to this attachment as sales are proposed. See 4.2.b for contract clauses. All loggers interviewed were licensed and had active First AID/CPR certifications. https://extension.umd.edu/masterlogger (last accessed 27 Mar 2019 Through use of a competitive bidding system and

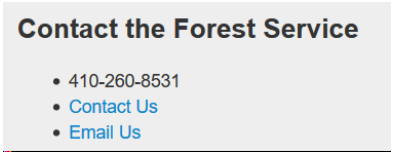
		use of strict contracts that include logger licensing and safety requirements, FME ensures that it uses qualified service providers. Evidence: contracts for all timber sales visited (first page of contract; example: Timber Sale Contract No. GR-05-17, p. 1 and CF-8-19, p. 1).
C4.3 The rights of workers to organize and voluntarily negotiate with their employers shall be guaranteed as outlined in Conventions 87 and 98 of the International Labor Organization (ILO).	C	
4.3.a. Forest workers are free to associate with other workers for the purpose of advocating for their own employment interests.	C	ILO Convention 87 applies to both public and private organizations, while Convention 98 is inapplicable to government organizations. MD DNR employees that fall under a certain classification can be unionized per state legislation. In Maryland, there are approximately 28,000 unionized state workers (Source: Maryland Department of Budget & Management – Annual Personnel Report FY 2018, Page 3.).
4.3.b. The forest owner or manager has effective and culturally sensitive mechanisms to resolve disputes between workers and management.	C	MD DNR staff maintain an open-door policy. Otherwise, complaints may be filed with Human Resources that follow a standard procedure for resolution.
C4.4. Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups (both men and women) directly affected by management operations.	C	
4.4.a. The forest owner or manager understands the likely social impacts of management activities, and incorporates this understanding into management planning and operations. Social impacts include effects on: • Archeological sites and sites of cultural, historical and community significance (on and off the FMU; • Public resources, including air, water and food (hunting, fishing, collecting); • Aesthetics; • Community goals for forest and natural resource use and protection such as employment, subsistence, recreation and health; • Community economic opportunities; • Other people who may be affected by management operations. A summary is available to the CB.	C	The Annual Work Plan and ID Team processes are robust examples of planning efforts that allow for consideration of social impacts. Evidence of conformance includes: • Sustainable Forest Management Plans include descriptions of archeological sites and sites of cultural, historical and community significance. • Forest Management Plans include descriptions of public resources, including air, water and food (hunting, fishing and collecting); the potential social impacts of hunting fishing and collecting were specifically considered and described during interviews. • Forest Management Plans include a description of aesthetics. Planning for harvests includes consideration of aesthetics; field foresters are responsible and are supported by ID Teams. The

		use of the roadside buffers and variable retention harvest prescriptions are examples of aesthetic considerations during the process of locating retention. Aesthetic considerations were incorporated for example into S49 Saltz Powell Track, CSF Complex S19 Freetown, CF-15-19, and GRSF GR-06-17 Oldtown Orleans Road. Confirmed through document review that the Policy & Procedure Manual includes for example the following section on visual quality: "In laying out forest harvest and thinning operations, particular care will be given to the need for visual quality protection. This will include location and operations of landings, decks, roads, and other areas of concentrated activity. Visual buffers will be maintained along areas where required." The field forester applies visual buffers as needed and the buffer is illustrated on the harvest plan maps. The '*Forestry Aesthetics Guide: Image and Opportunity*' is the reference publication used by staff. Multiple 50' to 100' buffers were viewed during the field visits along roadsides for visual aesthetics. • MD DNR's PR Procedures MFS and CAC Purpose Statement include community goals for forest and natural resource use and protection such as employment, subsistence, recreation and health. In addition, a 2009 multi-stakeholder partnership including MD DNR representatives, engaged the public through the use of 5 listening sessions located across the state and culminating with the Forestry Summit. Key issues, strategies and recommendations for addressing these issues were developed. A key issue (Maintaining Viable Forests and a Viable Forest Industry in Maryland) included a strategy to inventory and manage State-owned forests as sustainable working forests. https://dnr.maryland.gov/forests/Documents/sfla_report.pdf

		• Community economic opportunities are addressed in a variety of ways including the use of timber harvest contracts that vary in size and scale, in order to attract a variety of logging operators/buyers. The use of NTFP collection permits are most often issued to local residents. Harvests can be segmented into separate units so that operators/buyers can access smaller units and are able to financially able to access the sale. • Others who may be affected by management are activities are incorporated into the process in the following ways: o Maryland Historical Trust is a member of the Interdisciplinary Team that reviews each Annual Work Plans and projects. Records of Annual Work Plan comments for each State Forest are solicited and considered. o The first draft of each management plan or Annual Work Plan is reviewed including field visits by DNR's internal interdisciplinary team members and each revision is reviewed by the Citizens Advisory Committee. The revised plan is posted on the web for a 30-day review period and a public announcement is distributed to each major news outlet in the state, Patch.com and other relevant blog sites. o Reviewed edits made to the 2016 Eastern Region SF AWP; per the Wildlife and Heritage review notes that P02 Nazareth Church Tract 9 prescribed burn should not occur "before more other significant EAS sites have been burned." • Other proposed activities including for example ROW issues with neighboring landowners, ad hoc salvage harvests, road realignments, acid mine mitigation, easement requests, adventure sporting events, insect studies and building

		razing are submitted to MD DNR for review and approval by DNR staff and the Maryland Historical Trust (if the proposal includes historic or archaeological topics). MD DNR's protocol for monitoring and incorporating social impact assessment into management decisions is effective and is based on review by the ID Team and Forest Advisory Committee as confirmed through review of the 2018-19 C/PSF complaint log resolution sections. The Annual Work Plan and ID Team processes are examples of planning efforts that allow for consideration of social impacts as described in this indicator. FME most recently updated its social impacts summary in 2015. Confirmed that nothing new has been identified since that date. According to interviews with FME staff, Western State Forests have engaged in cooperative project with Frostburg State University to carry out a Recreation/Tourism Economic Impact Study, with survey work was done spring of 2017 and through the calendar year. Current documentation of this survey work has been completed and is published in the following draft October 2018 Technical Report: *Visitation and Economics of Recreation/Tourism in Western Maryland State Forests.*
4.4.b. The forest owner or manager seeks and considers input in management planning from people who would likely be affected by management activities.	C (OBS)	The following procedure is similar for both annual work plan and management plan; however, the most frequently used means of seeking and considering input on an annual basis is the Public consultation process for AWP. The first draft is made by management staff, this is reviewed along with necessary field visits by DNR's internal interdisciplinary team, the revision is reviewed by the Citizen's Advisory Committee, and then it is put on the web for 30-day review period. A public announcement is distributed to every major news outlet in the State, plus Patch.com and several relevant blog sites. Viewed samples of the internal ID feedback (from Heritage & Wildlife) and changes in the AWP that were made after internal Heritage Biologist comments were received, as well as external

		comments from stakeholders. MD DNR provided multiple years of operational work plans for review: FY 2016, 2017, 2018, 2019, and draft 2020. For example, comments regarding the FY-19 Annual Work Plan were received via e-mail, phone calls and letters, with samples reviewed by the auditors. FME reported that few comments have been received from stakeholders since the last audit on other State Forests. Most comments are received during the Annual Work Plan (AWP) review process from the Citizens Advisory Committees. SCS reviewed complaints log at C/PSF and GRSF. No reports or discovery of unresolved complaints during the 2019 audit. OBS 2019.2: The ecologist representative position on the Forest Citizens Advisory Committee (CAC) recently became vacant. At the time of the audit the ecologist position remained open. This position represents conservation science representation.
4.4.c. People who are subject to direct adverse effects of management operations are apprised of relevant activities in advance of the action so that they may express concern.	C	See 4.4.b and 4.4.d. The following procedure is similar for both annual work plan and management plan; however, the most frequently used means of seeking and considering input on an annual basis is the Public consultation process for AWP. The first draft is made by management staff, this is reviewed along with necessary field visits by DNR's internal interdisciplinary team, the revision is reviewed by the Citizen's Advisory Committee, and then it is put on the web for 30-day review period. A public announcement is distributed to every major news outlet in the State, plus Patch.com (a local online newpaper/social media source) and several relevant blog sites.
4.4.d. For ***public forests,*** consultation shall include the following components: 1. Clearly defined and accessible methods for public participation are provided in both long and short-term planning processes, including harvest plans and operational plans; 2. Public notification is sufficient to allow interested stakeholders the chance to learn of	C	See 4.4.b for a description of the AWP and SFMP process. Overall, MD DNR's Timber Operations Order (Tbr_Ops_Procedures_2013-601_v1.pdf) directs how this process is to be followed. All SFMPs state that a 30-day public review process

upcoming opportunities for public review and/or comment on the proposed management; 3. An accessible and affordable appeals process to planning decisions is available. Planning decisions incorporate the results of public consultation. All draft and final planning documents, and their supporting data, are made readily available to the public.		is required. CSF SFMP pg 2 & 106-107, PSF SFMP pg 3 & 107, GRSF SFMP pg 9-10 & 159-160.
C4.5. Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources, or livelihoods of local peoples. Measures shall be taken to avoid such loss or damage.	C	
4.5.a. The forest owner or manager does not engage in negligent activities that cause damage to other people.	C	MD DNR has not reported any incidences of negligence that has led to damage to life or limb or property rights of other people. No stakeholder comments were received regarding this topic.
4.5.b. The forest owner or manager provides a known and accessible means for interested stakeholders to voice grievances and have them resolved. If significant disputes arise related to resolving grievances and/or providing fair compensation, the forest owner or manager follows appropriate dispute resolution procedures. At a minimum, the forest owner or manager maintains open communications, responds to grievances in a timely manner, demonstrates ongoing good faith efforts to resolve the grievances, and maintains records of legal suites and claims.	C	Each SF office maintains a grievance log. Records were viewed for C/PSF and GRSF (see C8.2). Through an examination of complaints records and interviews with FME staff, it was confirmed that the FME provides a known and accessible means for stakeholders to levy complaints. FME maintains continuous access through online links to generic forms, email address and phone number at their primary landing page, http://dnr.maryland.gov/forests/Pages/default.aspx (last accessed 27 Mar 2019).  **Contact the Forest Service** • 410-260-8531 • Contact Us • Email Us A direct email address link is also provided at: https://dnr.maryland.gov/forests/Pages/mdforests.aspx Additionally, FME maintains a State Forest Grievance Policy readily accessible from the State Forest's main page, http://dnr.maryland.gov/forests/Pages/mdforests.aspx (last accessed 27 Mar 2019), noted and imbedded below:

		Have a complaint? The Maryland Department of Natural Resources Forest Service has a State Forest If you would like to file a grievance or complaint regarding the management of a State F contact the State Forest office with which you wish to file the grievance or complaint or e message here.  SFMGrievancePolicy.pdf The pdf Grievance policy is located here, http://dnr.maryland.gov/forests/Documents/SFMGrievancePolicy.pdf (last accessed 27 Mar 2019). The content of this Grievance Policy is copied below: Updated: 04/16/2012 *Each State Forest office shall keep a Grievance/Complaint Log which will be used to document any issues brought forth by the public regarding the management of thatState Forest. These records must be maintained and made available upon request by the Unit Director or their representative. The log will record, at a minimum, the following information: •Date of the grievance/complaint •DNR representative taking the information •Name of the person making the com plaint (if given) •Contact information for the person making the complaint (if given) •Specifics of the complaint •Resolution/Action taken to address the complaint and any deficiencies found in forest management*
4.5.c. Fair compensation or reasonable mitigation is provided to local people, communities or adjacent landowners for substantiated damage or loss of income caused by the landowner or manager.	C	No cause for compensation or mitigation has been reported on the part of MD DNR or stakeholders. Any compensation or mitigation would be managed by the legal department.
P5 Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.		
C5.1. Forest management should strive toward economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.	C	
5.1.a. The forest owner or manager is financially able to implement core management activities, including all those environmental, social and operating costs, required to meet this Standard, and investment and reinvestment in forest management.	C	MD DNR receives multiple funding sources, including general funds (taxes), timber sale income, and grants. The agency undergoes legislative audits in which its costs and income for its management programs are reviewed in detail. MD DNR undergoes an annual budgeting process through the State Legislature. MD DNR expanded the scope of

		its FSC/SFI certificates in 2011, thus demonstrating reinvestment in the amount of forest available for sustainable forestry marketing/ declarations. In 2016, MD DNR has received funding for its road program ($900,000) in 2016 and had several open recreational trail programs. During the 2018 & 2019 audit, DNR reports receiving budgeted amount of $300,000/year for necessary maintenance. Inspections of new road and trail construction demonstrated implementation and inspection of planned road projects demonstrated commitment to required road maintenance.
5.1.b. Responses to short-term financial factors are limited to levels that are consistent with fulfillment of this Standard.	C	MD DNR managers stated the budget continues to be stable. ORV trail maintenance is receiving some of its funding through the permits issued. Other annual fixed costs have been considered in the ORV budget.
C5.2. Forest management and marketing operations should encourage the optimal use and local processing of the forest's diversity of products.	C	
5.2.a. Where forest products are harvested or sold, opportunities for forest product sales and services are given to local harvesters, value-added processing and manufacturing facilities, guiding services, and other operations that are able to offer services at competitive rates and levels of service.	C	Timber sales are open to all local bidders. Forest managers attempt to maximize both local processing and processing to highest available value. MD DNR maintains lists of operators for both regions and ensures that they are informed of upcoming timber sales (see Bid and Opening Witness forms); local logging contractor lists). All products are processed in local mills. State Forests establish minimally acceptable bids so that in case of down markets, products are not being harvested at a loss to the state.
5.2.b. The forest owner or manager takes measures to optimize the use of harvested forest products and explores product diversification where appropriate and consistent with management objectives.	C	In the Eastern region, there are opportunities for high grade lumber, chips, sawdust, and pulp products. In the Western Region, harvested products may end up in local hardwood lumber, pulp or pallet mills. Some sales go to firewood. Local mills may conduct additional marketing of higher-grade logs for veneer markets once they have acquired legal possession.
5.2.c. On public lands where forest products are harvested and sold, some sales of forest products or contracts are scaled or structured to allow small business to bid competitively.	C	Firewood contracts are frequently done in the Western Region so that small operations can take advantage of local firewood markets. MD DNR also has small-sale contracts that allow small business have the opportunity to competitively bid on projects. An example of this in the Western Region is a block sale, in which payments are allowed to be

		broken down into a multiple-payment schedule. This allows smaller operators to competitively bid and make smaller payments as income is received. Sample of firewood contracts reviewed.
C5.3. Forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources.	C	
5.3.a. Management practices are employed to minimize the loss and/or waste of harvested forest products.	C	In the Eastern Region, equipment is selected (e.g., processors, feller-bunchers) that allows for greater utilization of the lower portion of sawlogs. In the Western Region, salvage harvests were conducted in due time as to capture the value of severely damaged trees. In all cases, logs are transported prior to any chances for rotting or other damage to occur.
5.3.b. Harvest practices are managed to protect residual trees and other forest resources, including: • soil compaction, ***rutting*** and erosion are minimized; • residual trees are not significantly damaged to the extent that health, growth, or values are noticeably affected; • damage to NTFPs is minimized during management activities; and • techniques and equipment that minimize impacts to vegetation, soil, and water are used whenever feasible.	C	In the Eastern and Western Regions, sites had limited residual damage. No other significant damage for forest resources described in this indicator was detected in the 2019 audit. Rutting Guidelines For Forest Operations and Forest Stand Retention For Forest Operations on Maryland State Forests are in place and enforced. Discussion of the differing rutting guidelines for different prescriptions: Thinning rutting guidelines note excessive rutting is 8" for 5% of the corridor and Final Harvest excessive rutting is 12" for 50' continuous.
C5.4. Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product.	C	
5.4.a. The forest owner or manager demonstrates knowledge of their operation's effect on the local economy as it relates to existing and potential markets for a wide variety of timber and non-timber forest products and services.	C	The state forests offer a diverse opportunity for harvesting forest products including herbs (unless listed as a protected or prohibited species), firewood, etc. Hunting, fishing, hiking, and other recreational activities on the State Forests attract user groups to local businesses, as reported by several MD DNR employees interviewed. State Forest managers maintain knowledge of local markets for forest products.

		The Maryland Forest Service is working to improve markets for forest products, particularly markets related to bioenergy.
5.4.b The forest owner or manager strives to diversify the economic use of the forest according to Indicator 5.4.a.	C	In response to recreational user groups, such as mountain bikers (Eastern) or ORV enthusiasts (Western), MD DNR has expanded or established trail networks. Examined during the 2019 audit was a new trail established in response to recreational demands (see below). These user groups are likely to use local businesses for lodging, food, fuel, and other needs. New trails added to the Furnace loops, in the past year as part of a federal rec trail grant from the Fed MD dept of Transportation. Marked signage viewed. Viewed awarding paperwork for the grant dated April 27, 2018.
C5.5. Forest management operations shall recognize, maintain, and, where appropriate, enhance the value of forest services and resources such as watersheds and fisheries.	C	
5.5.a. In developing and implementing activities on the FMU, the forest owner or manager identifies, defines and implements appropriate measures for maintaining and/or enhancing forest services and resources that serve public values, including municipal watersheds, fisheries, carbon storage and sequestration, recreation and tourism.	C	See content of Sustainable Forest Management Plan, and AWP ID Team & CAC review process. The zoning system within each State Forest includes water management areas for water quality and fisheries. Certain timber harvests are conducted for game species (e.g. ruffed grouse). Recreation, watersheds, hunting, and fishing are addressed in the SFMP and AWPs. Carbon storage and sequestration are not explicitly addressed in the management plan, but longer rotations (Eastern Region) and establishment of protected areas (Western Region) are compatible with this. Additionally, each state forest's SFMP addresses likely scenarios for forest types and management responses to climate change. Actions implemented in the field are consistent with maintaining and enhancing all of the associated forest services discussed in the indicator. The 5 ecosystem services categories are specifically referenced in the SFMPs.
5.5.b The forest owner or manager uses the information from Indicator 5.5.a to implement appropriate measures for maintaining and/or enhancing these services and resources.	C	See 5.5.a. Timber harvests have riparian and protected areas delineated prior to implementation; the increase in non-managed area in the Western Region is consistent with greater carbon sequestration and watershed protection.
C5.6. The rate of harvest of forest products shall not	C	

exceed levels which can be permanently sustained.		
5.6.a. In FMUs where products are being harvested, the landowner or manager calculates the sustained yield harvest level for each sustained yield planning unit, and provides clear rationale for determining the size and layout of the planning unit. The sustained yield harvest level calculation is documented in the Management Plan. The sustained yield harvest level calculation for each planning unit is based on: • documented growth rates for particular sites, and/or acreage of forest types, age-classes and species distributions; • mortality and decay and other factors that affect net growth; • areas reserved from harvest or subject to harvest restrictions to meet other management goals; • silvicultural practices that will be employed on the FMU; • management objectives and desired future conditions. The calculation is made by considering the effects of repeated prescribed harvests on the product/species and its ecosystem, as well as planned management treatments and projections of subsequent regrowth beyond single rotation and multiple re-entries.	C	FME calculates the AAH for each State Forest in the scope. See SFMP Chapter 5, Appendix H and CFI Summary for each State Forest. MD DNR uses Remsoft's Woodstock program to analyze forest inventory data to project sustainable harvest levels based on allowed silvicultural systems. Harvest rates are based on area control rather than volume control at this point in time. For example, the Green Ridge SFMP includes a description of the maximum number of acres that may be treated with variable retention harvests. Appendix H includes a description of the assumptions behind the growth and yield modeling, including the elements of the indicator. Summaries of projected growth and allowable harvests based on growth rates, mortality, disease, etc. are included in Appendix H. In 2017, FME recently completed updated modelling for the Eastern Region using forest inventory data and site indexes modeled using REMSOFT's software. The model considers growth rates, site quality, current age/ size class, species composition, management zone, operability, management constraints such as FIDS, ESAs and DFS, silvicultural practices, and objectives. https://dnr.maryland.gov/forests/Pages/frp.aspx Small changes were made to the SFMP with the revisions to the forest inventory data.
5.6.b. Average annual harvest levels, over rolling periods of no more than 10 years, do not exceed the calculated sustained yield harvest level.	C	Each State Forest maintains an annual work plan summary to compare actual acres harvested versus projected (e.g., http://dnr.maryland.gov/forests/Pages/workplans.aspx). Harvest levels on an area control basis remain well below what is allowed per the Woodstock model. Each State Forest also prepares quarterly harvest reports, which were reviewed during the audit. Timber Harvest Summaries (PDF) for CF-PSF, GRSF, PGSF, and SRSF were inspected and included data *by Fiscal Year* for *Harvest Bd. Ft Vol.* and *Harvested Gross Value of sale*.

		Refer also to 2 of the quarterly reports reviewed:  SRSF Quarterly Timber Reports Marc  SF Quarterly Report GRSF FY18-19 2019-(
5.6.c. Rates and methods of timber harvest lead to achieving desired conditions, and improve or maintain health and quality across the FMU. Overstocked stands and stands that have been depleted or rendered to be below productive potential due to natural events, past management, or lack of management, are returned to desired stocking levels and composition at the earliest practicable time as justified in management objectives.	C	AWP planning is done by the Forest Manager and staff. Notes on future management activities, such as silvicultural treatments or TSI, are incorporated into the forest GIS.
5.6.d. For NTFPs, calculation of quantitative sustained yield harvest levels is required only in cases where products are harvested in significant commercial operations or where traditional or customary use rights may be impacted by such harvests. In other situations, the forest owner or manager utilizes available information, and new information that can be reasonably gathered, to set harvesting levels that will not result in a depletion of the non-timber growing stocks or other adverse effects to the forest ecosystem.	NA	There are no significant harvests of NTFPs on the FMU, as confirmed in field visits and interviews with FME staff. Hunt leases are used only on the Chesapeake State Forest. The meat acquired is not commercially sold and is not commercially substantial.
P6 Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.		
C6.1. Assessments of environmental impacts shall be completed -- appropriate to the scale, intensity of forest management and the uniqueness of the affected resources -- and adequately integrated into management systems. Assessments shall include landscape level considerations as well as the impacts of on-site processing facilities. Environmental impacts shall be assessed prior to commencement of site-disturbing operations.	C	
6.1.a. Using the results of ***credible scientific analysis, best available information*** (including relevant databases), and local knowledge and experience, an assessment of conditions on the FMU is completed and includes: 1) Forest community types and development, size class and/or successional stages, and associated ***natural disturbance regimes***; 2) ***Rare, Threatened and Endangered (RTE) species*** and ***rare ecological communities*** (including plant communities); 3) Other habitats and species of management	C	These subject areas are addressed in the SFMPs and AWPs for each state forest or region. Specifically, each SFMP discusses current stand conditions and disturbance regimes that have led to current conditions. RTE species and communities are also addressed; however, MD DNR also uses recovery plans. Special habitats discussed in SFMPs include riparian corridors. Water and soil resources are discussed in detail in SFMPs. An overview of land use history that has shaped the landscapes of the Eastern and Western Regions is included in each SFMP.

concern; 4) Water resources and associated riparian habitats and hydrologic functions; 5) ***Soil resources***; and 6) ***Historic conditions*** on the FMU related to forest community types and development, size class and/or successional stages, and a broad comparison of historic and current conditions.		
6.1.b. Prior to commencing site-disturbing activities, the forest owner or manager assesses and documents the potential short and long-term impacts of planned management activities on elements 1-5 listed in Criterion 6.1.a. The assessment must incorporate the ***best available information***, drawing from scientific literature and experts. The impact assessment will at minimum include identifying resources that may be impacted by management (e.g., streams, habitats of management concern, soil nutrients). Additional detail (i.e., detailed description or quantification of impacts) will vary depending on the uniqueness of the resource, potential risks, and steps that will be taken to avoid and minimize risks.	C	The Annual Work Plans (AWPs) and the associated Citizen Advisory Committee (CAC) reviews serve as a document assessment of resources identified in 6.1.a and how these could be affected. In addition, the AWPs are subject to public review during which any citizen can make comments on how planned activities may affect resources of 6.1.a. MD DNR's assessments draw from experts on the CACs, scientific literature, and assessment methods carried out by qualified/trained MD DNR staff. Observation 2019.1 was issued against criterion 3.3 and 4.4.b with respect to indigenous representation on the CAC, and the recent vacancy for a science based ecologist for the Eastern District.
6.1.c. Using the findings of the impact assessment (Indicator 6.1.b), management approaches and field prescriptions are developed and implemented that: 1) avoid or minimize negative short-term and long-term impacts; and, 2) maintain and/or enhance the long-term ecological viability of the forest.	C	The AWPs include descriptions of prescriptions and measures to avoid or minimize negative impacts. Certain prescriptions, such as road and trail maintenance, are intended to ensure that damaged BMPs are repaired so that impacts to soil and water resources are mitigated. Harvest prescriptions are based on the reproductive ecology of the tree species on site and natural disturbance regimes. Additionally, grants are applied for to study the effects of climate change on hydrology (higher rainfall) and how best to manage road infrastructure.
6.1.d. On public lands, assessments developed in Indicator 6.1.a and management approaches developed in Indicator 6.1.c are made available to the public in draft form for review and comment prior to finalization. Final assessments are also made available.	C	SFMPs and AWPs are subject to public review in draft form prior to finalization as described in 4.4.d.
C 6.2. Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping, and collecting	C	

shall be controlled.		
6.2.a. If there is a likely presence of RTE species as identified in Indicator 6.1.a then either a field survey to verify the species' presence or absence is conducted prior to site-disturbing management activities, or management occurs with the assumption that potential RTE species are present. Surveys are conducted by biologists with the appropriate expertise in the species of interest and with appropriate qualifications to conduct the surveys. If a species is determined to be present, its location should be reported to the manager of the appropriate database.	C	Wildlife and Heritage biologists are important members of the Interdisciplinary Team (IDT) review process for each of the state forests. They provide critical information important to the ultimate management decisions made by the State Forest managers and their annual work plans. Rare, threatened and endangered species are recorded in the Heritage database. Heritage biologists are involved in planning, review and approval for each management prescription and sometimes working directly with the manager in the final boundaries established for a forest harvest to ensure the species of concern and their habitat are properly protected. RTE species protection and management are included in the Forest Management Plan, AWP Forest Harvest Proposal, and GIS. Each AWP silvicultural proposal has a defined "Description/Resource Impact Assessment" which includes information for: Location, Forest Community Type and Condition, Interfering Elements, Historic Conditions, Rare/Threatened/Endangered Species and Habitats, Species of Management Concern, Water Resources, Recreation Resources and Soil Resources. Monitoring efforts follow each management activity that could affect RTE species or their habitats including monitoring of the effects of restoration treatments. During 2019 the Interdisciplinary team provided comments on 2 stands containing Mature Hardwood Mixed Forest, based on the age. Both stands were additionally visited by members of the CAC, and the 2019 audit team. The aim in both of these stands was the remove the Loblolly overstory species and promote Pond pine amongst the hardwood mix. The restoration of these stands were outlined as future core habitat for the Delmarva Fox Squirrel.
6.2.b. When RTE species are present or assumed to be present, modifications in management are made in order to maintain, restore or enhance the extent, quality and viability of the species and their habitats. ***Conservation zones*** and/or ***protected areas*** are established for RTE species, including those S3 species that are considered rare, where they are necessary to maintain or improve the short and long-term viability of the species. Conservation measures are based on	C	2019: Statewide Maryland DNR have listed species of concern. For example, in SRSF the following have been listed: 9 Mammals – 6 in need of conservation (I), 3 endangered (E) 5 Birds – 1 (E), 2 (I), and 2 threatened (T) 2 Amphibians – 1 (I), 1(E) 9 Insects – 4 (E), 1 (T) and 3 (I)

relevant science, guidelines and/or consultation with relevant, independent experts as necessary to achieve the conservation goal of the Indicator.		1 Mollusk – In need of conservation 1 Crustacean – In need of conservation. RTE species are protected through a network of Ecologically Significant Areas (ESAs) located within each of the State Forests. ESAs are described in Chapter 4.3 and Chapter 7.2.1 of each property's management plan. Sites containing rare plant and/or animal communities have been identified and are managed for their unique attributes. The number and extent of ESAs is evidence of a well-established RTE protection program. Individual Annual Work Plans (AWPs) and the management recommendations for each state forest; all conservation zones and/or protected areas are shown on each project map. - Forest harvests have occurred in areas that are potential habitats for RTE species. All harvests must go through the annual work plan process. Heritage assists the FME during planning and implementation to ensure that the goals that they have for target species are met. Each year FME includes a location reporting form and information fact sheet along with its standard hunting harvest report forms to each of the local hunt clubs regarding Delmarva Fox Squirrel on the Maryland short. Any forms that FME receives back are sent to US Fish & Wildlife, DNR Wildlife & Heritage, and kept on file at FME offices.
6.2.c. For medium and large public forests (e.g. state forests), forest management plans and operations are designed to meet species' recovery goals, as well as landscape level biodiversity conservation goals.	C	The requirements of this section of the standard are primarily accomplished through the ID team process described in detail elsewhere in this report. Harvest operations and restoration projects are reviewed by Heritage members of the ID team. Restoration projects for specific sites are listed within each Annual Work Plan. Evidence of conformance: Restoration site for the Frosted Elphin Butterfly. This species is designated as endangered on a state level and will potentially be listed federally. The restoration site is a 5-acre research plot and the DNR is looking at other restoration areas within the 1000 acre region.

6.2.d. Within the capacity of the forest owner or manager, hunting, fishing, trapping, collecting and other activities are controlled to avoid the risk of impacts to vulnerable species and communities (See Criterion 1.5).	C	MD DNR relies primarily on the Natural Resource Police for control of hunting, fishing, trapping, collecting and other impacts to RT&E species. Interviews with MD DNR staff. On PGSF, illegal collection/hunting of rattlesnakes occurred in the past and the MD DNR ID team proposed a seasonal road closure and a gate has been installed. 2019: FME staff reported that there have been no cases of harvest or take of RTE species or significant damage to vulnerable species and communities on the FMU. Refer to AWPs and the management recommendations as all ESAs are shown per project maps. See also information presented in 6.2.b on hunting of game species (e.g., deer) within Delmarva Fox Squirrel habitat.
C6.3. Ecological functions and values shall be maintained intact, enhanced, or restored, including: a) Forest regeneration and succession. b) Genetic, species, and ecosystem diversity. c) Natural cycles that affect the productivity of the forest ecosystem.	C	
6.3.a.1. The forest owner or manager maintains, enhances, and/or restores under-represented ***successional*** stages in the FMU that would naturally occur on the types of sites found on the FMU. Where old growth of different community types that would naturally occur on the forest are under-represented in the landscape relative to natural conditions, a portion of the forest is managed to enhance and/or restore old growth characteristics.	C	FME reported the following: • GRSF — Early succession stages are most under-represented on this state forest, so regeneration harvests do the most to maintain young forests. • SRSF — The seedling/sapling succession stage of our hardwood forests could be considered underrepresented. As such, management work planned within the Annual Work Plans is generally focused on regeneration of hardwood forests and enhancing this stage of forest growth. Early successional habitat including grass and shrub dominated acreage is also underrepresented across the forest landscape. Cooperative efforts with the Wildlife Division of DNR will maintain over 150 acres of recent land acquisitions in this habitat. Further acquisitions composed of this habitat type are in review and may potentially broaden the occurrence of this habitat niche on the forest. • PGSF — See PGSF FY-17 AWP for VII. Watershed Protection Comp 19 Lostland Run HWA Mitigation /Red Spruce Planting small (1acre.

		annual) Native Red Spruce planting. Long standing Hemlock Protection Program with MDA; involving IPA approach to hemlock protection/preservation in important stands. • CF/PSF - Prescribed fire has been used to maintain open and early successional areas on the FMU (i.e. Brookview ponds, Powell Rd ESA, Furnace lupine site, etc.) • GRSF - Prescribed fire has been used to maintain open and early successional areas on the FMU (i.e. Foster tract ESA)
6.3.a.2. When a ***rare ecological community*** is present, modifications are made in both the management plan and its implementation in order to maintain, restore or enhance the viability of the community. Based on the vulnerability of the existing community, ***conservation zones*** and/or ***protected areas*** are established where warranted.	C	FME demonstrates efforts to identify rare ecological communities for protection, management and/or restoration. During harvests visited in 2019, ESAs and other protected areas were noted on maps when adjacent or within timber sale boundaries. Critical habitats have been mapped for state listed or uncommon species, shale barrens communities, old growth and potential old growth, vernal pools and unique open habitats in state forest management plans. In most cases, these areas are not entered with equipment. Per interviews with staff, for early successional habitat that is not well-represented on the landscape, FME is attempting to coordinate more opportunities to combine timber sale and prescribed fire layout to reduce costs.
6.3.a.3. When they are present, management maintains the area, structure, composition, and processes of all ***Type 1*** and ***Type 2 old growth***. Type 1 and 2 old growth are also protected and buffered as necessary with conservation zones, unless an alternative plan is developed that provides greater overall protection of old growth values. Type 1 Old Growth is protected from harvesting and road construction. Type 1 old growth is also protected from other timber management activities, except as needed to maintain the ecological values associated with the stand, including old growth attributes (e.g., remove exotic species, conduct controlled burning, and thinning from below in dry forest types when and where restoration is appropriate). Type 2 Old Growth is protected from harvesting to the extent necessary to maintain the area, structures, and	C	FME staff reported that there have been no harvests or other activities that have significantly affected old growth stands.

functions of the stand. Timber harvest in Type 2 old growth must maintain old growth structures, functions, and components including individual trees that function as refugia (see Indicator 6.3.g). On public lands, old growth is protected from harvesting, as well as from other timber management activities, except if needed to maintain the values associated with the stand (e.g., remove exotic species, conduct controlled burning, and thinning from below in forest types when and where restoration is appropriate). On American Indian lands, timber harvest may be permitted in Type 1 and Type 2 old growth in recognition of their sovereignty and unique ownership. Timber harvest is permitted in situations where: 1. Old growth forests comprise a significant portion of the tribal ownership. 2. A history of forest stewardship by the tribe exists. 3. High Conservation Value Forest attributes are maintained. 4. Old-growth structures are maintained. 5. Conservation zones representative of old growth stands are established. 6. Landscape level considerations are addressed. 7. Rare species are protected.		
6.3.b. To the extent feasible within the size of the ownership, particularly on larger ownerships (generally tens of thousands or more acres), management maintains, enhances, or restores habitat conditions suitable for well-distributed populations of animal species that are characteristic of forest ecosystems within the landscape.	C	The AWPs for each state forests contains as one its primary objectives toward Wildlife Habitat: management activities with a purpose to maintain and enhance the ecological needs of the diversity of wildlife species and habitat types. Both the PGSF and SRSF detail the Wildlife Habitat Protection and Management within Chapter 8. • SRSF — State endangered Tiger beetles were documented near the recently completed St Johns Rock ORV trail. Part of this trail was re-routed to limit any effects on the population. • PGSF — Installation of bat boxes for the Indiana Bat.
6.3.c. Management maintains, enhances and/or restores the plant and wildlife habitat of ***Riparian Management Zones (RMZs)*** to provide: a) habitat for aquatic species that breed in surrounding uplands; b) habitat for predominantly terrestrial species that breed in adjacent ***aquatic habitats***; c) habitat for species that use riparian areas for feeding, cover, and travel;	C	Watershed protection/improvement is addressed throughout each of the state forests AWPs through forest harvest planning and review to implementation and including specific projects to improve and protect water resources.

d) habitat for plant species associated with riparian areas; and, e) stream shading and inputs of wood and leaf litter into the adjacent aquatic ecosystem.		
Stand-scale Indicators 6.3.d Management practices maintain or enhance plant species composition, distribution and frequency of occurrence similar to those that would naturally occur on the site.	C	Within the eastern region, an abundance of loblolly pine exists and management practices (e.g., retain and release oaks) are designed to decrease the relative abundance of loblolly over time and increase the presence of other native species as confirmed through observations at Pocomoke State Forest P-20-S-01/02. As confirmed in field site visits, all harvests in the Western Region include retention of oak and larger diameter legacy pine trees. Some harvests include pine seed trees of species that occur naturally on the site, especially in the case of pond, pitch, and short-leaf pines. Other hardwoods, such as maples, poplars, and gums, are mostly retained in no-harvest zones and SMZs, as well as within production areas during thinnings. Bald cypress was observed in SMZs, which are typical sites for this species. Recent landscape analyses have provided support for continued efforts to retaining conifers for tree and wildlife habitat diversity.
6.3.e. When planting is required, a local source of known provenance is used when available and when the local source is equivalent in terms of quality, price and productivity. The use of non-local sources shall be justified, such as in situations where other management objectives (e.g. disease resistance or adapting to climate change) are best served by non-local sources. ***Native species*** suited to the site are normally selected for regeneration.	C (OBS)	Seed mixes are determined by MD Department of Wildlife and addressed in timber harvest contracts (Attachment E; medium red clover, ladino clover, orchard grass, perennial rye grass, and timothy grass). Observation 2019.3 - While the seed mix used on landings and roads has been previously approved by State Wildlife staff for food plots and elsewhere at the State level for the Erosion and Sediment Control plan, there is an opportunity to improve the seed mixture species and ratios to include other native species, as the current mix being applied on landings and roads, is comprised of only non-native, naturalized species.
6.3.f. Management maintains, enhances, or restores habitat components and associated stand structures, in abundance and distribution that could be expected from naturally occurring processes. These components include: a) large live trees, live trees with decay or declining health, ***snags***, and well-distributed coarse down and dead woody material. ***Legacy trees*** where present are	C	MD DNR implemented its Conformance to this policy is monitored by DNR management staff during the Internal Silvicultural Audits These audits are completed by the ID Team during each annual work plan review. The ISA team routinely includes the Regional Forester, Forest Manager & staff, Forest Resource Planning Program Manager and contractors.

not harvested; and b) vertical and horizontal complexity. Trees selected for ***retention*** are generally representative of the dominant species found on the site.		The audit team observed consistent implementation of MD DNR's retention policy including: For example, Marumsco Tract 11 – Chesapeake Forest. The final harvest area was 23.6 acres with 2.9 acres of green tree retention. As confirmed in field site visits, all harvests in the Western Region include retention of oak and larger diameter legacy pine trees. Some harvests include pine seed trees of species that occur natural on the site, especially in the case of pond, pitch, and short-leaf pines. Other hardwoods, such as maples and gums, are mostly retained in no-harvest zones and SMZs. Snags were observed on several harvests with harvest areas and in no-harvest zones. Woody material is retained for use on skid trails to control erosion and compaction and distributed over harvest sites. All tree species selected for retention are of dominant species of the site.
6.3.g.1 In the Southeast, Appalachia, Ozark-Ouachita, Mississippi Alluvial Valley, and Pacific Coast Regions, when ***even-aged systems*** are employed, and during salvage harvests, live trees and other native vegetation are retained within the harvest unit as described in Appendix C for the applicable region. In the Lake States Northeast, Rocky Mountain and Southwest Regions, when even-aged silvicultural systems are employed, and during salvage harvests, live trees and other native vegetation are retained within the harvest unit in a proportion and configuration that is consistent with the characteristic natural disturbance regime unless retention at a lower level is necessary for the purposes of restoration or rehabilitation. See Appendix C for additional regional requirements and guidance.	C	The FME adheres to their internal policy regarding variable retention whereby any harvest for areas greater than 20 acres shall have 5% green tree retention component. FME reported the following even-aged harvests: • CSF - All even-aged regeneration harvests carried out this year were completed under principles of variable retention (Green Tree Retention). 51 acres retention over 436 acres harvest area. • PSF – 18 acres retention over 162 acres harvested.
6.3.g.2 Under very limited situations, the landowner or manager has the option to develop a qualified plan to allow minor departure from the opening size limits described in Indicator 6.3.g.1. A qualified plan: 1. Is developed by qualified experts in ecological and/or related fields (wildlife biology, hydrology, landscape ecology, forestry/silviculture). 2. Is based on the totality of the ***best available information*** including peer-reviewed science regarding natural disturbance regimes for the FMU.	C	No exemptions to even-aged management restrictions associated with indicator 6.3.g.1 and its applicable regional sub-indicators were detected during field visits or review of management planning documentation.

3. Is spatially and temporally explicit and includes maps of proposed openings or areas. 4. Demonstrates that the variations will result in equal or greater benefit to wildlife, water quality, and other values compared to the normal opening size limits, including for sensitive and rare species. 5. Is reviewed by independent experts in wildlife biology, hydrology, and landscape ecology, to confirm the preceding findings.		
6.3.h. The forest owner or manager assesses the risk of, prioritizes, and, as warranted, develops and implements a strategy to prevent or control ***invasive species***, including: 1. a method to determine the extent of invasive species and the degree of threat to native species and ecosystems; 2. implementation of management practices that minimize the risk of invasive establishment, growth, and spread; 3. eradication or control of established invasive populations when feasible: and, 4. monitoring of control measures and management practices to assess their effectiveness in preventing or controlling invasive species.	C	FME reported the following: The 2019 Pesticide Use Report noted several projects that were directed at controlling invasive plant species including callery pear, Japanese knotweed, ailanthus and mile-a-minute. • GRSF — Ailanthus was treated in stands prior to harvest in stands that it was known to exist, and ailanthus was treated in special wildlife habitat areas. Furthermore, mowing occurred in old field areas where invasive shrubs exist to prevent establishment of these shrubs such as bush honeysuckle, autumn olive and multi-flora rose. • CF/PSF — Mapping updates of known and new invasive locations, herbicide applications on high recreation use areas to slow the spread of invasive vegetation. Applications are recorded both electronically and hard copy using forms filled out by applicators.
6.3.i. In applicable situations, the forest owner or manager identifies and applies site-specific fuels management practices, based on: (1) natural fire regimes, (2) risk of wildfire, (3) potential economic losses, (4) public safety, and (5) applicable laws and regulations.	C	2019: FME reported the following: • GRSF — No prescribed fire in past year. • SRSF — No prescribed fire in past year. • PGSF — No prescribed fire in past year. • CF/PSF — Multiple prescribed burns have been completed on various sites. Prescribed burn at research site Furnace Tract, and Foster Tract.
C6.4. Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.	C	
6.4.a. The forest owner or manager documents the ecosystems that would naturally exist on the FMU, and assesses the adequacy of their representation and protection in the ***landscape*** (see Criterion 7.1). The assessment for medium and large forests include some or all of the following: a) ***GAP analyses***; b) collaboration	C	The Representative Sample Area (RSA) exercise is complete as confirmed by GIS review, interviews and management plan review and review of "*Methodology for Locating Representative Sample Areas (RSA) for Naturally Occurring Ecosystems within the Region of Maryland State Forests".* This

with state natural heritage programs and other public agencies; c) regional, landscape, and watershed planning efforts; d) collaboration with universities and/or local conservation groups. For an area that is not located on the FMU to qualify as a Representative Sample Area (RSA), it should be under permanent protection in its natural state.		methodology was developed in cooperation with MD DNR Natural Heritage Program. This GAP analysis is based on the spatial analysis of the surrounding. Ecosystem data is complete as confirmed through interviews and data review. MD DNR met with Natural Heritage and identified the presence/absence/adequacy of types in surrounding landscape as well as within State Forests.
6.4.b. Where existing areas within the landscape, but external to the FMU, are not of adequate protection, size, and configuration to serve as representative samples of existing ecosystems, forest owners or managers, whose properties are conducive to the establishment of such areas, designate ecologically viable RSAs to serve these purposes. Large FMUs are generally expected to establish RSAs of purpose 2 and 3 within the FMU.	C	RSAs have been established to protect purpose 2 (RTE and rare communities) and purpose 3 (other habitats and species of management concern) and are most often also described by the FME's Ecologically Significant Areas (ESAs). See also section 6.1.a. (1) and 6.1.a. (2).
6.4.c. Management activities within RSAs are limited to low impact activities compatible with the protected RSA objectives, except under the following circumstances: a) harvesting activities only where they are necessary to restore or create conditions to meet the objectives of the protected RSA, or to mitigate conditions that interfere with achieving the RSA objectives; or b) road-building only where it is documented that it will contribute to minimizing the overall environmental impacts within the FMU and will not jeopardize the purpose for which the RSA was designated.	C	RSAs are protected from routine timber management thus serving their intended purpose as a control as confirmed through interviews, observations and management plan review.
6.4.d. The RSA assessment (Indicator 6.4.a) shall be periodically reviewed and if necessary updated (at a minimum every 10 years) in order to determine if the need for RSAs has changed; the designation of RSAs (Indicator 6.4.b) is revised accordingly.	C	This indicator will be assessed by MD DNR in 2022 (i.e. 10 years after the completion of the original 2012 RSA assessment.
6.4.e. Managers of large, contiguous public forests establish and maintain a network of representative protected areas sufficient in size to maintain species dependent on interior core habitats.	C	As confirmed through management plan review, this is accomplished through the establishment of management zones that include the following: ESA's, Wildlands, HCVFs, FIDS habitat, Old Growth Management Complex.
C6.5. Written guidelines shall be prepared and implemented to control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and to protect water resources.	C	

6.5.a. The forest owner or manager has written guidelines outlining conformance with the Indicators of this Criterion.	C	BMP checklists are filled out prior to each planned management activity. Forest Management Plans and state storm water design manual serve as general guidelines. Certain state forests, such as those in the Western Region, have their own BMP manual adapted to regional conditions.
6.5.b. Forest operations meet or exceed Best Management Practices (BMPs) that address components of the Criterion where the operation takes place.	C	FORESTRY BEST MANAGEMENT PRACTICES IN MARYLAND: Implementation and Effectiveness for Protection of Water Resources http://www.na.fs.fed.us/watershed/pubs/bmp/09_md_bmp_report.pdf
6.5.c. Management activities including site preparation, harvest prescriptions, techniques, timing, and equipment are selected and used to protect soil and water resources and to avoid erosion, landslides, and significant soil disturbance. Logging and other activities that significantly increase the risk of landslides are excluded in areas where risk of landslides is high. The following actions are addressed: • Slash is concentrated only as much as necessary to achieve the goals of site preparation and the reduction of fuels to moderate or low levels of fire hazard. • Disturbance of topsoil is limited to the minimum necessary to achieve successful regeneration of species native to the site. • Rutting and compaction is minimized. • Soil erosion is not accelerated. • Burning is only done when consistent with natural disturbance regimes. • Natural ground cover disturbance is minimized to the extent necessary to achieve regeneration objectives. • Whole tree harvesting on any site over multiple rotations is only done when research indicates soil productivity will not be harmed. • Low impact equipment and technologies is used where appropriate.	C	MD DNR's BMP guidelines are implemented to protect soil and water resources during management activities. During site visits in 2019, for both the Western and Eastern Regions, slash was dispersed relatively evenly over harvest sites due to removal of tops immediately after felling. Options for slash control include use of slash to meet BMPs, crushing, natural decay, and prescribed fire. No excessive topsoil disturbance was observed on harvest sites visited. Areas of disturbed topsoil observed were not draining into water courses and are for the purposes of regeneration. Rutting in the Eastern Region was within established limits set by BMP standards and was limited to principal skid trails. Several situations were observed whereby contractors were moved from harvest site due to high rainfall year. No excessive rutting was observed in the Western Region. BMPs were installed at harvest sites in both regions to control erosion. Whole tree harvesting is not currently in use. Lowest impact equipment is used when available and appropriate for site conditions. Loggers sometimes use slash during harvesting on skid trails or for temporary crossings it can significantly reduce negative impacts without sacrificing safety and efficiency.
6.5.d. The transportation system, including design and placement of permanent and temporary haul roads, skid trails, recreational trails, water crossings and	C	MD DNR inherited a legacy road system in the Eastern Region and in parts of the Western. In cooperation with the MD DNR hydrologist, roads

landings, is designed, constructed, maintained, and/or reconstructed to reduce short and long-term environmental impacts, habitat fragmentation, soil and water disturbance and cumulative adverse effects, while allowing for customary uses and use rights. This includes: • access to all roads and trails (temporary and permanent), including recreational trails, and off-road travel, is controlled, as possible, to minimize ecological impacts; • road density is minimized; • erosion is minimized; • sediment discharge to streams is minimized; • there is free upstream and downstream passage for aquatic organisms; • impacts of transportation systems on wildlife habitat and migration corridors are minimized; • area converted to roads, landings and skid trails is minimized; • habitat fragmentation is minimized; • unneeded roads are closed and rehabilitated.		may be identified for temporary or permanent closure during restoration projects. Access is controlled via gates on main roads. ORV trail access has been greatly reduced on forestlands. Skid trail and landing density is controlled through considerations of equipment and pre-harvest planning and consultation with operators. Erosion and sediment discharge are controlled through use of BMPs. MD DNR recently identified areas in need of repair. Bridges or culverts are used at crossings on larger streams so that aquatic organisms have free passage. Through controlling access to secondary roads and skid trails, MD DNR reduces impacts to wildlife passage and habitat. Edge-effects are reduced where not desired through planning skid trail layout.
6.5.e.1.In consultation with appropriate expertise, the forest owner or manager implements written ***Streamside Management Zone*** (SMZ) ***buffer*** management guidelines that are adequate for preventing environmental impact, and include protecting and restoring water quality, hydrologic conditions in rivers and stream corridors, wetlands, vernal pools, seeps and springs, lake and pond shorelines, and other hydrologically sensitive areas. The guidelines include vegetative buffer widths and protection measures that are acceptable within those buffers. In the Appalachia, Ozark-Ouachita, Southeast, Mississippi Alluvial Valley, Southwest, Rocky Mountain, and Pacific Coast regions, there are requirements for minimum SMZ widths and explicit limitations on the activities that can occur within those SMZs. These are outlined as requirements in Appendix E.	C	SMZ guidelines are provided in SFMPs for each state forest and actual SMZs are mapped in the GIS. MD DNR prepared the Western Maryland Erosion and Sediment Control Standards and Specifications for Forest Operations in 2011 that contains SMZ widths based on 50' + (4' * x%). For smaller slope %, such as those between the APP 1-10% and 11-20% category, minimum widths depart from the minimum widths required by FSC. For larger slope %, MD DNR SMZ widths exceed APP requirements. These SMZs are based on watershed studies and have been reviewed by the FME's hydrologist.
6.5.e.2. Minor variations from the stated minimum SMZ widths and layout for specific stream segments, wetlands and other water bodies are permitted in limited circumstances, provided the forest owner or manager demonstrates that the alternative configuration maintains the overall extent of the buffers and provides equivalent or greater	C	See 6.5.e.1. Minor variations from the minimum widths are permitted as long as the provisions of indicator 6.5.e.2 are met. MD DNR has not sought a variance per these requirements.

environmental protection than FSC-US regional requirements for those stream segments, water quality, and aquatic species, based on site-specific conditions and the best available information. The forest owner or manager develops a written set of supporting information including a description of the riparian habitats and species addressed in the alternative configuration. The CB must verify that the variations meet these requirements, based on the input of an independent expert in aquatic ecology or closely related field.		
6.5.f. Stream and wetland crossings are avoided when possible. Unavoidable crossings are located and constructed to minimize impacts on water quality, hydrology, and fragmentation of ***aquatic habitat.*** Crossings do not impede the movement of aquatic species. Temporary crossings are restored to original hydrological conditions when operations are finished.	C	All crossings observed were installed according to specification and only when necessary to access areas for management and monitoring activities. Bridges or culverts are used for crossings. Appropriate sized culverts were observed, which did not impede aquatic organisms.
6.5.g. Recreation use on the FMU is managed to avoid negative impacts to soils, water, plants, wildlife and wildlife habitats.	C	Most ORV trails have been closed. Trail maintenance for other user groups such as mountain bikers and equestrian are accomplished through grants and volunteers of those groups interested in maintaining access. New ORV trails are in the works in the Western Region in cooperation with user groups and environmental stakeholders to ensure that impacts are controlled and reduced (see itinerary for more information). In the Eastern region a community trail maintenance effort has led to the establishment of the 50 mile running race that has increased the volume of low impact trail traffic in this region. This collaborative effort with the local community has wide-reaching educational effects.
6.5.h. Grazing by domesticated animals is controlled to protect in-stream habitats and water quality, the species composition and viability of the riparian vegetation, and the banks of the stream channel from erosion.	NA	No grazing is permitted on State Forests. No grazing by domesticated animals was detected during site visits or reported during stakeholder interviews.
C6.6. Management systems shall promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be	C	

prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.		
6.6.a. No products on the FSC list of Highly Hazardous Pesticides are used (see FSC-POL-30-001 EN FSC Pesticides policy 2005 and associated documents).	C	Chemical inventory and use records indicate the use of only approved chemicals.
6.6.b. All toxicants used to control pests and competing vegetation, including rodenticides, insecticides, herbicides, and fungicides are used only when and where non-chemical management practices are: a) not available; b) prohibitively expensive, taking into account overall environmental and social costs, risks and benefits; c) the only effective means for controlling invasive and exotic species; or d) result in less environmental damage than non-chemical alternatives (e.g., top soil disturbance, loss of soil litter and down wood debris). If chemicals are used, the forest owner or manager uses the least environmentally damaging formulation and application method practical. Written strategies are developed and implemented that justify the use of chemical pesticides. Whenever feasible, an eventual phase-out of chemical use is included in the strategy. The written strategy shall include an analysis of options for, and the effects of, various chemical and non-chemical pest control strategies, with the goal of reducing or eliminating chemical use.	C	The SFMPs contain justification for chemical use in each situation.
6.6.c. Chemicals and application methods are selected to minimize risk to non-target species and sites. When considering the choice between aerial and ground application, the forest owner or manager evaluates the comparative risk to non-target species and sites, the comparative risk of worker exposure, and the overall amount and type of chemicals required.	C	See SFMPs, which describe situation in which aerial application occurs and what precautions will be applied during application to protect sensitive sites and non-target species. Aerial applicators are highly trained, licensed, and enclosed in helicopters during applications. MD DNR staff apply glyphosate or imazapyr using the hack 'n' squirt method, which is among the most direct methods and lowest risk for worker exposure.
6.6.d. Whenever chemicals are used, a written prescription is prepared that describes the site-specific hazards and environmental risks, and the precautions that workers will employ to avoid or minimize those hazards and risks, and includes a map of the treatment area. Chemicals are applied only by workers who have received proper training in application methods and safety. They are made aware of the risks, wear proper safety equipment, and are trained to minimize	C	All MD DNR staff applicators are licensed applicators or are overseen by licensed applicators. Licensed applicators receive training on application methods and safety.

environmental impacts on non-target species and sites.		
6.6.e. If chemicals are used, the effects are monitored and the results are used for adaptive management. Records are kept of pest occurrences, control measures, and incidences of worker exposure to chemicals.	NC	Records of chemical use are maintained and are reported in the Section A of the FSC report. MD DNR workers that suffer a chemical exposure incident must fill out incident reports. CAR 2019.3 - Reporting of the volumes of pesticide use on powerlines by the power company is not currently being completed.
C6.7. Chemicals, containers, liquid and solid non-organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off-site locations.	C	
6.7.a. The forest owner or manager, and employees and contractors, have the equipment and training necessary to respond to hazardous spills	C	Loggers interviewed at sites maintain equipment to avoid spills and leaks. Equipment to clean-up spills was present at active logging sites. FME staff training records include prescribed fire and pesticide application, both of which include topics on spill containment according to interviews with staff.
6.7.b. In the event of a hazardous material spill, the forest owner or manager immediately contains the material and engages qualified personnel to perform the appropriate removal and remediation, as required by applicable law and regulations.	C	MD DNR staff and contractors interviewed were knowledgeable of containment and clean-up procedures. See section 6.7c and CAR 2019.5.
6.7.c. Hazardous materials and fuels are stored in leak-proof containers in designated storage areas, that are outside of riparian management zones and away from other ecological sensitive features, until they are used or transported to an approved off-site location for disposal. There is no evidence of persistent fluid leaks from equipment or of recent groundwater or surface water contamination.	NC	CAR 2019.5 - There is evidence of fluid leaks from equipment; while this did not contaminate groundwater or surface water, these leaks from equipment on unattended machinery need to be corrected in order to not cause future problems. Site reference: Oldtown Orleans rd.
C6.8. Use of biological control agents shall be documented, minimized, monitored, and strictly controlled in accordance with national laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.	C	
6.8.a. Use of ***biological control agents*** are used only as part of a pest management strategy for the control of invasive plants, ***pathogens***, insects, or other animals when other pest control methods are ineffective, or are expected to be ineffective. Such use is contingent upon peer-reviewed scientific evidence that the agents in question are non-invasive and are safe for native species.	C	In cooperation with MD Department of Agriculture this FME uses *Bacillus thuringiensis* (BT) for gypsy moth control. Because of its specificity, BT is considered to have little or no effect on humans, wildlife or pollinators as well as most other beneficial insects. Since 1999, MDA has released three different

		species of predatory black lady beetle for control of hemlock wooly adelgid (*Adelges tsugae*) including *Sasajiscymnus tsugae*, *Laricobius nigrinus* and *Scymnus sinuanodulas*) totaling 49,358 beetles in 27 locations in Harford, Baltimore, Frederick, Washington, Allegany and Garrett counties. Of the three species released, *Laricobius nigrinus*, a beetle native to western North America feeds only on woolly adelgid. The adult beetles lay eggs on wintering hemlock woolly adelgid larvae; when larvae emerge, they feed on hemlock woolly adelgid. L. nigrinus beetles can only complete their development by feeding on hemlock woolly adelgid. L nigrinus has already been established at seven of the 10 release sites. The other three sites are the most recent release locations and population levels have not met the requirements to be considered established. MDA will continue to release this species and monitor populations. The other 2 beetle species did not recover after release and are no longer part of the bio-control release program. A new species, *Laricobious osakensis*, has been used for the first time, finally clearing USDA-APHIS after 10-years of review. This beetle was released on Savage River State Forest, at the Poplar Lick site in November 2013. Current biological controls in the Eastern Region include a weevil for mile-a-minute. This use is regulated by the Maryland Department of Agriculture (MDA) in cooperation with USDA APHIS and the State Highway Administration (SHA) under accepted scientific rearing, release and monitoring protocols. More information is available through MDA: http://mda.maryland.gov
6.8.b. If biological control agents are used, they are applied by trained workers using proper equipment.	C	According to interviews with FME staff, control agents are applied by trained MDA and SHA employees.
6.8.c. If biological control agents are used, their use shall be documented, monitored and strictly controlled in accordance with state and national laws and internationally accepted scientific protocols. A written plan will be developed and implemented justifying such use, describing the risks, specifying the precautions workers will employ to avoid or minimize such risks, and describing how potential impacts will be monitored.	C	The use of biological control agents is well-documented and monitored by USDA APHIS, and MDA. See the websites mentioned in 6.8.a for the written protocols. See also USDA APHIS' website, which references protocols for applying controls to several invasive pests, include mile-a-minute (e.g., http://www.aphis.usda.gov/plant_health/plant_pest_info/tcd/downloads/NationalResponseFramework.pdf).

6.8.d. Genetically Modified Organisms (GMOs) are not used for any purpose	C	Interviews and document review confirm that there is no use of GMOs by MD DNR. In the Eastern Region, seed sources come from the State nursery, which sources seed and vegetative material from the region.
C6.9. The use of exotic species shall be carefully controlled and actively monitored to avoid adverse ecological impacts.	C	
6.9.a. The use of ***exotic species*** is contingent on the availability of credible scientific data indicating that any such species is non-invasive and its application does not pose a risk to native biodiversity.	C	FME reported that no exotic species have been used for commercial or management purposes since the last audit, which the auditor confirmed in field observation.
6.9.b. If exotic species are used, their provenance and the location of their use are documented, and their ecological effects are actively monitored.	C	The Norway Spruce, Red Pine and Scotch Pine plantations were established several decades ago. Norway Spruce and Scotch Pine are from Europe and Red Pine is from colder regions Eastern North America. No offsite regeneration is occurring and plans have been developed to restore these areas to semi-natural management. In most instances, this means that these exotic species will be maintained, but within a matrix of native flora and fauna.
6.9.cThe forest owner or manager shall take timely action to curtail or significantly reduce any adverse impacts resulting from their use of exotic species	C	See 6.9.a.
C6.10. Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion: **a) Entails a very limited portion of the forest management unit; and b) Does not occur on High Conservation Value Forest areas; and c) Will enable clear, substantial, additional, secure, long-term conservation benefits across the forest management unit.**	C	
6.10.a Forest *conversion* to non-forest land uses does not occur, except in circumstances where conversion entails a very limited portion of the forest management unit (note that Indicators 6.10.a, b, and c are related and all need to be conformed with for conversion to be allowed).	C	There has been no conversion of forest to non-forest land use in the Eastern Region. Old food plots are allowed to succeed naturally back to forest. In the Western Region, there have been no forest areas converted to non-forest use. Currently, no state forestland has been converted to exercise mineral rights.
6.10.b Forest *conversion* to non-forest land uses does not occur on high conservation value forest areas (note that Indicators 6.10.a, b, and c are related and all need to be conformed with for conversion to be allowed).	C	There has been no conversion; see evidence in C6.10.a.
6.10.c Forest *conversion* to non-forest land uses does not occur, except in circumstances where conversion	C	There has been no conversion; see evidence in C6.10.a.

will enable clear, substantial, additional, secure, long term conservation benefits across the forest management unit (note that Indicators 6.10.a, b, and c are related and all need to be conformed with for conversion to be allowed).		
6.10.d Natural or semi-natural stands are not converted to plantations. Degraded, semi-natural stands may be converted to restoration plantations.	C	There has been no conversion; see evidence in C6.10.a.
6.10.e Justification for land-use and stand-type conversions is fully described in the long-term management plan, and meets the biodiversity conservation requirements of Criterion 6.3 (see also Criterion 7.1.l)	C	There has been no conversion; see evidence in C6.10.a.
6.10.f Areas converted to *non-forest use* for facilities associated with subsurface mineral and gas rights transferred by prior owners, or other conversion outside the control of the certificate holder, are identified on maps. The forest owner or manager consults with the CB to determine if removal of these areas from the scope of the certificate is warranted. To the extent allowed by these transferred rights, the forest owner or manager exercises control over the location of surface disturbances in a manner that minimizes adverse environmental and social impacts. If the certificate holder at one point held these rights, and then sold them, then subsequent conversion of forest to non-forest use would be subject to Indicator 6.10.a-d.	C	There has been no conversion; see evidence in C6.10.a.
P7 A management plan -- appropriate to the scale and intensity of the operations -- shall be written, implemented, and kept up to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated.		
C7.1. The management plan and supporting documents shall provide: **a) Management objectives. b) description of the forest resources to be managed, environmental limitations, land use and ownership status, socio-economic conditions, and a profile of adjacent lands.** **c) Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories. d) Rationale for rate of annual harvest and species selection. e) Provisions for monitoring of forest growth and dynamics. f) Environmental safeguards based on environmental assessments. g) Plans for the identification and protection of rare, threatened and endangered species.**	C	The general structure of the FMP is based on each state forest with the structure and content of the documents being based on the same templates. Each state forest within the scope of the FSC certificate has an overarching Sustainable Forest Management Plan (SFMP) and Annual Work Plans (AWP) prepared for management activities to occur in the upcoming fiscal year. Summaries of the AWPs are also prepared. Chesapeake and Pocomoke State Forests additionally have individual summaries for their SFMPs and other supporting documentation available online as they have been certified for longer periods of time.

h) Maps describing the forest resource base including protected areas, planned management activities and land ownership. **i) Description and justification of harvesting techniques and equipment to be used.**		MD DNR also maintains a Policy Handbook and procedures for implementing certain components of the FMP.
7.1.a. The management plan identifies the ownership and legal status of the FMU and its resources, including rights held by the owner and rights held by others.	C	Each SFMP includes a section on the history of the state forest, along with an ownership history. Allowable public uses are described in the Chapter 9 of each SFMP. Each FMP contains tables and figures on land use within and surrounding state forests.
7.1.b. The management plan describes the history of land use and past management, current forest types and associated development, size class and/or successional stages, and natural disturbance regimes that affect the FMU (see Indicator 6.1.a).	C	Each SFMP includes a section on the history of the state forestlands. Chapters 2, 3 and 4 of each SFMP include a description of the current forest resource and guidelines on management based on natural disturbance regimes. Certain appendices may also cover special disturbance regimes, such as fire. The AWP includes a brief description of past land uses and management as an introduction for the basis of the planned management activities for the fiscal year.
7.1.c.The management plan describes: a) current conditions of the timber and non-timber forest resources being managed; b) desired future conditions; c) historical ecological conditions; and d) applicable management objectives and activities to move the FMU toward desired future conditions.	C	Chapters 2-8 of each SFMP (Resource Assessment, Resource Characterization, Land Management Area Guidelines, Forest Management, Water Quality, Ecologically Significant Areas, and Wildlife Habitat). Objectives are stated in various chapters; however, Chapter 5 includes management objectives of forest management/ silviculture. The AWP includes a description of the current conditions of resources and what will be done in the fiscal year to accomplish desired future conditions based on a given state forest's ecology or past management.
7.1.d. The management plan includes a description of the landscape within which the FMU is located and describes how landscape-scale habitat elements described in Criterion 6.3 will be addressed.	C	See Chapters 2-8 of each SFMP (Resource Assessment, Resource Characterization, Land Management Area Guidelines, Forest Management, Water Quality, Ecologically Significant Areas, and Wildlife Habitat). The AWP provides a description in the summary. The required information is found in each SFMP and AWP including a description of retention.
7.1.e. The management plan includes a description of the following resources and outlines activities to conserve and/or protect:	C	Chapters 2-8 of each SFMP (Resource Assessment, Resource Characterization, Land Management Area Guidelines, Forest Management, Water Quality,

• rare, threatened, or endangered species and natural communities (see Criterion 6.2); • plant species and community diversity and wildlife habitats (see Criterion 6.3); • water resources (see Criterion 6.5); • soil resources (see Criterion 6.3); • Representative Sample Areas (see Criterion 6.4); • High Conservation Value Forests (see Principle 9); • Other special management areas.		Ecologically Significant Areas, and Wildlife Habitat). The AWP includes descriptions of activities planned to protect or enhance RTE species, plant communities (e.g.,, Atlantic white-cedar swamps), wildlife, water and soil resources (e.g., soil series appendix), RSAs, and HCVs. Other management areas are described depending on each state forest's resources (e.g., ORV trails).
7.1.f. If invasive species are present, the management plan describes invasive species conditions, applicable management objectives, and how they will be controlled (see Indicator 6.3.j).	C	Chapters 3 and 5 of each SFMP include a section on invasive species based on FSC-US guidelines.
7.1.g. The management plan describes insects and diseases, current or anticipated outbreaks on forest conditions and management goals, and how insects and diseases will be managed (see Criteria 6.6 and 6.8).	C	Each SFMP treats insects and diseases in its Resource Assessment and Characterizations (Chapters 2 and 3), but mostly throughout the SFMPs and especially when dealing with fire. Information confirmed with GIS data as well.
7.1.h. If chemicals are used, the plan describes what is being used, applications, and how the management system conforms with Criterion 6.6.	C	Herbicide use is described in Chapters 5, 6, 7 and 10 of the SFMP. Each of these Chapters describes basic use and restrictions near sensitive sites. Some SFMPs and AWPs describes chemicals to be used, applications, and how the FME is conforming with C6.6. (GRSF MP Section 5.9 Chemical Use,page 86-87 . Limited chemical use was observed on the SFs, and tracking documentation was reviewed for two site visits.
7.1.i. If biological controls are used, the management plan describes what is being used, applications, and how the management system conforms with Criterion 6.8.	C	Biological control is maintained as an option in Chapter 10 of each SFMP. Other State and Federal agencies are in charge of biological control on MD DNR-managed lands. See C6.8 for more details.
7.1.j. The management plan incorporates the results of the evaluation of social impacts, including: • traditional cultural resources and rights of use (see Criterion 2.1); • potential conflicts with customary uses and use rights (see Criteria 2.2, 2.3, 3.2); • management of ceremonial, archeological, and historic sites (see Criteria 3.3 and 4.5); • management of aesthetic values (see Indicator 4.4.a); • public access to and use of the forest, and other recreation issues; • local and regional socioeconomic conditions	C	• Sections of Chapter 2 of western MD SFMPs and Chapter 9 of CFL SFMP include descriptions of traditional cultural resources and rights of use. • Sections of Chapter 11 of each western MD SFMP and Chapters 1, 9 and 10 of CFL SFMP describe potential conflicts. • Each of the 5 management plans include text from state code that requires protection of these special sites. Chapter 2 of each SFMP describes sites and GIS data points have been established. Sections of Chapter 11 include a description of the process and time table for consultation and

and economic opportunities, including creation and/or maintenance of quality jobs (see Indicators 4.1.b and 4.4.a), local purchasing opportunities (see Indicator 4.1.e), and participation in local development opportunities (see Indicator 4.1.g).		review by representatives of tribal groups. Individual AWPs also include details associated with aesthetics (Kirk Orchard). During the 2019 audit, the protection of special sites (Marumsco Tract Stands 1,3,7, 10 & 11) were observed. Maps of cemeteries and other special sites were presented and reviewed for 1 State Forest on the eastern shore and 1 State Forest located in western MD. • Aesthetic values are introduced in Chapter 1 and described in Chapter 5 within some of descriptions of forest management activities (e.g. forest buffer thinning, regeneration harvest) and in the some of the AWPs (S49 Saltz Powell Track). • Chapter 9 and sections of Chapter 10 of each SFMP includes public access, use and education Local and regional economic condition and opportunity are introduced in Chapter 1 and described in sections of chapters 2, 3, 4, 5, 8 and 9 of each SFMP. Chapter 1 of each SFMP includes the following text: "*The primary goal of the Green Ridge State Forest Sustainable Management Plan is to demonstrate that an environmentally sound, sustainably managed forest can contribute to local and regional economies*..." A recent study cited in each SFMP also addresses some of this indicator: see Comprehensive Strategy for Reducing Maryland's Vulnerability to Climate Change, Phase II: Building societal, economic, and ecological resilience (Jan 2011) http://www.dnr.state.md.us/climatechange/climatechange_phase2_adaptation_strategy.pdf The AWP's summary includes a description of maintenance and protections needs for archeological and historic sites. The AWP includes descriptions of special projects, their costs, and intended benefits. Many special projects are for ecological restoration, public education, road/ trail upgrades for management and recreation.
7.1.k. The management plan describes the general purpose, condition and maintenance needs of the transportation network (see Indicator 6.5.e).	C	Chapters 5, 6, and 9 of the SFMP cover this topic. The AWP's summary includes a description of road conditions and planned maintenance activities based on said conditions.
7.1.l. The management plan describes the silvicultural and other management systems used and how they will	C	Chapter 5 of the SFMP discusses silvicultural systems based on the resource assessment. Other

sustain, over the long term, forest ecosystems present on the FMU.		management systems, such as those used to control access or maintain protected areas, are dealt with in other chapters.
7.1.m. The management plan describes how species selection and harvest rate calculations were developed to meet the requirements of Criterion 5.6.	C	Chapter 5 of the SFMP discusses forest inventory and how harvest rates are determined. Tables and figures of inventory and projected harvests are included SFMP.
7.1.n. The management plan includes a description of monitoring procedures necessary to address the requirements of Criterion 8.2.	C	Certain monitoring is covered throughout the SFMP, but Chapters 5 and 10 specifically deal with the subject of monitoring.
7.1.o. The management plan includes maps describing the resource base, the characteristics of general management zones, special management areas, and protected areas at a level of detail to achieve management objectives and protect sensitive sites.	C	MD DNR maintains maps on GIS and many maps are available online to the public that address this indicator. Detailed maps are available in the SFMP and AWP for each state forest, confirmed these maps are also present in the GIS.
7.1.p. The management plan describes and justifies the types and sizes of harvesting machinery and techniques employed on the FMU to minimize or limit impacts to the resource.	C	The SFMPs for the Eastern and Western Regions discuss equipment in the general sense; low-impact equipment is desired in certain situations over conventional logging. Details are noted in the 'Forest Harvesting Equipment' section of each SFMP.
7.1.q. Plans for harvesting and other significant site-disturbing management activities required to carry out the management plan are prepared prior to implementation. Plans clearly describe the activity, the relationship to objectives, outcomes, any necessary environmental safeguards, health and safety measures, and include maps of adequate detail.	C	AWP's summary includes goals for the upcoming fiscal year's management activities. AWP includes a description of proposed management activities, such as sivilcultural prescriptions. The prescriptions include an analysis of resources that could be impacted and how to reduce/mitigate those risks, as well as objectives and desired outcomes. Pre-sale conferences are held in which a checklist is filled out by loggers and MD DNR staff to review the sale prior to operations. Sediment and erosion control permits may also be required prior to plan implementation and are considered a part of the site-plan. These plans were viewed for each harvest site visited,
7.1.r. The management plan describes the stakeholder consultation process.	C	The SFMP describes the role of the Citizens Advisory Committee for each state forest in the development of the plan (Appendix A). The SFMP also includes a flow chart on how AWPs are developed, including when stakeholder consultation and review occurs. The AWP's summary includes a description of how MD DNR Forestry Division works with other agencies and local colleges/universities. Citizen Advisory Committee and public comments are included at the end of each AWP.
C7.2. The management plan shall be periodically revised to incorporate the results of monitoring or	C	

new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.		
7.2.a The management plan is kept up to date. It is reviewed on an ongoing basis and is updated whenever necessary to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances. At a minimum, a full revision occurs every 10 years.	C	SFMPs are currently on a 10 year cycle for updating that coincides with forest inventory and resources assessment reviews. All SFMPs are up to date. AWPs are developed annually and can more readily incorporate experience from prior years into the planning process. Updates in 2018 or 2019 were reviewed for the CF-SFMP, PSF-SPMP, SRSF-SFMP, and GRSF-SFMP.
C7.3. Forest workers shall receive adequate training and supervision to ensure proper implementation of the management plans.	C	
7.3.a. Workers are qualified to properly implement the management plan; All forest workers are provided with sufficient guidance and supervision to adequately implement their respective components of the plan.	C	MD DNR staff receive certificates for all training completed. Foresters are required to be licensed in Maryland and licensing has a continuing education requirement. Confirmed all Foresters, both contracted PFS staff and MD DNR SF employees, maintain their Forester License.
C7.4. While respecting the confidentiality of information, forest managers shall make publicly available a summary of the primary elements of the management plan, including those listed in Criterion 7.1.	C	
7.4.a. While respecting landowner confidentiality, the management plan or a management plan summary that outlines the elements of the plan described in Criterion 7.1 is available to the public either at no charge or a nominal fee.	C	The entire management plan is available freely to the public at http://www.dnr.state.md.us/forests/mdforests.asp.
7.4.b. Managers of public forests make draft management plans, revisions and supporting documentation easily accessible for public review and comment prior to their implementation. Managers address public comments and modify the plans to ensure compliance with this Standard.	C	All draft AWPs are available for comment at http://www.dnr.state.md.us/forests/workplans/index.asp. When SFMPs are up for revision, these also are made available publicly through the website and submitted to the Citizen Advisory Committee for review. Once draft plans undergo complete public review, the revised plan becomes the final plan presented on the website.
P8 Monitoring shall be conducted -- appropriate to the scale and intensity of forest management -- to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts. *Applicability Note: On small and medium-sized forests (see Glossary), an informal, qualitative assessment may be appropriate. Formal, quantitative monitoring is required on large forests and/or intensively managed forests.*		
C8.1. The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations, as well as, the relative	C	

complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.		
8.1.a. Consistent with the scale and intensity of management, the forest owner or manager develops and consistently implements a regular, comprehensive, and replicable written monitoring protocol.	C	All monitoring occurs per established in SFMPs and AWPs, and as according to MD DNR procedures and policies. Certain monitoring is required per legislation, such as for accounting purposes. Observation 2019.6 - FME is using written BMP checklists for monitoring BMP effectiveness. 2 separate forms are used; one form notes BMP conformance with a ranking of 1-5, however per interview and document review, the ranking criteria is not clearly defined. FME could review the difference in criteria used in the West vs the Eastern Shore) in efforts to help improve consistency for monitoring of BMP effectiveness.
8.2. Forest management should include the research and data collection needed to monitor, at **a minimum, the following indicators: a) yield of all forest products harvested, b) growth rates, regeneration, and condition of the forest, c) composition and observed changes in the flora and fauna, d) environmental and social impacts of harvesting and other operations, and e) cost, productivity, and efficiency of forest management.**	C	
8.2.a.1. For all commercially harvested products, an inventory system is maintained. The inventory system includes at a minimum: a) species, b) volumes, c) stocking, d) regeneration, and e) stand and forest composition and structure; and f) timber quality.	C	2019: FME reported the following: • GRSF — All areas that received a final harvest in the last 2-5 years were inventoried in the last year to monitor and evaluate regeneration. Furthermore, all stands proposed for regeneration harvests were inventoried to evaluate potential for regeneration and guide prescription for regeneration harvest methods.CF/PSF — The CFI and forest inventory procedure were completed in 2016. Yield tables were created from the inventory data, and the forest model was updated. Regeneration surveys have been conducted on recent harvest sites.
8.2.a.2. Significant, unanticipated removal or loss or increased vulnerability of forest resources is monitored and recorded. Recorded information shall include date and location of occurrence, description of disturbance, extent and severity of loss, and may be both quantitative and qualitative.	C	FME reported no recent timber theft during interviews with forest managers. No new major storm or disease events were reported in 2019.
8.2.b The forest owner or manager maintains records of	C	Ledgers, annual timber summaries and

harvested timber and NTFPs (volume and product and/or grade). Records must adequately ensure that the requirements under Criterion 5.6 are met.		compartment files that relate to harvested timber are maintained in the state office. MD DNR maintains records of harvested timber on GIS and a timber sale contract database (area, acres, volumes, income tracking). These records are used to compare projected harvest to actual harvest. 2019: FME reported the following for FY 2018: • C/PSF — 1,606,428.33 bf pine & hardwood sawtimber, 20,808.24 cords pine & hardwood pulpwood • GRSF — 209,000 bf hardwood MD DNR provides an annual Timber Sale Summary. Harvest records for lump-sum, stumpage, and gatewood sales were provided.
8.2.c. The forest owner or manager periodically obtains data needed to monitor presence on the FMU of: 1) Rare, threatened and endangered species and/or their ***habitats***; 2) Common and rare plant communities and/or habitat; 3) Location, presence and abundance of invasive species; 4) Condition of protected areas, set-asides and buffer zones; 5) High Conservation Value Forests (see Criterion 9.4).	C	1) RTE data and monitoring is accomplished through the ID team process and an established relationship with the MD Natural Heritage Program as confirmed through interviews with Natural Heritage Program staff. 2) Common and rare plant communities and habitats are monitored through the use of SILVAH OAK inventory system. In addition, the Wildlife and Heritage Service, and Fresh Water Fisheries gather information on plant and animal populations. 3) The *Early Detection and Rapid Response Plan* associated monitoring protocol led by DNR's Heritage program to monitor invasive species. SILVAH OAK inventory system also includes documentation of the presence of invasive plants. In addition, it is clear from site observations and staff interviews that the DNR staff is well-trained and knowledgeable about this issue. 4) Zones including protected HCVF, buffer zones, Wildlands, RSAs and Old Growth are monitored through stand level inventory (SILVAH OAK protocol). 2019: FME reported the following: • GRSF — Woodcock singing ground survey, wood turtle and herpetology surveys, wild turkey poultry production, bear den reproduction surveys, bear bait surveys, nightjar survey, golden-winged warbler survey, camera trapping surveys for spotted skunk and Frostburg University study of black cohosh.

		• SRSF — Various research projects have been ongoing throughout the forest focusing on a plethora of plant and animal communities including northern long-eared bats, American chestnut, eastern red-backed salamanders, millipedes, golden-winged warblers, Allegheny wood rats and Monarda didyma. Projects to control the non-native invasive species garlic mustard and Japanese spirea were conducted in the Bear Pen Wildlands. Wildlife and Heritage Division of DNR have ongoing monitoring for black bears, golden eagles, striped skunks and Appalachian cottontails, Pennsylvania Natural Heritage Program at the Western Pennsylvania Conservancy observance of lichens and Frostburg State University study of black cohosh. • PGSF — DNR Wildlife and Heritage Program's surveys for both New England Cottontail and Spotted Skunks, as well as annual Goshawk Nesting monitoring, Frostburg State University investigating various aspects of dragonfly ecology in high elevation wetlands and Frostburg State University study of black cohosh. • CF/PSF — Delmarva Fox Squirrel monitoring by the USFWS, bat monitoring by Salisbury University & plant community monitoring by our Wildlife & Heritage Unit.
8.2.d.1. Monitoring is conducted to ensure that site specific plans and operations are properly implemented, environmental impacts of site disturbing operations are minimized, and that harvest prescriptions and guidelines are effective.	C	In the eastern region, Parker Forestry and MD DNR foresters completes inspection forms on Chesapeake Forest Projects and Pocomoke, and MD DNR foresters also inspect tracts and fill out reports. In the western region, MD DNR field foresters conduct post-harvest monitoring and complete Timber Sale Inspection Reports that were presented and reviewed for each of the sites visited during this audit program. This FME also instituted an internal silvicultural audit system to examine the environmental and management impacts of silvicultural activities. This monitoring system was recently been expanded to include a post-harvest review by the ID team. Logging contractors reported that MD DNR staff conduct site visits at least once per week during active harvests. Timber Sale Inspection forms are maintained for these visits. This form is used for the final inspections. 2019: Timber Sale Inspection forms are maintained

		for harvest monitoring visits and finalized at the end of harvest. Parker Forestry Services demonstrated inspection forms for the sites visited in 2019. Parker Forestry Services also demonstrated chemical application maps that show application trails and that protected areas were avoided.
8.2.d.2. A monitoring program is in place to assess the condition and environmental impacts of the forest-road system.	C	A *Forest Roads Management For Forest Operations on Maryland State Forests* has been implemented. This policy creates a systematic inventory of the State Forest roads including ORV trails. This plan documents each road segment and drainage feature in a GIS-based identification system and allows the development of a priority plan for road maintenance and feature replacement that is incorporated into annual work plans for each state forest.
8.2.d.3. The landowner or manager monitors relevant socio-economic issues (see Indicator 4.4.a), including the social impacts of harvesting, participation in local economic opportunities (see Indicator 4.1.g), the creation and/or maintenance of quality job opportunities (see Indicator 4.1.b), and local purchasing opportunities (see Indicator 4.1.e).	C	Through the ID Team, Forest Advisory Committee and other cooperative processes, this FME conducts many socioeconomic analyses and monitoring activities through partnership with other departments within the DNR and other state or federal agencies. 2019: FME reported the following: • The 3 Western State Forests engaged in cooperative project with Frostburg State University to carry out a Recreation/Tourism Economic Impact Study. The study was completed and published in October 2018. • CF/PSF — Monitoring of social media sites related to recreational trail use, and trail monitors for several recreation trails.
8.2.d.4. Stakeholder responses to management activities are monitored and recorded as necessary.	C	MD DNR maintains a complaint log in each SF office. Each forest manager responds to inquiries and complaints with direct communications. When these cannot be resolved locally the issue is occasionally referred to the Annapolis office. The main mechanism for soliciting comments is response to each posted State Forest Management Plans and Annual Work Plan that details the proposed activities for the upcoming year.
8.2.d.5. Where sites of cultural significance exist, the opportunity to jointly monitor sites of cultural significance is offered to tribal representatives (see Principle 3).	C	There are no such sites on MD DNR lands. However, MD DNR offered this opportunity to Tribes participating in the CAC. In addition, MD DNR is cooperating with the MD Commission of Indian

		Affairs. The most significant change since 2017 is that managers in the Eastern Region have initiated contact with a new recognized tribal representative and are trying to attain tribal participation on the CAC.
8.2.e. The forest owner or manager monitors the costs and revenues of management in order to assess productivity and efficiency.	C	FME reported that CF/PSF holds quarterly & biweekly meetings with the Contract Manager. All state forests have weekly BMP inspections of harvesting operations. Cost and revenue is monitored as part of the AWP process. AMPs contain a summary of cost and revenue information. Each SF has its own operational budget. Each SF maintains a spreadsheet and reports these to state offices in Annapolis. Accounting reviews all expenditures.
C8.3. Documentation shall be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin, a process known as the "chain of custody."	C	
8.3.a. When forest products are being sold as FSC-certified, the forest owner or manager has a system that prevents mixing of FSC-certified and non-certified forest products prior to the point of sale, with accompanying documentation to enable the tracing of the harvested material from each harvested product from its origin to the point of sale.	C	Timber sale contracts for each site described in section 2.1 (field tour) were reviewed and include for example a description of the location of harvest and FM/COC code, the FSC claim (“FSC 100 %”) and maps of the harvested stand(s). There is no risk of mixing certified and non-certified products prior to the point of sale because each State Forest where certified products are harvested is entirely certified. While small parcels are not included in the certified land base, the non-certified parcels are geographically separate from the certified parcels and these non-certified parcels do not include routine harvest of timber but instead may involve only occasional demonstration or salvage projects.
8.3.b The forest owner or manager maintains documentation to enable the tracing of the harvested material from each harvested product from its origin to the point of sale.	C	Timber sale contract copies are maintained and were reviewed for each site described in section 2.1 (field tour). Each contract includes for example a description of the location of harvest and the FM/COC code, the FSC claim (“FSC 100 %”) and maps of the harvested stand(s). Gatewood sale documentation also includes delivery slips in the form of trip tickets and settlement sheets and each of these delivery documents also includes a description of the location of harvest and the FM/COC code and the FSC claim (“FSC 100 %”). Gatewood documents associated with contract # CF-

		13-19 were reviewed as evidence.
C8.4. The results of monitoring shall be incorporated into the implementation and revision of the management plan.	C	
8.4.a. The forest owner or manager monitors and documents the degree to which the objectives stated in the management plan are being fulfilled, as well as significant deviations from the plan.	C	Monitoring results of ongoing projects are frequently reported on in AWPs, including on whether or not project objectives are being met. Monitoring reports are also published on the MD DNR website. BMP monitoring and forest inventory updates occur on schedule every few years so that achievement of forest management objectives can be assessed.
8.4.b. Where monitoring indicates that management objectives and guidelines, including those necessary for conformance with this Standard, are not being met or if changing conditions indicate that a change in management strategy is necessary, the management plan, operational plans, and/or other plan implementation measures are revised to ensure the objectives and guidelines will be met. If monitoring shows that the management objectives and guidelines themselves are not sufficient to ensure conformance with this Standard, then the objectives and guidelines are modified.	C	Regular management planning update processes under C7.2 are being used to ensure that monitoring information is being incorporated into the plans.
C8.5. While respecting the confidentiality of information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.	C	
8.5.a. While protecting landowner confidentiality, either full monitoring results or an up-to-date summary of the most recent monitoring information is maintained, covering the Indicators listed in Criterion 8.2, and is available to the public, free or at a nominal price, upon request.	C	A complete forest re-inventory was conducted, for the Western State Forests and the Eastern state forests (Pocomoke State Forest and Chesapeake Forest). Results are found in the Sustainable Forest Management Plan's available online on the relevant state forest webpages. Example – CSF - http://dnr.maryland.gov/forests/Pages/chesapeakeforestlands.aspx
P9 Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach. **High Conservation Value Forests are those that possess one or more of the following attributes:** **a) Forest areas containing globally, regionally or nationally significant: concentrations of biodiversity values (e.g., endemism, endangered species, refugia); and/or large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance**		

b) Forest areas that are in or contain rare, threatened or endangered ecosystems **c) Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control)** **d) Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).**		
C9.1. Assessment to determine the presence of the attributes consistent with High Conservation Value Forests will be completed, appropriate to scale and intensity of forest management.	C	
9.1.a. The forest owner or manager identifies and maps the presence of High Conservation Value Forests (HCVF) within the FMU and, to the extent that data are available, adjacent to their FMU, in a manner consistent with the assessment process, definitions, data sources, and other guidance described in Appendix F. Given the relative rarity of old growth forests in the contiguous United States, these areas are normally designated as HCVF, and all old growth must be managed in conformance with Indicator 6.3.a.3 and requirements for legacy trees in Indicator 6.3.f.	C	The DNR maintains a HCVF feature class layer in GIS which is available to all foresters as confirmed in the C/PSF & GRSF offices, and Annapolis central office. Each SF management plan includes a resource description and maps of HCVFs. When work is to be completed near or in an HCVF the AWP also includes detailed information. HCVF designations include old-growth designations (OGEMA) and nearly old-growth as demonstrated by the GRSF management plan section 5.2.3. Old growth areas are not part of the management zone and are excluded from timber harvest, including salvage, or other physical alterations. The FME provides for not only planning state-wide and SF level but the management system ensures field staff incorporate identification into harvest plans. For example, the GRSF FY 2019 Annual Work Plan (as part of the forest management plan and is an operational process document), page 9 (Malcolm Road unit) includes identification of streams within the management area that are considered HCVF.
9.1.b. In developing the assessment, the forest owner or manager consults with qualified specialists, independent experts, and local community members who may have knowledge of areas that meet the definition of HCVs.	C	As conformed through interviews and document review, this FME consulted with a variety of experts on a number of different occasions during the past 10 years during the completion of this assessment process. Specialists included TNC and MD DNR Heritage program.
9.1.c. A summary of the assessment results and management strategies (see Criterion 9.3) is included in the management plan summary that is made available to the public.	C	*The Sustainable Forest Management Plan Public Summary,* for example, for the PSF and the GMSF were reviewed and include a summary of HCVF assessment results and management strategies.
C9.2. The consultative portion of the certification process must place emphasis on the identified conservation attributes, and options for the maintenance thereof.	C	

9.2.a. The forest owner or manager holds consultations with stakeholders and experts to confirm that proposed HCVF locations and their attributes have been accurately identified, and that appropriate options for the maintenance of their HCV attributes have been adopted.	C	Eastern shore: Stakeholder consultation meetings were held in 2006 to determine HCVF boundaries and maintenance options. Western MD: In fall of 2010 staff met with representatives from The Nature Conservancy, New Page and internal experts (Manager/MD DNR Heritage and Wildlife Staff) to formulate initial HCVF designations for the western forests.
9.2.b. On public forests, a transparent and accessible public review of proposed HCV attributes and HCVF areas and management is carried out. Information from stakeholder consultations and other public review is integrated into HCVF descriptions, delineations and management.	C	Each SFMP and AWP include HCVF designations and was part of a multi-stage public review process; each plan contains detailed information on proposed HCV's. See example under 9.1.a, above.
C9.3. The management plan shall include and implement specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach. These measures shall be specifically included in the publicly available management plan summary.	C	
9.3.a. The management plan and relevant operational plans describe the measures necessary to ensure the maintenance and/or enhancement of all high conservation values present in all identified HCVF areas, including the precautions required to avoid risks or impacts to such values (see Principle 7). These measures are implemented.	C	Each SF management plan includes a resource description and maps of HCVFs. All sites inspected in 2019 had active HCVF layer data shown on maps. When work is to be completed near or in an HCVF the AWP also includes detailed information. For example, one control projects on the PSF targets Japanese stiltgrass, *Microstegium vimineum,* on the PSF. Stiltgrass is found especially along roadsides. Intensive monitoring and control also targets areas where RT&E species or natural communities are present. Treatments are also considered to prevent non-native invasive plants from invading an HCVF to maintain values and avoid risks or impacts to HCVs. Another area was the Hemlock Wooly Adelgid Management (HWA) along 15 Mile Creek, which are in the SMZ HCVF. Hemlocks are part of a larger DNR HWA research project that has these streamside hemlocks are injection treated, to prevent impacts to the SMZ HCVF. See site notes.
9.3.b. All management activities in HCVFs must maintain or enhance the high conservation values and the extent of the HCVF.	C	Each SFMP describes the management activities within HCVFs. For example, the GRSF plan states "*management prescriptions will focus on enhancing and protecting the designated ESA. See Chapter 7 of the plan for detailed explanations on the type of management activity recommended for each zone and for the specific definition and prescription for each ESA category. ESAs have been designated as*

		High Conservation Value Forest (HCVF)…" Management activities observed during this 2019 audit program within or near HCVFs are described above and elsewhere in this report and confirm the requirements of this section as well as conformance to management plan requirements.
9.3.c. If HCVF attributes cross ownership boundaries and where maintenance of the HCV attributes would be improved by coordinated management, then the forest owner or manager attempts to coordinate conservation efforts with adjacent landowners.	C	FME routinely coordinates management across ownership boundaries. An example of the joint management with Wildlife Division personnel was discussed at the 2018 site PG-2016-S-04 which was a joint Goshawk management site. Goshawks prefer large canopy trees with an open understory for hunting as part of critical habitat features. Forestry division staff worked collaboratively to remove under- and mid-story woody stems to open flight lanes for Goshawk hunting in this stand.
C9.4. Annual monitoring shall be conducted to assess the effectiveness of the measures employed to maintain or enhance the applicable conservation attributes.	C	
9.4.a. The forest owner or manager monitors, or participates in a program to annually monitor, the status of the specific HCV attributes, including the effectiveness of the measures employed for their maintenance or enhancement. The monitoring program is designed and implemented consistent with the requirements of Principle 8.	C	Nearly all of the State's HCVF is designated as "no management". Thus, the need for regular monitoring is greatly reduced due to the lack of potential impacts from management although monitoring does occur in HCVF areas. As confirmed through interviews, annual work plan review and management plan review, monitoring of HCV attributes occurs through: • Stand level inventory of the forest using SILVAH OAK methodology. • Heritage Ecologist's formal and informal surveys and research of ESA's and other designated areas. FME reported that its Wildlife & Heritage Unit continues to monitor ESAs post restoration treatment on high priority sites. DNR Fisheries do regular Brook trout monitoring in SF streams, Maryland Biological Stream Survey has data collection points on several streams (all in HCVF stream buffers), MD Maryland Department of Agriculture Hemlock Wooly Adelgid protection efforts are monitored by MDA for effectiveness, most of these stands are within HCVF areas, including the 50ft. stream buffers. FME has only reported on activities related to the

		management of significant concentrations of RTE species, such as the Delmarva Fox Squirrel. While many HCVs rely on passive management approaches, Natural Heritage staff conduct annual reviews of these areas based on a sampling protocol. Publications on Frosted Elfin butterfly habitat were provided as evidence of monitoring of this significant concentration of RTE species population.
9.4.b. When monitoring results indicate increasing risk to a specific HCV attribute, the forest owner/manager re-evaluates the measures taken to maintain or enhance that attribute, and adjusts the management measures in an effort to reverse the trend.	C	Each SFMP Chapter 10 and the current Annual Work Plans include a description of this process. Implementation of this requirement is noted in the 2019 GRSF-SFMP, regarding monitoring and potential future action, depending on how the pockets of garlic mustard (*Alliaria petiolata*) found on the forest change over time. While the treatments are considered to be reasonably effective, follow-up monitoring and treatment is necessary due to potential impacts to the nearby weed-free ESA and HCVF communities if this non-native invasive plant is not controlled.

P10 Plantations shall be planned and managed in accordance with Principles and Criteria 1-9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits, and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.

Given current management practices and desired future conditions described in SFMPs, as well as observation of implementation of management practices in the Eastern and Western Regions, all state forestland is being managed under a semi-natural management regime. Retention and site-preparation practices in the Eastern Region are at higher levels than in comparable semi-natural-managed stands of the US Southeast. Moreover, rotations of the Southern Yellow Pine species are in most cases more than double (60-80 years) those of typical southern plantation management. Areas where exotic species (e.g., *Picea abies*) and native species have been planted offsite (e.g., *Pinus resinosa*) are being managed to restore natural species composition or mixed conifer-hardwood semi-natural forests.

As confirmed in field observation of species composition and management practices and review of the management plan, the management system consists of natural/semi-natural forest management. Thus, P10 does not apply.

APPENDICES

APPENDIX C: REGIONAL LIMITS AND OTHER GUIDELINES ON OPENING SIZES

This Appendix contains regional Indicators and guidance pertinent to maximum opening sizes and other guidelines for determining size openings and retention. These Indicators are requirements based on FSC-US regional delineations

Indicator 6.3.g.1

APPALACHIA REGION

Indicator 6.3.g.1.a When even-aged silviculture (e.g., seed tree, regular or irregular shelterwood), or deferment cutting is employed, live trees and native	C	Numerous examples were observed during the 2018 audit of live tree and native vegetation retention. MD DNR consistently and routinely used both

vegetation are retained and opening sizes are created within the harvest unit in a proportion and configuration that is consistent with the characteristic natural disturbance regime in each community type, unless retention at a lower level is necessary for restoration or rehabilitation purposes. Harvest openings with no retention are limited to 10 acres. ***Guidance:*** *Even-age silviculture is used only where naturally occurring species are maintained or enhanced. Retention within harvest units can include riparian and streamside buffers and other special zones. In addition, desirable overstory and understory species may be retained outside of buffers or special zones while allowing for regeneration of shade-intolerant and intermediate species consistent with overall management principals. Where stands have been degraded, less retention can be used to improve both merchantable and non-merchantable attributes.*		dispersed and clumped retention of representative dominant and co-dominant species. Examples were confirmed of preferentially leaving high quality snag species and those of other wildlife quality value (such as mast bearing oak species). Neither chemical treatments for site preparation nor planting was observed in Western region during the 2019 audit. Thus, these sites retained native vegetation in the stands examined. Silviculture methods used were consistent with land history characteristics and silvical requirements of native tree species occurring and being maintained on sites.
Indicator 6.3.g.1.b When uneven age silvicultural techniques are used (e.g., individual tree selection or group selection), canopy openings are less than 2.5 acres. ***Applicability note:*** *Uneven age silvicultural techniques are used when they maintain or enhance the overall species richness and biologic diversity, regenerate-shade tolerant or intermediate-tolerant species, and/or provide small canopy openings to regenerate shade-intolerant and intermediate species. Uneven-age techniques are generally used to develop forests with at least three age classes. Uneven age silviculture is employed to prevent high-grading and/or diameter limit cutting.*	C	Western Region: For uneven-aged stands there were no gaps observed that were greater than 2.5 acres. Gaps were designed for releasing existing regeneration, promoting regeneration, salvage purposes, or operational efficiencies. See site notes.
SOUTHEAST REGION		
Indicator 6.3.g.1.a Primary and natural forests: clear-cutting is not allowed. Harvesting is not allowed at all in ***primary forests***. Semi-natural forests: stands with trees greater than 100 years old: clear-cutting is not allowed; even-aged stands of hardwood and cypress: clear-cutting is allowed; the size of openings should be conservative. Even-aged stands of pine and pine/hardwood: clear-cutting is allowed; the size of openings should not be higher than the limit for plantations and should be justified by natural regeneration requirements. Clear-cuts up to 80 acres are allowed in cases where a 40-acre stand would not provide enough timber	C	Within the eastern shore State Forests (Southeast Region) even-aged silviculture including final stage of shelterwood (overstory removal) are restricted to previously established pine plantations that are being managed as natural stands and openings that are less than 40 acres in size (except in the case of restoration plans developed by in cooperation with the MD DNR Natural Heritage and which is based on best available science). See also section 2.1 (field tour). There are no limitations on opening size limits in the Southeastern regional indicators; however, there are suggested opening size limits (80 acres). In these

volume to secure an economically operable timber sale, meaning that the sale would not attract a buyer and/or the landowner would not make a profit from the sale. Examples of such cases include stands that have been high graded and the most valuable species of trees have already been removed, or where a site has been planted with inappropriate, poorly growing species and the landowner/manager wants to clear and restore the site. This exception cannot be used when a 40-acre clearcut would be economically operable and a landowner wants to cut 80 acres simply to make a greater profit. Clearcuts up to 80 acres are allowed in cases where harvesting a stand in 40 acre blocks would cause unnecessary environmental disturbance to the area surrounding the stand. An exception to all of the limits on the use and size of clearcuts can be made in cases of ecologic necessity. Clearcutting may be used in natural forest stands--where appropriate and necessary--as a tool for maintaining ecosystems that are dependent on large, contiguous openings. An example is the sand pine scrub ecosystem, which supports the ecologically significant Florida scrub jay and is currently being managed with large, contiguous clear-cuts. Ecologists urge the use of large clearcuts in the sand pine scrub ecosystem to mimic the stand-replacing, catastrophic fires that historically maintained the ecosystem. This exception may only be used when supported by scientific literature.		cases, wetland hydrology is often restored, and pines are removed with the intent of restoring natural plant communities.
APPENDIX E: STREAMSIDE MANAGEMENT ZONE (SMZ) REGIONAL REQUIREMENTS **Indicator 6.5.e** This Appendix addresses regionally explicit requirements for Indicator 6.5.e and includes SMZ widths and activity limits within those SMZs for the Appalachia, Ozark-Ouachita, Southeast, Mississippi Alluvial Valley, Southwest, Rocky Mountain, and Pacific Coast regions. The forest owner or manager will be evaluated based on the sub-indicators within their specific region, below.		
APPALACHIA REGION *The SMZ is designed to allow harvesting and provide flexibility for silvicultural management.*		
6.5.e.1.a All ***perennial streams*** have buffers (streamside management zones, SMZs) that include an inner SMZ and an outer SMZ. SMZ sizes are minimum widths that are likely to provide adequate riparian habitat and prevent siltation. If functional riparian habitat and minimal siltation are not achieved by SMZs of these dimensions, wider SMZs are needed.	C	SMZ guidelines are provided in SFMPs for each state forest and actual SMZs are mapped in the GIS. FME prepared the Western Maryland Erosion and Sediment Control Standards and Specifications for Forest Operations in 2011 that contains SMZ widths based on the "50' + (4' * x%)" principle. For smaller slope %, such as those between the APP 1-10% and 11-20% category, minimum widths depart from the minimum widths required by FSC. For larger slope %, FME's SMZ widths exceed APP requirements.

		These SMZs are based on watershed studies and have been reviewed by the FME's hydrologist.

Table 6.5.f (APP only) Widths of inner and outer Streamside Management Zones. Widths of outer SMZs are applicable where data do not support narrower widths*

Stream Zone Type	**SLOPE CATAGORY**				
	1-10%	**11-20%**	**21-30%**	**31-40%**	**41%+**
Inner Zone (Perennial)	25'	25'	25'	25'	25'
Outer Zone (Perennial)	55'	75'	105'	110'	140'
Total For Perennial	80'	100'	130'	135'	165'
Zone For Intermittent	40'	50'	60'	70'	80'

*All distances are in feet -slope distance and are measured from the high water mark.

6.5.e.1.b (APP only) The inner SMZ for *non-high-quality waters* (see state or local listings describing the highest quality waters in the state or region) extends 25 feet from the high water mark. Single-tree selection or small group selection (2-5 trees) is allowed in the inner SMZ, provided that the integrity of the stream bank is maintained and canopy reduction does not exceed 10 percent (90 percent canopy maintenance). Trees are directionally felled away from streams. Note: The inner SMZ is designed as a virtual no-harvest zone, while allowing the removal of selected high-value trees.	C	According to State BMPs, http://dnr.maryland.gov/forests/Pages/landplanning/bmp.aspx *Buffer Management Plans* *The Standard Plan requires that uncut buffer zones, called Streamside Management Zones (SMZ), be maintained on all sides of perennial or intermittent streams, rivers, lakes, ponds, bogs or marshes. The width of the buffer is dependent upon the slope of the land adjacent to the watercourse. Because of the high potential for soil compaction, erosion and stream damage, roads, trails and harvesting equipment are not allowed in the buffer except as approved in a 'Modification of the Standard Plan' or to provide access to approved stream crossings.* *The Standard Plan does, however, allow limited harvesting within the buffer provided that a "Buffer Management Plan" is prepared by a licensed forester. "Buffer Management Plans" need to be very specific in describing which trees are to be cut, what precautions for sediment control will be taken, and where the sediment controls will be located. The location of any harvesting within a buffer must be identified on a sketch of the buffer. The sediment controls to be used for waterway protection and topography within the buffer must also be located on this sketch.*
6.5.e.1.c (APP only) Along perennial streams that are designated as *high-quality waters* (see state or local listings describing the highest quality waters in the state or region), no harvesting is allowed in the inner	C	See 6.5.e.1.b.

SMZ (25 feet from the high water mark), except for the removal of wind-thrown trees. Stream restoration is allowed if a written restoration plan provides a rational justification and if the plan follows local and regional restoration plans.		
6.5.e.1.d (APP only) Outer SMZs, outside and in addition to inner SMZs, are established for all intermittent, and perennial streams, as well as other waters. When the necessary information is available, the width of a stream management zone is based on the landform, erodibility of the soil, stability of the slope, and stability of the stream channel as necessary to protect water quality and repair habitat. When such specific information is not available, the width of streamside management zone is calculated according to Table 6.5.f	C	See 6.5.e.1.b.
6.5.e.1.e (APP only) Harvesting in outer SMZs is limited to single-tree and group selection, while maintaining at least 50 percent of the overstory. Roads, skid trails, landings, and other similar silviculturally disturbed areas are constructed outside of the outer SMZ, except for designated stream crossings or when placement of disturbance-prone activities outside of the SMZ would result in more environmental disturbance than placing such activities within the SMZ. Exceptions may be made for stream restoration.	C	See 6.5.e.1.b.
6.5.e.1.f (APP only) The entire SMZ of intermittent streams is managed as an outer buffer zone.	C	See 6.5.e.1.b.
6.5.e.1.g (APP only) The activities of forest management do not result in observable siltation of intermittent streams. The activities of forest management do not result in observable siltation of intermittent streams.	C	See 6.5.e.1.b.
SOUTHEAST REGION		
6.5.e.1 (SE only) Streamside or special management zones (SMZs) are specifically described and/or referenced in the management plan, included in a map of the forest management area, and designed to protect and/or restore water quality and aquatic and riparian populations and their habitats (including river and stream corridors, steep slopes, fragile soils, wetlands, vernal pools, seeps and springs, lake and pond shorelines, and other hydrologically sensitive areas). At a minimum, management of SMZs has the following characteristics: Management meets or exceeds state BMPs.	C	MD DNR follows its BMP guidelines for water courses in the Eastern Region. Buffer widths and management practices are the same as for the Western Region, so retention is typically at a level that meets or exceeds the suggestions of this indicator. See http://dnr.maryland.gov/forests/Pages/landplanning/bmp.aspx for further details.

SMZ width reflects changes in forest condition, stream width, slope, erodibility of soil, and potential hazard from windthrow along the length of the watercourse. SMZs provide sufficient vegetation and canopy cover to filter sediment, limit nutrient inputs and chemical pollution, moderate fluctuations in water temperature, stabilize stream banks, and provide habitat for riparian and aquatic flora and fauna. Characteristic diameter-class distributions, species composition, and structures are adequately maintained within the SMZs.		

Appendix 7 – Chain of Custody Indicators for FMEs Conformance Table

SCS FSC Chain of Custody Indicators for Forest Management Enterprises, Version 6-0

REQUIREMENT	C/ NC	COMMENT/CAR
1. Quality Management		
1.1 The organization shall appoint a management representative as having overall responsibility and authority for the organization's compliance with all applicable requirements of this standard.	C	As confirmed through review of COC procedures, interviews with Jack Perdue and field staff, Jack Perdue has been appointed as the Chain of Custody Administrator with responsibility and authority for this FME's conformance with the requirements of this standard.
1.2 The FME shall maintain complete records of all FSC-related COC activities, including sales and training, for at least 5 years.	C	This FME's sale records were presented and reviewed and appear to be complete for at least the past 5 years. COC procedures and training records have been created, maintained and presented.
1.3 The FME shall define its forest gate(s) (check all that apply): *The forest gate is defined as the point where the change in ownership of the certified-forest product occurs.*		[X] **Stump** *Stumpage sale or sales of standing timber; transfer of ownership of certified-forest product occurs upon harvest.* [ ] **On-site concentration yard** *Transfer of ownership of certified-product occurs at concentration yard under control of FME.* [ ] **Off-site Mill/Log Yard** *Transfer of ownership occurs when certified-product is unloaded at purchaser's facility.* [ ] **Auction house/ Brokerage** *Transfer of ownership occurs at a government-run or private auction house/ brokerage.* [X] **Lump-sum sale/ Per Unit/ Pre-Paid Agreement** *A timber sale in which the buyer and seller agree on a total price for marked standing trees or for trees within a defined area before the wood is removed — the timber is usually paid for before harvesting begins. Similar to a per-unit sale.* [ ] **Log landing** *Transfer of ownership of certified-product occurs at landing/yarding areas.* [ ] **Other** *(Please describe):*

1.4 The FME shall have sufficient control over its forest gate(s) to ensure that there is no risk of mixing of FSC-certified forest products covered by the scope of the FM/COC certificate with forest products from outside of the scope prior to the transfer of ownership.	C	This FME sells certified materials as stumpage and lump sum, pre-paid agreements from western MD State Forests In western MD volume is paid for before the trees are harvested with no risk of mixing certified products with non-certified products. This FME sells certified materials as gate wood (in essence stumpage sales; the contract for gatewood specifies that the sale is at the stump) and stumpage and lump sum, pre-paid agreements from eastern shore State Forests. There is no risk of mixing of FSC-certified forest products with non-certified forest products (gate wood sales) because deliveries include specific trip ticket delivery documents that are associated with each product sale area. Other lands owned and managed by this FME are not certified; however, those lands are geographically distinct from certified land as confirmed through interviews and review of the maps of the other properties and rarely include timber harvest activities.
1.5 The FME and its contractors shall not process FSC-certified material prior to transfer of ownership at the forest gate without conforming to applicable chain of custody requirements. *NOTE: This does not apply to log cutting or de-barking units, small portable sawmills or on-site processing of chips/biomass originating from the FMU under evaluation.*	C	No processing occurs prior to transfer of ownership. This FME sells certified materials as stumpage and lump sum, pre-paid agreements and gate wood (in essence stumpage sales). The gate wood sales include tree cutting and log hauling and are in conformance to the COC requirements.
2. Product Control, Sales and Delivery		
2.1. Products from the certified forest area shall be identifiable as certified at the forest gate(s).	C	A variety of contracts were presented and reviewed. These documents include the identification of these products as certified (FSC 100%). Contracts 08043-01, 10902-01, 10873-01, 10761-01, 10977-01.
2.2 The FME shall maintain records of quantities/volumes of FSC-certified product(s).	C	A variety of timber sale contracts, trip tickets, wood settlement sheets and a timber harvest summary spreadsheet (2017 and 2018) were presented and reviewed and include the volume of products sold.

2.3. The FME shall ensure that all sales documents issued for outputs sold with FSC claims include the following information: a) name and contact details of the organization; b) name and address of the customer; c) date when the document was issued; d) description of the product; e) quantity of the products sold; f) the organization's FSC Forest Management (FM/COC) or FSC Controlled Wood (CW/FM) code; g) clear indication of the FSC claim for each product item or the total products as follows: i. the claim "FSC 100%" for products from FSC 100% product groups; ii. the claim "FSC Controlled Wood" for products from FSC Controlled Wood product groups. h) If separate transport documents are issued, information sufficient to link the sales document and related transport documentation to each other.	C	A variety of timber sale contracts, trip tickets and wood settlement sheets were presented and reviewed for each site described in section 2.1 (field tour). Contracts are created on the basis of an existing template that includes each of the required items a-g. Specifically, this FME's FSC Forest Management (FM/COC) code and a clear indication of the FSC claim (FSC 100%) are included in this template and recent contracts. Separate transport documents (item h) are used in eastern shore State Forest contracts only and include sale name to link the trip ticket to the sale document (timber sale contract). Gate wood documents and wood settlement sheets associated with contract # CF-13-19 Saltz Powell Tract 6 and 7 were reviewed as evidence.
2.4 The FME shall include the same information as required in 2.3 in the related delivery documentation, if the sales document (or copy of it) is not included with the shipment of the product. **Note: 2.3 and 2.4 above are based on FSC-STD-40-004 V3-0 Clause 6.1.1 and 6.1.2**	C	When this FME sells certified materials as stumpage and lump sum, pre-paid agreements, the trees are paid for before the trees are harvested and the purchaser is responsible for shipping documents. When this FME sells certified materials as gate wood, the sales document (contract) is not included with the shipment of this product (eastern shore State Forest contracts only). In these cases, the shipping documents include each of the requirements (a-h) of section 2.3. Gate wood trip tickets contract # CF-13-19 Saltz Powell Tract 6 and 7 were reviewed as evidence.

2.5 When the FME has demonstrated it is not able to include the required FSC claim as specified above in 2.3 and 2.4 in sales and delivery documents due to space constraints, through an exception, SCS can approve the required information to be provided through supplementary evidence (e.g. supplementary letters, a link to the own company's webpage with verifiable product information). This practice is only acceptable when SCS is satisfied that the supplementary method proposed by the FME complies with the following criteria: a) There is no risk that the customer will misinterpret which products are or are not FSC certified in the document; b) The sales and delivery documents contain visible and understandable information so that the customer is aware that the full FSC claim is provided through supplementary evidence; c) In cases where the sales and delivery documents contain multiple products with different FSC Claims, a clear identification for each product shall be included to cross-reference it with the associated FSC claim provided in the supplementary evidence. *FSC-ADVICE-40-004-05*	N/A	
3. Labeling and Promotion		**N/A, FME does not use/ intend to use trademarks**
		N/A, CW/FM certificates are not allowed to use FSC trademarks (*Note: it is a Major nonconformity to 3.1 if CW/FM certificates are found to be using trademarks)*
3.1 The FME shall adhere to relevant trademark use requirements of FSC-STD-50-001 V2-0 described in the *SCS Trademark Annex for FMEs*.	C	See Trademark checklist
4. Outsourcing		**N/A, FME does not outsource any COC-related activities.**
		N/A, FME outsources low-risk activities such as transport and harvesting.
4.1 The FME shall provide the names and contact details of all outsourced service providers.	N/A	Logging and transportation of forest products are considered low risk and therefore these indicators are NA.

4.2 The FME shall have a control system for the outsourced process which ensures that: a) The material used for the production of FSC-certified material is traceable and not mixed with any other material prior to the point of transfer of legal ownership; b) The outsourcer keeps records of FSC-certified material covered under the outsourcing agreement; c) The FME issues the final invoice for the processed or produced FSC-certified material following outsourcing; d) The outsourcer only uses FSC trademarks on products covered by the scope of the outsourcing agreement and not for promotional use.	N/A	
5. Training and/or Communication Strategies		
5.1 All relevant FME staff and outsourcers shall be trained in the FME's COC control system commensurate with the scale and intensity of operations and shall demonstrate competence in implementing the FME's COC control system.	C	FME staff members are knowledgeable of the COC control system and standard. A COC plan has been established, implemented, presented and reviewed.
5.2 The FME shall maintain up-to-date records of its COC training and/or communications program, such as a list of trained employees, completed COC trainings, the intended frequency of COC training (i.e. training plan), and related program materials (e.g., presentations, memos, contracts, employee handbooks, etc.).	C	A COC communications program and records of training were presented and reviewed.

Appendix 8 – Trademark Standard Conformance Table

SCS Trademark Annex for FMEs: FSC Trademarks, FSC-STD-50-001 V2-0

☐ N/A, does not use/intend to use FSC trademarks for any purposes (finished with this section); or
☐ N/A, is fully integrated and all trademark uses are treated under the COC Annex to this report that includes a full review of FSC-STD-40-004 and FSC-STD-50-001.
PART I: General Requirements for Use of the FSC Trademarks
(FSC "checkmark-and-tree" logo, initials "FSC," and/or name "Forest Stewardship Council")

Description of how the FME currently uses, or intends to use, FSC trademarks and/or labels, including but not limited to printed materials, Internet applications, on-product labeling, and other public-facing media:	FME makes promotional use of the FSC Trademarks on its website, Annual Work Plans, and some brochures. FSC Trademarks on the website were approved.
1.2 Trademark License Agreement and valid certificate In order to use these FSC trademarks, the FME shall have a valid FSC trademark license agreement and hold a valid certificate. *Note: Consultations for certification Organizations applying for forest management certification or conducting activities related to the implementation of controlled wood requirements, may refer to FSC by name and initials for stakeholder consultation.*	☒ C ☐ NC ☐ C w/Obs
1.6 Product Group List The products intended to be labeled or promoted as FSC certified have been included in the FME's certified product group list.	☒ C ☐ NC ☐ C w/Obs
Section 1.2 and 1.6 Evidence: Confirmed via review of product group list, website, annual work plans, and brochure. Trademark License Agreement was viewed, and certificate via FSC database.	
1.3 Trademark License Code The FSC trademark license code assigned by FSC to the FME accompanies any use of the FSC trademarks. It is sufficient to show the code once per product or promotional material.	☒ C ☐ NC ☐ C w/Obs

1.4 Trademark Symbol The FSC logo and the 'Forests For All Forever' marks shall include the trademark symbol ® in the upper right corner when used on products or materials to be distributed in a country where the relevant trademark is registered. For use in a country where the trademark is not yet registered, use of the symbol ™ is recommended. The Trademark Registration List document is available in the FSC trade-mark portal and marketing toolkit. The symbol ® shall also be added to 'FSC' and 'Forest Steward-ship Council' at the first or most prominent use in any text; one use per material is sufficient (e.g. website or brochure). *NOTE: The use of the trademark symbol is not required for FSC claims in sales and delivery documents, or for the disclaimer statement specified in requirement 6.2.*	[X] C [ ] NC [ ] C w/Obs [ ] N/A, one or more noted exceptions apply
2.1 Restrictions on using FSC trademarks The FME **has not used** the FSC trademarks in the following ways: in a way that could cause confusion, misinterpretation, or loss of credibility to the FSC certification scheme; in a way that implies that FSC endorses, participates in, or is responsible for activities performed by the FME, outside the scope of certification; to promote product quality aspects not covered by FSC certification; in product brand or company names, such as 'FSC Golden Timber' or website domain names; in connection with FSC controlled wood or controlled material – they shall not be used for labelling products or in any promotion of sales or sourcing of controlled material or FSC controlled wood; the initials FSC shall only be used to pass on FSC controlled wood claims in sales and de-livery documentation, in conformity with FSC chain of custody requirements.	[X] C [ ] NC [ ] C w/Obs
2.2 Translations The name 'Forest Stewardship Council' has not been replaced with a translation. A translation may be included in brackets after the name, for example: Forest Stewardship Council® (translation)	[ ] C [ ] NC [ ] C w/Obs [X] N/A, no translations
Sections 1.3, 1.4, 2.1, and 2.2 Evidence: Confirmed via review of annual work plans, contracts, brochure, and website.	
Sections 8 and 9 Graphic Rules The FME has only used FSC logos that conform to the standard requirements governing: color and font (8.1-8.3); format and size (8.4-8.9); label placement (8.10); and 'Forests For All Forever' marks (9.1-9.7).	[X] C [ ] NC [ ] C w/Obs [ ] N/A, not using FSC logo

1.5 Trademark Use Approval The FME has submitted all intended uses of the FSC trademarks to SCS for approval. OR The FME has **an approved trademark use management system** in place. (If the FME has a trademark use management system, complete Annex A.) ***4.6*** *FSC trademarks may be used to identify FSC-certified materials in the chain of custody before the products are finished. It is not necessary to submit such segregation marks for approval. All segregation marks shall be removed before the products go to the final point of sale or are delivered to uncertified organizations.*	[X] C [ ] NC [ ] C w/Obs
Sections 1.5 Evidence: Confirmed via review of annual work plans, brochure, and website. Approval evidence was observed on SCS logo approval portal by auditor.	

PART II: On-Product Use of FSC Trademarks

[X] N/A, not using on-product trademarks (skip Part II)

PART III: Promotional Use of FSC Trademarks

[ ] N/A, not using promotional trademarks (skip Part III)

6.1 Catalogues, Brochures, and Websites When the FSC trademarks have been used in catalogues, brochures, or websites, the following requirements apply: It is sufficient to present the promotional elements only once in catalogues, brochures, websites, etc. If both FSC-certified and uncertified products are listed, then a text such as "Look for our FSC®-certified products" shall be used next to the promotional elements and the FSC-certified products shall be clearly identified. If some or all the products are available as FSC certified on request only, this is clearly stated.	[X] C [ ] NC [ ] C w/Obs [ ] N/A, not using trademarks in catalogues/ brochures/websites
6.2 Sales and Delivery Documents When the FSC trademarks are included on sales or delivery document templates that may be used for both FSC and non-FSC products, the following or a similar statement is included: "Only the products that are identified as such on this document are FSC certified". *NOTE: Use of the FSC claim and certificate code on invoices does not qualify as FSC trademark use.*	[X] C [ ] NC [ ] C w/Obs [ ] N/A, not using trademarks on templates for FSC & non-FSC products

6.3 Promotional Items All promotional items (e.g., mugs, pens, T-shirts, caps, banners, vehicles, etc.) have displayed, at minimum, the FSC logo and FSC trademark license code.	[X] C [ ] NC [ ] C w/Obs [ ] N/A, not labeling promotional items
6.5 Trade Fairs When the FSC trademarks are used for promotion at trade fairs, the FME has: clearly marked which products are FSC certified, or add an add a visible disclaimer stating "Ask for our FSC®-certified products" or similar if no FSC-certified products are displayed. *NOTE: Use of text to describe the FSC certification of the FME does not require a disclaimer.*	[ ] C [ ] NC [ ] C w/Obs [X] N/A, not using trademarks at trade fairs
Section 6.6 and 6.7 Investment/Financial Claims When investment companies or others are making financial claims based on the FME's FSC certified operations, the FME has taken full responsibility for the use of the FSC trademarks. Any such claims have been accompanied by the disclaimer, "FSC is not responsible for and does not endorse any financial claims on returns on investments."	[ ] C [ ] NC [ ] C w/Obs [X] N/A, not making financial claims about FSC status
7.1 and 7.2 Other Forestry Certification Scheme Logos The FSC trademarks have not been used together with the marks of other forest certification schemes in a way which implies equivalence, or in a way which is disadvantageous to the FSC trademarks in terms of size or placement.	[X] C [ ] NC [ ] C w/Obs [ ] N/A, not using other scheme logos
7.3 Business Cards The FSC trademarks have not used on business cards to promote the FME's certification. The FSC logo or 'Forests For All Forever' marks are not used on business cards for promotion. A text reference to the FME's FSC certification, with license code, is allowed, for example "We are FSC® certified (FSC® C######)" or "We sell FSC®-certified products (FSC® C######)".	[X] C [ ] NC [ ] C w/Obs [ ] N/A, approval granted prior to July 1, 2011
7.4 Promotion with CB Logo FSC certified products have not been promoted using only the SCS Kingfisher and/or SCS Global Services logo.	[X] C [ ] NC [ ] C w/Obs
Sections 6.1 - 6.3, 6.5-6.7, 7.1-7. 4 Evidence: Confirmed via review of annual work plans, brochure, and website.	
Number of trademark uses reviewed and rationale that sample choice is sufficient to confirm requirements are met: 4 Timber Sales Contracts, Website, 4 Forest Management plans.	

Annex A: Trademark use management system

[X] N/A, not using a trademark management system

[X] N/A, not a group FM certificate holder or group does not use any FSC trademarks

Annex B. Additional trademark rules for group FM certificate holders

Annex B, 1.1 The group entity (or manager, or central office) shall ensure that all uses of the FSC trademarks by the group entity or its individual members are approved by the certification body prior to use, or that the group and its members have an approved trademark use management system in place. When seeking approval by the certification body, group members shall submit all approvals via the group entity or central office, and keep records of approvals. Alternative submission methods may be approved by the certification body.	[ ] C [ ] NC [ ] C w/Obs
Section 1.1 Evidence:	
Annex B, 1.2 The group entity shall not produce any document similar to an FSC certificate for its participants. If individual membership documents are issued, these statements shall be included: "Managing the FSC® certification program of SCS Global Services" "Group certification by SCS Global Services"	[ ] C [ ] NC [ ] C w/Obs [ ] N/A, not issuing individual membership documents
Annex B, 1.3 No other forest certification schemes' marks or names shall appear on any membership documents (as per clause 1.2) issued by the group in connection with FSC certification. *Note: This only applies to documents issued per Annex B, 1.2 and NOT other documents such as group procedures.*	[ ] C [ ] NC [ ] C w/Obs
Annex B, 1.4 Subcodes of members shall not be added to the license code.	[ ] C [ ] NC [ ] C w/Obs
Sections 1.2, 1.3, and 1.4 Evidence:	

Appendix 9 – Peer Review and SCS Evaluation Team Response to Peer Review

☒ A peer review was not conducted as part of this evaluation.

No peer review is required for recertification audits.

Appendix 10 – SLIMF Eligibility Criteria

An FMU qualifies as a 'SLIMF' if it is either a 'small' FMU OR managed as a 'low intensity' FMU. Per INT-STD-01-003_01, the area of a small forest is defined in relation to productive forest area. Permanent protected areas and areas with other uses within the FMU that are clearly indicated in the FMP and on the ground are not considered when calculating the size of the FMU to be classified as a SLIMF. Any SLIMF FMU under the scope of the FME under evaluation must meet at least one of the following criteria:

☒ **N/A – none of the FMU(s) under evaluation qualify as a SLIMF according to the criteria below.**	
☐ **'Small' FMU(s)**	☐ The scope of the certificate includes FMU(s) with productive area of 100 ha (247 acres) or less.
	☐ The scope of the certificate includes FMU(s) located in a country for which the definition for maximum size of "small" includes productive area larger than 100 ha (247 acres), but does not exceed 1,000 ha (2, 471 acres).
	☐ The scope of the certificate includes FMU(s) with productive area of 1000 ha (2,471 acres) or less where there is no FSC-accredited national initiative and the national stakeholders support the larger size-limit proposed by the certification body.
☐ **'Low intensity' FMU(s) –** The scope of the certificate includes FMU(s) in which the rate of harvest is less than 20% of the mean annual increment (MAI) AND these FMUs meet one of the following additional criteria:	☐ The annual harvest from the total production forest area is less than 5000 cubic meters (2.1 million board feet).
	☐ The average annual harvest from the total production forest is less than 5000 m3 / year (2.1 million board feet / year) during the period of validity of the certificate as verified by harvest reports and surveillance audits.

Appendix 11 – Group Management Program

☒ This is not a group certificate, so this appendix is not applicable.